UNIFORM MORTGAGE DATA PROGRAM

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MISMO® V3.0 and the Uniform Loan Delivery Data Specification:

User Guide

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Document Updates

MISMO® V3.0 and the Uniform Loan Delivery Data Specification: User Guide (User Guide) is published by government-sponsored enterprises Fannie Mae and Freddie Mac (the GSEs) in connection with the Uniform Mortgage Data Program, which is undertaken by the GSEs at the direction of their regulator, the Federal Housing Finance Agency (FHFA). Updates to this *User Guide* and to other development and implementation documentation associated with the UMDP are at the following Web sites:

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Document Version and Revision History

Table i. Document and Revision Updates.		
Date	**Version Number**	**Description**
January 26, 2011	1.0	Initial version
March 29, 2011	1.1	Minor formatting revisions; updates to index.

Contents

I. Introduction

A. Context for the User Guide

In recent years, it has become increasingly apparent that consistent and reliable data is a prerequisite for solid decision-making. Data standards, which articulate a common set of business terms and definitions that can be easily accessed and understood by all parties, are crucial to improving the quality and accuracy of the data exchanged between business partners.

In recognition of this, the Federal Housing Finance Agency (FHFA) directed Freddie Mac and Fannie Mae (the GSEs) to develop the Uniform Mortgage Data Program (UMDP) to enhance the accuracy and quality of loan data delivered to each GSE. The UMDP is expected to create process efficiencies and risk management capabilities that will strengthen the housing finance system for the long term to better serve consumers.

A key component of the UMDP is the Uniform Loan Delivery Dataset (ULDD), which identifies the data points and the data delivery format required in connection with the delivery of loans to each GSE. The ULDD leverages the MISMO Version 3.0 Reference Model (the V3.0 Reference Model)—the XML schema representing MISMO's data standard for single family properties.

In connection with implementation of the ULDD, the GSEs jointly developed the Uniform Loan Delivery Specification (the ULDDS), defining and documenting the common GSE-approach to the ULDD and providing the technical framework for developing the loan delivery file that will be required for all loans delivered to either GSE. The GSEs also published other supporting documentation to assist in the development of systems that lenders will need in order to implement the ULDD.

Additionally, since each GSE continues to exercise independent business judgment in evaluating, adopting and maintaining business terms, credit policies and analytics, the GSEs separately published GSE-specific Implementation Guides for Loan Delivery Data, together with other supporting documentation to assist in the development and implementation of the ULDD.

This User Guide is a joint publication of the GSEs and is designed to support development and implementation of the ULDDS, with a particular focus on the MISMO framework that is integral to the ULDDS.

For purposes of the User Guide, the term "ULDDS" refers to the joint specification package or a document within it; and the term "ULDD" refers to the GSE-specific package or a document within it.

B. Purpose of the *User Guide*

The purpose of this *User Guide* is to explain how to use the V3.0 Reference Model and Logical Data Dictionary (LDD) that underpin both the ULDDS and ULDD. The V3.0

Reference Model and LDD provide the technical framework for developing the loan delivery file that will be required for all loans delivered to either GSE.

This *User Guide* provides descriptions of the technical tools and terms used in the ULDDS and the GSE-specific Implementation Guides, and it includes tips for successfully relating the data points in the ULDDS to business partner data dictionaries. It is directed to a technical audience, including the vendors and lenders who will create the import files to be submitted to each GSE according to the ULDDS and GSE-specific data requirements. This audience must have a solid understanding of the MISMO standards and certain XML concepts in order to apply them and create a properly formed loan delivery file. This *User Guide* also may benefit those business partners who do not have technical development responsibilities but who need to understand the ULDDS and its impact on processes and systems.

Business partners who rely on a GSE's loan delivery system user interface to enter the new data should check the GSE's individual Web sites for specific directions and tools for implementing the ULDDS.

C. Overview of the MISMO Data Standard

The Mortgage Industry Standards Maintenance Organization (MISMO®) creates and governs data standards for the real estate finance industry. The MISMO standard supports the entire loan life cycle, from origination to servicing to loan delivery and investor reporting. Use of MISMO standard transactions to support the loan origination process is widespread.

The MISMO standard is based on XML (eXtensible Markup Language), a flexible and widely-used means for transporting and storing data that simplifies the way businesses exchange electronic information. Version 3.0 (V3.0) of the single family data standard is represented in XML schema format as a relational message model called the "V3.0 Reference Model." The more than 2,000 elements and attributes that make up the V3.0 Reference Model are documented in the LDD.[1]

An XML schema document is more flexible than either of the current GSE file formats--Freddie Mac's Form 11, *Mortgage Submission Schedule,* and Form 13SF, *Mortgage Submission Voucher,* and Fannie Mae's 2000-Character Loan Delivery File Format. Recognizing that adopting a standard file format like the V3.0 Reference Model would increase operational efficiencies for lenders and the vendors who support them, the GSEs leveraged the MISMO standard to create the ULDDS.

[1] Note that the MISMO Version 2.6 Appraisal Standard is one of the accepted XML file formats for the Uniform Collateral Data Portal. At this time, MISMO Version 3.0 does not provide a framework for appraisal report data. There are several proprietary XML formats in the residential appraisal marketplace, as well as a framework in the MISMO Version Appraisal Standard. The GSEs' goal is to accommodate the dominant XML formats currently used for appraisals.

Shared use of the MISMO standard will enable both GSEs to better capture consistent and accurate data for the loans that are submitted for purchase and/or securitization by:

a. Reducing ambiguities in the types and definitions of data elements required for selling loans to the GSEs,
b. Enabling collection of additional data at a more granular level that will provide market participants with an increased, common understanding of loan data,
c. Allowing for easier collection of new data in the future, and
d. Establishing a foundation set of mortgage data that can be easily used by lenders for other purposes throughout the loan life cycle.

D. Overview of ULDDS and ULDD Documentation

1. Uniform Loan Delivery Data Specification

The GSEs released the ULDDS on June 8, 2010. The ULDDS defines and documents the GSEs' shared use of a subset of the V3.0 Reference Model.

a. Appendix A - XML Data Requirements

Appendix A to the ULDDS (ULDDS Appendix A) is the key document within the ULDDS package. ULDDS Appendix A (also referred to as the "joint loan delivery dataset") identifies and defines the shared GSE loan delivery data specification, including the list of required data elements (known as "data points"), their definitions, and format types. The data point names, definitions and format types are dictated by (and identical to) Version 3.0 of the MISMO Logical Data Dictionary (LDD).

ULDDS Appendix A also documents the GSEs' shared requirements for submission of each data point, providing guidance on the business condition governing when the data must be sent (conditionality), and detailed format and usage instructions. In some cases, each GSE's underlying business policy and procedures dictate that the conditionality of a given data point differs depending on which GSE is to receive it.

ULDDS Appendix A includes the equivalent MISMO data points for all data currently required for loan delivery by either GSE, as well as "net new" data points the GSEs need to capture for other business reasons. The resulting joint loan delivery dataset streamlined the GSEs' aggregate data requirements by replacing similar data elements mapped by each GSE to different data points with one shared mapping used by both GSEs.

The ULDDS leverages a shared usage model, which means that each GSE will expect the loan delivery transaction, represented by an XML schema document, to have an identical structure. Differences will arise only from the existence or absence of given containers and data points, depending on whether the receiving GSE requires them.

b. Appendix A - Development Approach

The ULDDS was designed to accommodate all types of loan products, features, and transactions. While developing the loan delivery data set, the GSEs worked to ensure that:

a. The majority of the elements in the dataset were aligned between the GSEs,
b. GSE dependence on special codes eventually could be reduced through the collection of the underlying data points,
c. GSE-specific conditionally required fields were minimized, and
d. Loan delivery data that will be required in the future are included in ULDDS Appendix A in order to give lenders as much time to implement as possible.

c. Requirements for Submitting ULDDS Appendix A Data Points

No single loan will require all of the ULDDS data points at loan delivery. In fact, the majority of the data points will be required only when certain business conditions exist (for example, to identify an adjustable rate mortgage), or to address GSE-specific business requirements.

A table listing each of the documents in the ULDDS package as well as its description, intended audience and purpose, is provided in Section V-A. ULDDS Document Package.

2. GSE-Specific Implementation Guides

On June 28, 2010, each GSE released initial GSE-specific Implementation Guides based on the ULDDS. These document packages differ from the ULDDS by including:

a. GSE-specific valid values for those MISMO data points that have enumerated lists,
b. GSE-specific conditionality for the Conditionally Independent ULDDS Appendix A data points,
c. Explicit references to each GSE's loan delivery policy guides, and
d. Explicit references to each GSE's loan delivery systems.

A table listing each of the documents in the GSE-specific Implementation Guides as well as the document's description, intended audience and purpose, is provided in Section V-B. GSE-Specific Implementation Guide Package.

3. Updates to ULDDS and ULDD Documentation

On August 25, 2010 and December 16, 2010, the GSEs published updated versions of the ULDDS, its accompanying Appendices, and each GSE's Implementation Guide. Users should check each GSE's Web sites for any subsequent updates.

E. Overview of the User Guide

Each section of this *User Guide* begins by highlighting the questions that the subject component of the V3.0 Reference Model or LDD can answer:

Figure I-1. Questions Answered by This Section.

- How do I get the most out of the *User Guide*?

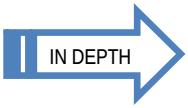
Explanations of how to use the V3.0 Reference Model and LDD in the context of the ULDDS include examples from ULDDS Appendix A. The examples are called out throughout the document in rounded text boxes:

Figure I-2. Examples of Concepts in This Section.

Example using excerpt from Reference Model, LDD, or ULLDS Appendix A.

Notes: Reiterates the learning point from this example.

In some cases, an example is provided from the GSEs' intended usage of a specific V3.0 Reference Model component. This detailed information is highlighted with the marginal symbol:



The *User Guide* contains the following sections:

I. Introduction provides background on the Uniform Mortgage Data Program and its artifacts, and introduces the purpose of this *User Guide*.

II. Source of the MISMO Standard provides a brief description of the MISMO Organization and the participants.

III. Using the MISMO v3.0 Logical Data Dictionary describes how to use the spreadsheet-based list of the components making up the V3.0 Reference Model. Excerpts from the loan delivery data set are used as examples.

IV. Using the MISMO V3.0 Reference Model explains how the XML-schema-based message model is constructed, providing detailed discussions of model building blocks and the relationships among them. In depth illustrations of more complex V3.0 Reference Model concepts are also provided. Excerpts from the loan delivery data set are used as examples.

V. Resources includes tables describing each document in the ULDDS and GSE-specific loan delivery packages, useful Web references, and a discussion of XML Editor Software.

VI. V3.0 Reference Model Features Not Used in the ULDDS explains concepts included in the LDD and Reference Model but not leveraged by the loan delivery data set.

VII. Glossary is a table of potentially unfamiliar terms and their definitions. Throughout the *User Guide*, words that are defined in the Glossary are shown in red bolded type.

VIII. Acronyms and Abbreviations is a table of the acronyms and abbreviations used throughout this document and their source terms.

IX. Data Points Referenced is an alphabetical list of all the MISMO V3.0 data points used in this document.

X. Index provides page references to key concepts within the *User Guide*.

II. Source of the MISMO Standard

A. The MISMO Organization

The V3.0 Reference Model was created by MISMO, a standards organization created to promote and support the common business interests of the commercial and residential mortgage markets. MISMO's mission is to benefit industry participants and consumers of mortgage and investment products and services by:

Fostering an open process to develop, promote, and maintain voluntary electronic commerce procedures and standards for the mortgage industry, and

Enabling mortgage lenders, investors, servicers, vendors, borrowers, and other parties to exchange real estate finance-related information and eMortgages more securely, efficiently, and economically.[2]

B. MISMO Standard Developers

Volunteers from across the mortgage industry, including the GSEs, work together to develop and maintain a comprehensive set of standard data for all stages of the mortgage life cycle. MISMO workgroups focused on specific functions include:

- Credit Reporting,
- Flood Insurance,
- Loan Servicing (including Investor Reporting),
- Mortgage Insurance,
- Origination (including Underwriting and Closing),
- PropertyValuation,
- Secondary Delivery, and
- Title Insurance.[3]

The GSEs are actively involved in a variety of MISMO workgroups. Each GSE will continue to engage with the workgroups as the loan delivery datasets and usage requirements are finalized.

[2] Excerpts from MISMO Web site, "About MISMO" page, http://www.mismo.org/about-mismo.html, 9/14/10.
[3] Ibid.

III. Using the MISMO v3.0 Logical Data Dictionary

The LDD is published both as an XML schema document and an Excel[4] workbook comprising six worksheets containing alphabetical lists of each data point, container, attribute, and arc role (container relationships)[5] used in the MISMO V3.0 Reference Model. The LDD also tracks the data points and containers that have been deprecated (retired). Since the Excel version of the LDD can be referenced by any business partner without special software, the Excel version is described in this User Guide. The version of the LDD upon which ULDDS Appendix A is based is V30_B263-12_LDDReport.xls, dated June 2, 2010, downloadable from the Specification page of the MISMO Web site as V3_0_CR_2010-12.zip. [6] This section describes some of the foundational concepts of the LDD in terms of the GSEs' intended use.

A. The V30_B263-12_LDDReport

V30_B263-12_LDDReport[7] (Data Points Worksheet) is the primary LDD worksheet containing the alphabetical list of each of the data points (Simple Type XML elements) used in the V3.0 Reference Model. It can be used to answer the following questions about MISMO data points:

Figure III-1. Questions Answered by the Data Points Worksheet.

- Is there a MISMO data point that maps to a data element in a business system, form, or requirement?
- What data points are available in a given category (for example, Property)?
- What is the correct spelling or definition of a data point?
- What are the valid values for an enumerated data point?
- Where in the Reference Model is a data point used?
- Is it used more than once?

The following sections describe each column in the Data Points Worksheet and explain what information they provide and how they are used.

1. Data Point

A "data point" is the term name determined by the submitting MISMO Workgroup for approval by the MISMO Core Data Structures Workgroup. The term name must comply with MISMO naming conventions and end with a MISMO Class Word to

[4] Microsoft is a Registered Trademark of the Microsoft Corporation. *Excel* is a copyrighted product of the Microsoft Corporation.
[5] The ULDDS does not use arc roles.
[6] Note that MISMO has released an errata to Version 3.0, V30_B263-**14**_LDDReport.xls; however, please be sure to use V30_B263-**12**_LDDReport.xls on the MISMO.org Web site for ULDDS.
[7] The MISMO Engineering Guideline (MEG) governing the form and content of the LDD, MEG_0016_v_1_1.pdf (Logical Data Dictionary Content & New Term Submission) can be found on the MISMO Web site at http://www.mismo.org/specs/v30-candidate-recommendation.html.

indicate the category of data to which the term name belongs (for example, Name, Date, or Amount). MISMO Data Points are expressed in Upper Camel Case, which means that the words making up a term name are joined without spaces, and the initial letter of each word of the term name is capitalized. Term names can be up to 80 characters long. The use of abbreviations in MISMO term names is generally prohibited in order to ensure broad understanding of the term name across the industry. MISMO maintains a list of approved acronyms that can be used in term names and definitions.[8]

Example III-1. MISMO LDD Data Point Names.

Data Point:

- **CityName**
- **NoteDate**
- **BorrowerQualifyingIncomeAmount**

Notes: No spaces between the words making up each term. Each term name ends in a Class Word.

a. Adding Data Points to the MISMO Standard. See **VI. V3.0 Reference Model Features Not Used in the ULDDS**.

2. Definition

The "definition" is the industry-approved standard description of the data point. The MISMO definition can be somewhat generic, as many data points are used in more than one mortgage industry process. One role of the business partners implementing the MISMO standard is to provide the MISMO Workgroup with additional information about how the data point is to be used in a variety of transactions. Additional guidance should add detail to and interpret the MISMO definition, but the additional guidance should always be consistent with the MISMO definition.

Example III-2. MISMO LDD Data Point Definitions.

Data Point: PriceLockDateTime

Definition: The date and time on which the agreement to lock a price was made.

Notes: The MISMO definition is non-specific as this term could be used in a variety of industry processes. Business partners need to provide detailed guidance on how to interpret and use data points that are so broadly defined.

[8] The following MEGs govern the format and naming of LDD Term Names (approved acronyms, data points, valid values, and containers) and can be selected from the MISMO Web site at http://www.mismo.org/specs/v30-candidate-recommendation.html: MEG 0008a_v1_2 (List of Approved Acronyms), MEG 0011 v1.0 (Term Name Structure), and MEG 0021 v1.1 (Term Name, Enumerated Value & Container Name Representation).

a. Calculated Results Fields

Some MISMO definitions end with the phrase, "CALCULATED RESULTS FIELD." This designation means that the associated data point can be calculated (as described in the definition) from other data points existing in the LDD. Calculated Results Fields are designated so that they can be used by business partners who may not have access to the required component data points or whose downstream systems do not require use of the component data points.[9] Because this phrase has caused some confusion with business partners, the GSEs removed it from the MISMO definitions published in the ULDDS and GSE-specific Implementation Guides.

b. Form Specific Fields

Business partners will notice that some MISMO definitions end with the phrase, "FORM SPECIFIC FIELD." This means that the source for this data point is a recognized mortgage industry form like the *HUD-1 Settlement Statement* or *Uniform Residential Loan Application* (URLA). The definitions of some Form Specific Fields explicitly identify the form and the location on the form to which the associated data point can be mapped. Because this phrase has caused some confusion with business partners, the GSEs removed it from the MISMO definitions published in the ULDDS and GSE-specific Implementation Guides.

c. IdentifierOwnerURI

Some MISMOIdentifier data points (ending in the Class Word "Identifier") include in their definitions a reference to the "IdentifierOwnerURI" or "OwnerURI" attribute. The IdentifierOwnerURI attribute allows business partners to identify the location of the source of a particular identifier (for example, a registry, reference table, official list, etc.). Because this capability is not being used, the GSEs removed this phrase from the MISMO definitions published in the ULDDS and GSE-specific Implementation Guides.

3. Enumeration : Explanation

Data points that end with the Class Word "Type" always include a list of valid values (also called "enumerations"). The valid values (Simple Type XML elements) are listed in alphabetical order, must comply with the same naming conventions as data points, and are formed using Upper Camel Case. Valid values will include explanations when the submitting Workgroup believed the term is not completely clear on its own. If explanations are provided, they are shown after a colon that follows the valid value. The colon and explanation are not part of the valid value and should not be included in the XML schema file. Any, or all, of the valid values may be specified by a business partner for a particular implementation of the V3.0 Reference Model.

[9] MEG 0022 v1.0 (Calculated Result*)* describes Calculated Results Fields and can be found on the MISMO Web site at http://www.mismo.org/specs/v30-candidate-recommendation.html.

Each GSE's Appendix A (also referred to as GSE-specific data set) uses subsets of valid values specific to the loan delivery function.

Example III-3. MISMO LDD Data Point Enumerations.

Data Point: AttachmentType

Definition: Specifies the type of physical attachment, if any, between the dwelling unit and adjacent dwelling units.

Enumerations:

- **Attached :** Residential dwelling unit that has common wall or other direct physical connection with another residential dwelling unit.
- **Detached :** Residential dwelling unit that has no common wall or other direct physical connection with another residential dwelling unit.
- **SemiDetached :** Residential dwellings that consist of pairs of houses built side by side sharing a common party wall. Sometimes called a duplex.

Notes: AttachmentType has three valid values, *Attached*, *Detached*, and *SemiDetached*. The text following the colon is the explanation and is not part of the valid value term name.

a. Other / OtherDescription

MISMO has developed a construct to allow business partners to add user-specific or missing valid values to a data point. Almost every data point with an associated enumerated list (data points ending in "Type"), has an identically named partner data point ending in "OtherDescription." (There are a limited number of exceptions to this rule, for those data points with enumerations for which the Workgroup believes the list of valid values to be complete; for example, AdjustmentRuleType and LoanStateType. These data points do not have an associated "Other Description" partner.)

Example III-4. Other / OtherDescription.

- In the case of data points like AutomatedUnderwritingSystemType and AVMModelNameType, the "OtherDescription" field could be used if a new AUS or AVM becomes available that did not exist when the standard was published:
  AutomatedUnderwritingSystemType = "Other"
  AutomatedUnderwritingSystemTypeOtherDescription = "NewAUS"
  Definition: A free form text field used to collect additional information when Other is selected for Automated Underwriting System Type.

  AVMModelNameType = "Other"
  AVMModelNameTypeOtherDescription = "NewAVM"
  Definition: The name of the AVM model used to calculate the valuation of the subject property when Other is selected from the enumerated list.

- Similarly, the MICompanyNameTypeOtherDescription data point would be needed if a business partner needs to identify new or specialized mortgage insurance (MI) companies:
  MICompanyNameType = "Other"
  MICompanyNameTypeOtherDescription = "NewMICompany"
  Definition: A free-form text field used to capture the mortgage insurance company name if Other is selected as the mortgage insurance company name.

- The most common situation will be that the list of MISMO standard enumerations does not include a valid value needed by a business partner's process:
  CounselingConfirmationType = "Other"
  CounselingConfirmationTypeOtherDescription = "ProprietaryCounselingConfirmationTypeValue"
  Definition: A free-form text field used to collect additional information when Other is selected for Counseling Confirmation Type.

IN DEPTH

b. Using Other / OtherDescription

In order to use an "OtherDescription" data point, the partner data point is submitted with a valid value of "Other," and the "OtherDescription" data point is submitted with the business-partner-specified value.

If a business partner needs to supplement the MISMO standard valid values with additional enumerations, they must use the "OtherDescription" data point and associate the non-MISMO enumerations with it. Note that although the "OtherDescription" data point is defined as a "free form text field," it is not

advisable to implement this data point this way. Rather, business partners using this data point should provide their approved list of valid values and treat this data point as enumerated. Additionally, if it is not expected that business-partner-specific enumeration will be required, business partners should not include "Other" as a valid value in the list of acceptable enumerations associated with the "Partner" data point.

Example III-5. Using Other/OtherDescription Data Points for Loan Delivery.

ClosingCostFundsType = **Other**
ClosingCostFundsType**OtherDescription** = **SecondaryFinancingHELOC**

CounselingConfirmationType = **Other**
CounselingConfirmationType**OtherDescription** = **NonprofitOrganization**

CounselingFormatType = **Other**
CounselingFormatTypeOtherDescription = **BorrowerDidNotParticipate**

Notes: Use of the GSE-specific valid value requires the submission of two data points: the "Partner" data point with a value of "Other" and the "OtherDescription" data point with the specified enumeration. Each GSE's implementation guide specifies that supplemental valid values may be used by including the value of "Other" in the partner data point and by providing the list of accepted enumerations in the "OtherDescription" data point.

c. Adding Enumerations to the MISMO Standard

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

4. Enumeration: -- URN Suffix

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

5. App Info

The "App Info" column can be used to provide additional information about the usage of the data point. Notes about terms that have been renamed from earlier versions also are provided here. This is useful for business partners with previous implementations of MISMO to identify what this data point may be called in their legacy implementations of the standard. Not every data point has an entry in the App Info column.

Example III-6. MISMO LDD Data Point App Info.

Notes on Usage

Data Point: BorrowerBirthDate

Definition: Borrowers date of birth.

App Info: Collected in lieu of AGE in URLA, Section III, second line, third field.

Identification of Data Term Name Change from Previous Version

Data Point: LoanProgramAffordableIndicator

Definition: When true, indicates that the loan is classified as an affordable loan by the lender or the investor.

App Info: Deprecated: replaced with Loan Affordable Indicator.

Notes: The App Info column provides additional information about the use or history of the data point.

6. Type

Every data point has an associated MISMO data "Type," which is consistent with the data point's Class Word. The Type identifies the category of information this data point represents. There are more than 20 Types in the V3.0 Reference Model, ranging from Amount to Numeric to Year. In the LDD, data points with enumerated lists--ending in a Class Word of "Type"--have a Type of <DataPointNameEnumerated>.

ULDDS Appendix A uses a subset of the MISMO data Types. These are identified and defined in Section I in the "Format" row of the XML Data Points Table Column Headings and Descriptions table.

Example III-7. MISMO LDD Data Point Type.

Data Point: PropertyValuationAmount

Definition: Statement of property's value from a valid property valuation source.

Type: MISMOAmount

Data Point: AttachmentType

Definition: Specifies the type of physical attachment, if any, between the dwelling unit and adjacent dwelling units.

Enumerations:

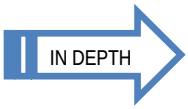
- Attached
- Detached
- SemiDetached

Enumeration URN Suffixes:

- urn:org:MISMO:residential:2009:LDD:AttachmentType:Attached
- urn:org:MISMO:residential:2009:LDD:AttachmentType:Detached
- urn:org:MISMO:residential:2009:LDD:AttachmentType:SemiDetached

Type: AttachmentTypeEnumerated

Notes: The MISMO Data Type and Class Word are not necessarily the same term, but they must be consistent. For example, the Class Word for data points with enumerations is "Type."



a. Linkages among Certain Data Point Types

Certain data point types need to be used together to properly convey intended meaning. Sometimes, the need to use one or more data points together is indicated in their definitions, but this is not always the case.

i. **PeriodCount / PeriodType**: One important relationship that must be preserved when using MISMO data is between data points ending in "PeriodCount" and "PeriodType." If only one of either of these data points is sent, it will be impossible to determine the time period correctly. The data point ending in "PeriodCount" communicates the number of periods specified by the data point ending in "PeriodType."

Example III-8. Using PeriodCount and PeriodType for Loan Delivery.

LoanAmortizationPeriodCount**:** The number of periods (as defined by the Loan Amortization Period Type) over which the scheduled loan payments of principal and/or interest are calculated to retire the obligation.

LoanAmortizationPeriodType**:** The duration of time used to define the period over which the loan is amortized.

A loan amortized over 30 years would have a LoanAmortizationPeriodCount of "360" and a LoanAmortizationPeriodType of "Month."

LoanMaturityPeriodCount**:** The scheduled number of periods (as defined by Loan Maturity Period Type) after which a debt will mature.

LoanMaturityPeriodType**:** The unit of time used for defining the period over which the loan matures.

A 15-year loan would have a LoanMaturityPeriodCount of "180" and a LoanMaturityPeriodType of "Month."

Notes: The GSEs consistently use the valid value of "Month" or "Monthly" throughout the ULDDS for PeriodType. The exception to this rule is the use of "Biweekly" for Biweekly loans and "Day" for Daily Simple Interest loans.

ii. Amount / Type / Source: One or both of the GSEs require data points that can be identified by a dollar amount, the medium used to convey the amount, and the source providing the amount. All three of these data points must be provided to properly communicate information about these funds.

Example III-9. Using Amount/Source/Type Data Points for Loan Delivery.

ClosingCostContributionAmount**:** The dollar amount of the individual Closing Cost Funds Type.

ClosingCostFundsType**:** Specifies the general names (type) of items commonly used as payment for the closing costs in a mortgage loan transaction.

ClosingCostSourceType**:** Identifies the source or contributor of funds used for the closing cost.

If a borrower provided $500 toward his/her closing costs from his/her checking account, this would be communicated with ClosingCostContributionAmount = "500," ClosingCostFundsType = "CheckingSavings," and ClosingCostSourceType = "Borrower."

DownPaymentAmount**:** The dollar amount of the borrower's Down Payment Type. Collected on the URLA in Section II (Source of Down Payment).

DownPaymentType**:** Specifies the general names (type) of items commonly used for a down payment by the borrower(s) in a mortgage loan transaction. This may be collected on the URLA in Section II (Source of Down Payment).

DownPaymentSourceType: Specifies the entity providing funds for the down payment.

If a local agency provided a $3,000 grant toward the borrower's down payment, this would be communicated with DownPaymentAmount = "3000," DownPaymentType = "Grant," and DownPaymentSourceType = "LocalAgency."

MICurrentAnnualPremiumAmount**:** The current dollar amount paid per year for mortgage insurance.

MIPremiumPaymentType**:** Defines how the premium payment is paid.

MIPremiumSourceType**:** Defines the source of the MI premium payment.

A loan with a $2,000 annual premium for mortgage insurance paid by the borrower through an escrow account would be communicated with MICurrentAnnualPremiumAmount = "2000," MIPremiumPaymentType = "Escrowed," and MIPremiumSourceType = "Borrower."

Notes: Refer to each GSE's Implementation Guide for instructions on accepted valid values and usage.

7. Sensitive Information

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

8. URN

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

9. Context

The "Context" column provides two useful pieces of information: 1) how many times the data point is used, and 2) where the data point is used in the V3.0 Reference Model. The number of times the data point is used is indicated first as a "Count," the number of containers within the V3.0 Reference Model that include this data point. The Count is followed by an alphabetical list of the containers holding the data point, prefaced by, "Used in: CONTAINER_NAME" and followed by "as: DataPointName." When a data point is used in more than one container, it is important to identify it in terms of its parent container or XPath; otherwise the meaning of the data point will not be clear.

Example III-10. MISMO LDD Data Point Context.

Data Point: AdjustmentRuleType

Definition: Specifies whether the occurrence of the adjustment is the first change or a subsequent change.

Enumerations:

- First
- Subsequent

Enumeration URN Suffixes:

- urn:org:MISMO:residential:2009:LDD:AdjustmentRuleType:First
- urn:org:MISMO:residential:2009:LDD:AdjustmentRuleType:Subsequent

App Info: Originally First Adjustment Rule Indicator; changed to enumeration in Version 3

Type: AdjustmentRuleTypeEnumerated

Data Point URN Suffix:

urn:org:MISMO:residential:2009:LDD:AdjustmentRuleType

Context:

Count=4

- **Used in: INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE as: AdjustmentRuleType**
- **Used in: PRINCIPAL_AND_INTEREST_PAYMENT_PER_CHANGE_ADJUSTMENT_RULE as: AdjustmentRuleType**
- **Used in: PRINCIPAL_AND_INTEREST_PAYMENT_PERIODIC_ADJUSTMENT_RULE as: AdjustmentRuleType**
- **Used in: RATE_OR_PAYMENT_CHANGE_OCCURRENCE as: AdjustmentRuleType**

Notes: The data point AdjustmentRuleType is used in four different containers.

a. Reusable Data Points in Unique Containers

If the data point is re-used in uniquely named containers, as is the case with AdjustmentRuleType in the example above, then all that is needed is the parent container name to uniquely identify the data point.

Example III-11. Repeatable Data Points in Unique Containers.

- 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 repeatable data points.

b. Reusable Data Points in Reusable Containers

If the data point is re-used within a reusable container, then the full XPath of the data point must be known in order to accurately interpret its meaning. See Section IV-C. XPath-V3.0 Reference Model Navigation for an explanation of XPath.

B. Containers

The "Containers" worksheet contains an alphabetical list of the containers (Complex Type XML Elements) used in the V3.0 Reference Model. The "Containers" worksheet can be used to answer the following questions:

Figure III-2. Questions Answered by the Containers Worksheet.

- Is there a MISMO data category that corresponds to a business process or a section of form or system screen?
- Where in the Reference Model is a container used?
- What is the parent container?
- Is a container the child of more than one parent?
- What is the correct spelling or definition of a container?

The following information is presented in the columns associated with each container:

1. Container

The "Container" column lists the containers used in the V3.0 Reference Model. Container names are determined by the submitting MISMO Workgroup and approved

by MISMO. The container name must comply with the same MISMO naming conventions governing data points and valid values. MISMO container names are expressed in ALL_CAPS with underscores joining each word. (Note that for readability in this document, the container names are shown in SMALL_CAPS, and the underscores are omitted from some figures. This special formatting must not be used in the loan delivery file or the file will not process properly.)

Example III-12. MISMO LDD Container Names.

Container:

- **COLLATERAL**
- **LOAN_DETAIL**
- **CLOSING_COST_FUND**

Notes: Container names are capitalized and words are separated by an underscore.

2. Definition

The "definition" column provides the industry-standard description of the container. The definition of containers in the LDD is not yet complete, and therefore many containers are still being defined. Where they are included, the MISMO definition will tend to be very generic, as many containers are used in more than one mortgage industry process. Given the lack of definition for many containers and the summary nature of existing definitions, an important role of the business partners implementing the MISMO standard is to provide additional information about how each container is to be used in the transactions they are exchanging. Additional guidance can add detail to and interpret the MISMO definition, but should always be consistent with it.

Example III-13. MISMO LDD Container Definitions and Business Partner Guidance.

Container: INTEREST_RATE_LIFETIME_ADJUSTMENT_RULE

Definition: Data that describes the rules that apply to interest rate adjustments in effect for the entire life of the loan or for a single unique occurrence such as a first rate adjustment. In general the elements are usually known at the time of closing.

Notes**:** Business partner guidance should clarify the description of the container in two ways:

- **Clarify the scope** of the data to be submitted in the container based upon expected child containers and data points. For example, if settlement agent fees are not expected to be transmitted, provide that guidance.
- **Identify the business conditions** that dictate the submission of this container. For example, if the container should only be sent for purchase money loans, provide that guidance.

3. URN

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

4. Context

The "context" column provides two useful pieces of information: 1) how many times and 2) where the container is used in the V3.0 Reference Model. The number of times the container is used is indicated first as a "Count," the number of parents this container has within the V3.0 Reference Model. The Count is followed by an alphabetical list of the parent containers prefaced by, "Used in: PARENT_CONTAINER_NAME" and followed by, "as: CHILD_CONTAINER_NAME." When a container has more than one parent, it is important to identify it in terms of its parent container or XPath; otherwise the intended purpose of the child container will not be clear.

Example III-14. MISMO LDD Container Context.

Container: INVESTOR_FEATURES

Definition: *None provided for this container.*

Container URN Suffix:

urn:org:MISMO:residential:2009:LDD:INVESTOR_FEATURES

Context:

Count=2

- **Used in: DEAL_SET as: INVESTOR_FEATURES**
- **Used in: LOAN as: INVESTOR_FEATURES**

Notes: INVESTOR_FEATURES is used in two different containers. It is important to link the containers used more than once in the Reference Model to their parents to accurately indicate the category of the data points captured within.

C. Attributes

The "Attributes" worksheet contains an alphabetical list of the very limited number of attributes defined in the V3.0 Reference Model. Attributes can qualify either containers or data points (see Section IV-E. Characteristics: Container Attributes for information about the attributes used in ULDDS Appendix A). The "Attributes" worksheet can be used to answer the following questions:

Figure III-3. Questions Answered by the Attributes Worksheet.

- Is there a MISMO attribute that will help clarify the use of a particular container and the data points within it?
- Where in the Reference Model are attributes used?
- Is an attribute used in more than one place in the Reference Model?
- Is there a MISMO attribute that will help clarify the use of a particular data point?
- What is the correct spelling or definition of an attribute?

In the V3.0 Reference Model, attributes are available to specify:

- URIs for algorithms, code owners, identifier owners, currency, and View Part References,
- The order that data points or containers must appear in the XML schema file,
- Effective date of an identifier,
- Sensitive Information (see VI. V3.0 Reference Model Features Not Used in the ULDDS),
- Relationships between containers (VI. V3.0 Reference Model Features Not Used in the ULDDS),
- Language, and
- Container-specific characteristics.

The following information is presented in the columns associated with each attribute:

1. Attribute

The "Attribute" column lists the term names determined by the submitting MISMO Workgroup and approved by MISMO. The term name must comply with the MISMO naming conventions described in Section III-A-1. Data Point. MISMO attributes are expressed in Upper Camel Case.

Example III-15 MISMO LDD Attribute Names.

Attribute:

- **MISMOReferenceModelIdentifier**
- **LoanRoleType**

Notes: No spaces between the words making up each term. Each term name ends in a Class Word.

2. Definition

The "Definition" column provides the industry-standard description of the attribute. The MISMO definition will tend to be very generic, as many attributes are used in more than one mortgage industry process.

One role of the business partners implementing the MISMO standard is to provide additional information about how the attribute is to be used in the transactions they are exchanging. Additional guidance can add detail to and interpret the MISMO definition, but should always be consistent with it.

Example III-16. MISMO LDD Attribute Definitions and Business Partner Guidance.

Attribute: LoanRoleType

Definition: Used as an attribute on LOAN to distinguish subject loans from related loans.

Business Partner Guidance in Implementation Guide: Each instance of the LOAN container captures data points of either the delivered (subject) loan or a supporting (related) loan at a specific point in time defined by the values of the LoanStateType and LoanRoleType associated with that container.

Notes: The MISMO definition is non-specific, so the GSEs have clarified the use of the attribute with detailed further guidance.

3. URN

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

4. Context

As for the data points and containers, the "Context" column shows 1) how many times and 2) where the attribute is used in the V3.0 Reference Model. The number of times the attribute is used is indicated first as a "Count," which is the number of parents this attribute has within the V3.0 Reference Model. The Count is followed by an alphabetical list of the parent containers prefaced by, "Used in: CONTAINER_NAME" and followed by "as: AttributeName." When an attribute is used in more than one container, it is important to identify it in terms of its parent container or XPath; otherwise the meaning of the attribute will not be clear.

Example III-17. MISMO LDD Attribute Context.

Attribute: MISMOReferenceModelIdentifier

Definition: The MISMO Reference Model Identifier is a unique value that represents the version of the MISMO reference model to which the containing XML instance document complies.

Container URN Suffix:
urn:org:MISMO:residential:2009:LDD:MISMOReferenceModelIdentifier

Context

Count=3

- **Used in: DEAL as: MISMOReferenceModelIdentifier**
- **Used in: DOCUMENT as: MISMOReferenceModelIdentifier**
- **Used in: MESSAGE as: MISMOReferenceModelIdentifier**

Notes: The attribute MISMOReferenceModelIdentifier is used in three different containers. It is important to link the attributes used more than once in the Reference Model to their containers to accurately convey their meaning. The GSEs are using MISMOReferenceModelIdentifier only as an attribute of MESSAGE.

D. Arc Roles

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

E. Deprecated Data Points and Containers

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

IV. Using the MISMO V3.0 Reference Model

The MISMO V3.0 Reference Model consists of two underlying XML schema documents, *MISMO_3_0.xsd* and *xlink.xsd*, as well as the accompanying LDD described in the preceding section. This section describes some of the foundational concepts of the V3.0 Reference Model in terms of the GSEs' intended use.

Figure IV-1. Questions Answered by a Graphical View of the MISMO v3.0 Reference Model.

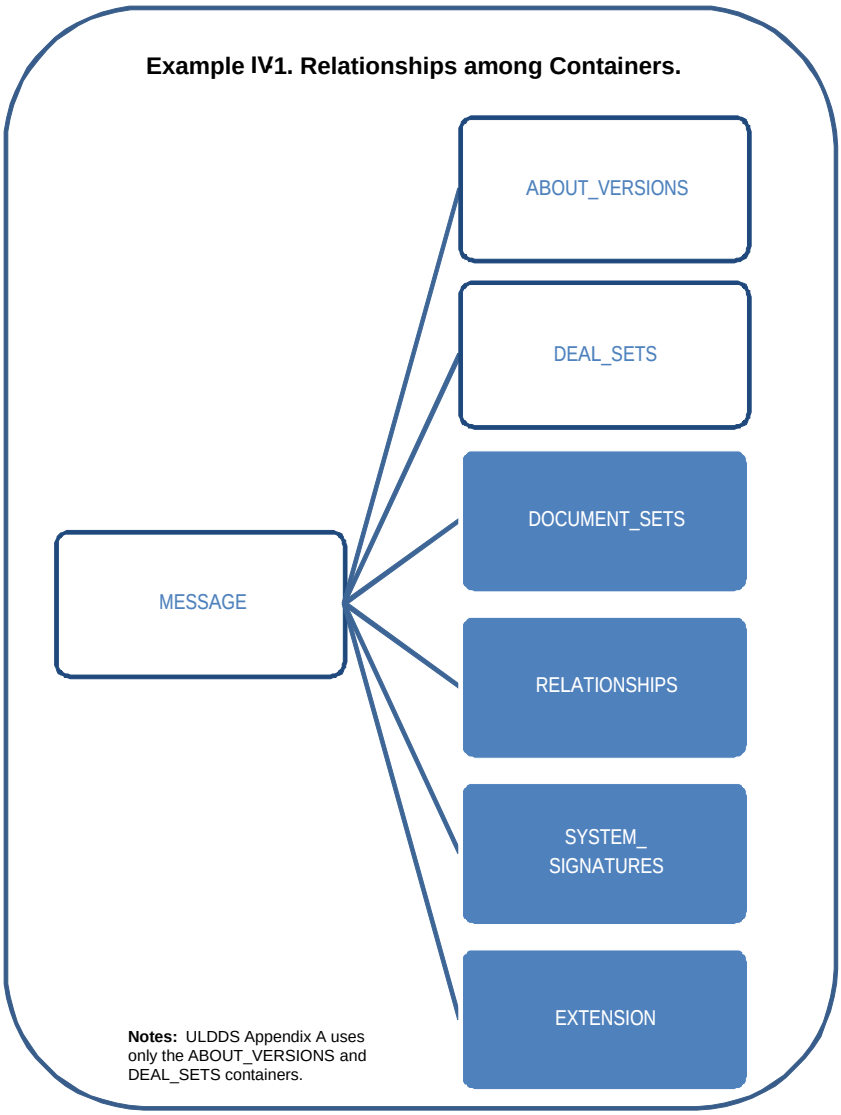
- What categories of data are contained within the Reference Model?
- Where in the Reference Model can you find a given data category?
- What are the relationships among the different data categories?
- What data points are included within each category?
- Where in the Reference Model can you find a specific data point?
- Is a data category used more than once in the Reference Model?
- Can a group of data within a category repeat?

A. Containers: V3.0 Reference Model Organization

The V3.0 Reference Model is an XML schema document representing logical categories of real estate finance industry data, the relationships among those categories, and the data points making up each category. In the V3.0 Reference Model, these categories are called "containers." Containers are simply collections of related data. Containers that hold other containers are "parents" and the containers they hold are "children." In a hierarchy of related containers, the lowest level container holds only data points. There are no "mixed containers," that is, containers holding both child containers and data points.

Each container has a child EXTENSION container. Business partners use the EXTENSION container to hold trading-partner specific data points that are not part of the MISMO standard. ULDDS Appendix A does not use any EXTENSION containers.

The root (highest level) container in the MISMO V3.0 Reference Model is MESSAGE. In the example below, MESSAGE is the parent of ABOUT_VERSIONS, DEAL_SETS, and so on. ABOUT_VERSIONS and DEAL_SETS are children of MESSAGE.



1. Applicability: Containers used for Loan Delivery

Example IV-1 illustrates the parent containers within the V3.0 Reference Model that are specified in ULDDS Appendix A. This is the highest-level view of the Loan Delivery Data Set, starting from the root container, MESSAGE. Note that the GSEs' use of the V3.0 Reference Model is confined to the ABOUT_VERSIONS and DEAL_SETS containers. The majority of the data in ULDDS Appendix A is provided in the DEAL container. To read Example IV-1 (and any graphical representations of V3.0 Reference Model) in the same order in which the containers are presented in the underlying XML schema document, follow the steps in Example IV-2.

Example IV-2. Reading Graphical Representations of the Reference Model

STEP 1: Start at the very left with MESSAGE, then move to the right to ABOUT_VERSIONS. Keep moving right to the last container (ABOUT_VERSION) before moving back to the branch from MESSAGE.

STEP 2: Move to the next lowest container (DEAL_SETS) then up the branch to its topmost child container (DEALS). Again, move all the way to the right to DEAL, then up the branch to the topmost child container of DEAL (ASSETS). Now, move all the way to the right to ASSET, then return to the next level of child containers branching from DEAL (COLLATERALS).

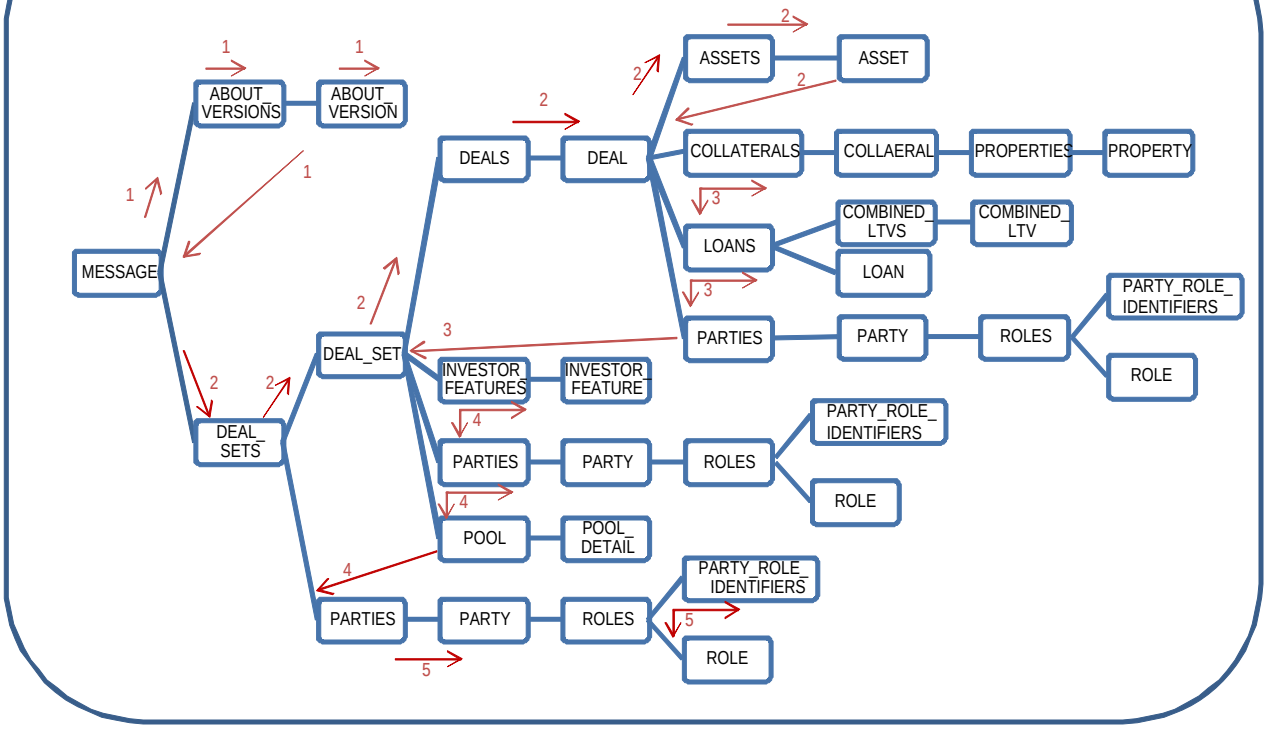
STEP 3: Continue moving this way through the child containers of DEAL, through PARTIES to ROLES, then up the branch to the topmost child container of ROLES (PARTY_ROLE_IDENTIFIER). Since there are no more containers to the right, move back to the branch at ROLES and down to the last container shown (ROLE). Since there are no more DEAL child containers, you are ready to move back to the branch at DEAL_SET and tackle the next set of child containers of DEAL_SET (INVESTOR_FEATURE).

STEP 4: Continue moving right and then down through the child containers of DEAL_SET through the last container shown (POOL_DETAIL). Since there are no more DEAL_SET child containers, you are ready to move back to the branch at DEAL_SETS and tackle the next set of child containers of DEAL_SETS (PARTIES).

STEP 5: Continue moving right to ROLES, then up the branch to the topmost child container of ROLES (PARTY_ROLE_IDENTIFIER). Since there are no more containers to the right, move back to the branch at ROLES and down to the last container shown (ROLE).

Notes: Use this technique to move through any graphical representation of an XML schema document to read it in schema order.

Example IV2, Cont'd. High-Level View of and Navigation through ULDDS containers.



Each container illustrated in Example IV-2 is described below. A description of how containers are named and structured is provided in Section III-B-1. Container.

Table IV-1. Definitions of High-Level Containers

MESSAGE	The root (highest level) container in the MISMO V3.0 Reference Model.
.ABOUT_VERSIONS	
..ABOUT_VERSION	Captures the version number of the receiving GSE's Implementation Guide for Loan Delivery Data used to create the loan delivery XML file.
.DEAL_SETS	
..DEAL_SET	Holds a collection of DEAL containers that may or may not be related.
…DEALS	
….DEAL	Each DEAL container holds the data pertaining to the sale of one unique loan.
….:ASSETS	
….:.ASSET	Borrower asset and asset documentation information. This container is optional for the first release.
….:COLLATERALS	
….:.COLLATERAL	Captures information about the property that secures the delivered loan. Only one COLLATERAL container should be submitted.

Table IV-1. Definitions of High-Level Containers

….:..PROPERTIES	
….:…PROPERTY	The data submitted should be the most up-to-date data known about the subject property at the time of delivery. Only one PROPERTY container should be submitted.
….:LOANS	Contains multiple instances of LOAN that together provide all data points needed to define the delivered loan and any supporting information from associated related loans.
…..:.COMBINED_LTVS	
…..:..COMBINED_LTV	Captures loan-to-value ratios for the delivered loan and all its associated loans.
…..:.LOAN	Loan information, organized into many child containers. For example, the REFINANCE container holds containers and data points specific to refinances. All data points within each LOAN instance must be valid for that LOAN'S LoanRoleType, LoanStateType, and LoanStateDate.
….:PARTIES	
…..:.PARTY	Information about parties to the transaction, for example, borrower, loan originator, or appraiser, as identified by the value in PartyRoleType in the ROLE_DETAIL container. The data submitted should be the most up-to-date party information known at the time of delivery. PARTY is used in LOAN, DEAL_SET, and DEAL_SETS; usage differs for each GSE.
…..:..ROLES	
…..:…PARTY_ROLE_ IDENTIFIERS	The unique identifier assigned to a PartyRoleType, for example, the Seller Number or the Loan Originator ID.
…..:…ROLE	Identifies the role played by the entity described in this instance of PARTY. Each GSE uses different roles as specified in their GSE-specific Appendix As.
…INVESTOR_FEATURES	
….INVESTOR_FEATURE	Captures special characteristics of the DEAL_SET. Also used within LOAN. Usage differs by GSE.
…PARTIES	
….PARTY	Information about parties related to a pool of loans, as identified by the value in PartyRoleType in the ROLE_DETAIL container. This container is specific to Fannie Mae's loan delivery application.
….:ROLES	
…..:.PARTY_ROLE_IDENTIFIERS	The unique identifier assigned to a PartyRoleType.
…..:.ROLE	Identifies the role played by the entity described in this instance of PARTY. Each GSE uses different roles as specified in their GSE-specific Appendix As.
…POOL	Captures information about pooling of loans for securitization. This container is specific to Fannie Mae's Loan Delivery application.

Table IV-1. Definitions of High-Level Containers	
….POOL_DETAIL	
..PARTIES	
…PARTY	Information about parties to the transaction at the MESSAGE level.
….ROLES	
…..:PARTY_ROLE_IDENTIFIERS	The unique identifier assigned to a PartyRoleType, in this case, LoanDeliveryFilePreparer.

B. Cardinality: Container Repeatability and Relationships

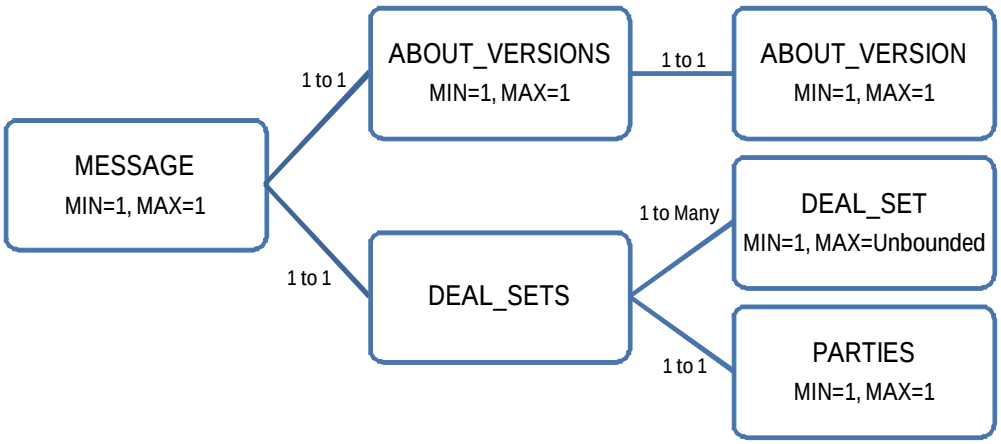
If a container is plural, its singular child can repeat multiple times within it. For example, DEAL_SET can repeat many times within DEAL_SETS. This establishes a one-to-many relationship between the plural and singular containers. In the ULDDS Appendix A, you will see the notation "(MIN=*n*, MAX=*n*)" following each container name in the heading bars:

Table IV-2. Cardinality Example from ULDDS Appendix A.
MESSAGE (MIN=1, MAX=1)
.ABOUT_VERSIONS (MIN=1, MAX=1)
..ABOUT_VERSION (MIN=1, MAX=1)
.DEAL_SETS (MIN=1, MAX=1)
..DEAL_SET (MIN=1, MAX=unbounded)

This (MIN, MAX) expression is referred to as the container's cardinality—the specification of how many times the container may repeat within its parent. "MIN" represents the minimum number of occurrences allowed, and "MAX" represents the maximum number of occurrences allowed. If the MIN is greater than or equal to one, the container is required with all transactions. If the MIN is zero, the container is conditionally required or optional. The conditionality of the data points within the lowest level container is what determines the container's minimum cardinality. If a container holds only optional or conditional data points, its cardinality will be MIN=0, because there are situations where the data point will not be required. If a container holds any required data points, its cardinality will be MIN = 1.

If the MAX = 1, there is a one-to-one relationship between it and its parent; it cannot repeat. If the MAX is greater than or equal to one that means that the container can repeat up to the number specified. If the MAX is "unbounded," that means the container can repeat an unlimited number of times.

Example IV-3. Container Cardinality.



Notes:

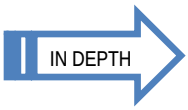
- ULDDS Appendix A limits each loan delivery submission to one MESSAGE (MAX =1).
- There is a one-to-one relationship between MESSAGE and ABOUT_VERSIONS and between ABOUT_VERSIONS and ABOUT_VERSION.
- MIN=1 means that for each MESSAGE, the ABOUT_VERSIONS container must be sent and for each ABOUT_VERSIONS, the ABOUT_VERSION container must be sent. MAX=1 means only one of each may be sent. That is, each MESSAGE must be based on only one version of the ULDDS.
- There is a one-to-one relationship between MESSAGE and DEAL_SETS. MIN=1 means that for each MESSAGE, one DEAL_SETS container must be sent, and MAX=1 means only one may be sent.
- There is a one-to-many relationship between DEAL_SETS and DEAL_SET. MIN=1 means that for each DEAL_SETS, one DEAL_SET container must be sent. MAX=unbounded means that a limitless number of DEAL_SET containers may be sent within DEAL_SET.
- There is a one-to-one relationship between DEAL_SETS and PARTIES. MIN=1 means that for each DEAL_SETS container, one PARTIES container must be sent, and MAX=1 means only one may be sent.

C. XPath-V3.0 Reference Model Navigation

XPath helps business partners locate data points within an XML schema document. The XPath language provides the directions to each container and data point within the V3.0 Reference Model. The location is expressed as relative to the root container, MESSAGE. XPath directions move through the XML schema first to the right, then down, to the location of a container.

The XPath to each container used in ULDDS Appendix A is provided under the container heading bar immediately preceding the data points within a given container:

Table IV-3. XPath Example from ULDDS Appendix A.
MESSAGE (MIN=1, MAX=1)
.ABOUT_VERSIONS (MIN=1, MAX=1)
..ABOUT_VERSION (MIN=1, MAX=1)
XPath: MESSAGE/ABOUT_VERSIONS/ABOUT_VERSION



Reusable Containers. It is particularly critical to know the XPath of containers and data points that are used in more than one place in the V3.0 Reference Model, as their location in the schema provides their context and indicates how they will be used. ULDDS Appendix A contains the following "reusable" containers, including ADDRESS and NAME. Notice how their location in the V3.0 Reference Model, as indicated by the XPath, changes their meaning.

Table IV-4. Reusable Containers Example from ULDDS Appendix A.
MESSAGE (MIN=1, MAX=1)
.DEAL_SETS (MIN=1, MAX=1)
..DEAL_SET (MIN=1, MAX=unbounded)
…DEALS (MIN=1, MAX=1)
….DEAL (MIN=1, MAX=unbounded)
….:COLLATERALS (MIN=1, MAX=1)
….:.COLLATERAL (MIN=1, MAX=1)
….:..PROPERTIES (MIN=1, MAX=1)
….:...PROPERTY (MIN=1, MAX=1)
….:….ADDRESS (MIN=1, MAX=1)
XPath: MESSAGE/DEAL_SETS/DEAL_SET/DEALS/DEAL/COLLATERALS/COLLATERAL/PROPERTIES/PROPERTY/ADDRESS

This use of the ADDRESS container is to capture the property address serving as collateral for the subject loan. Now, review the XPath of the other ADDRESS container. Its location in the V3.0 Reference Model indicates that is the address for a particular PARTY. The

value of the PartyRoleType data point within PARTY will tell us that it is the borrower's address.

Table IV-5. Reusable Containers Example from ULDDS Appendix A.
MESSAGE (MIN=1, MAX=1)
.DEAL_SETS (MIN=1, MAX=1)
..DEAL_SET (MIN=1, MAX=unbounded)
…DEALS (MIN=1, MAX=1)
….DEAL (MIN=1, MAX=unbounded)
….:PARTIES (MIN=1, MAX=1)
….:.PARTY (MIN=1, MAX=unbounded)
….:...ADDRESSES (MIN=0, MAX=1)
….:….ADDRESS (MIN=0, MAX=1)
XPath: MESSAGE/DEAL_SETS/DEAL_SET/DEALS/DEAL/PARTIES/PARTY/ADDRESSES/ADDRESS

D. Availability: Any vs. Choice Group

Figure IV-2 illustrates an important container usage concept called "Choice Groups." As discussed above, most containers in the V3.0 Reference Model are parents of one or more child containers. Usually, any or all of the child containers can be used within any occurrence of the parent, as the business partners' business requirements dictate. However, some containers hold child containers that are mutually exclusive. Users must choose from a selection of two or more child containers. Effectively, this enforces a one-to-one relationship between the parent and the child selected from the choice group.

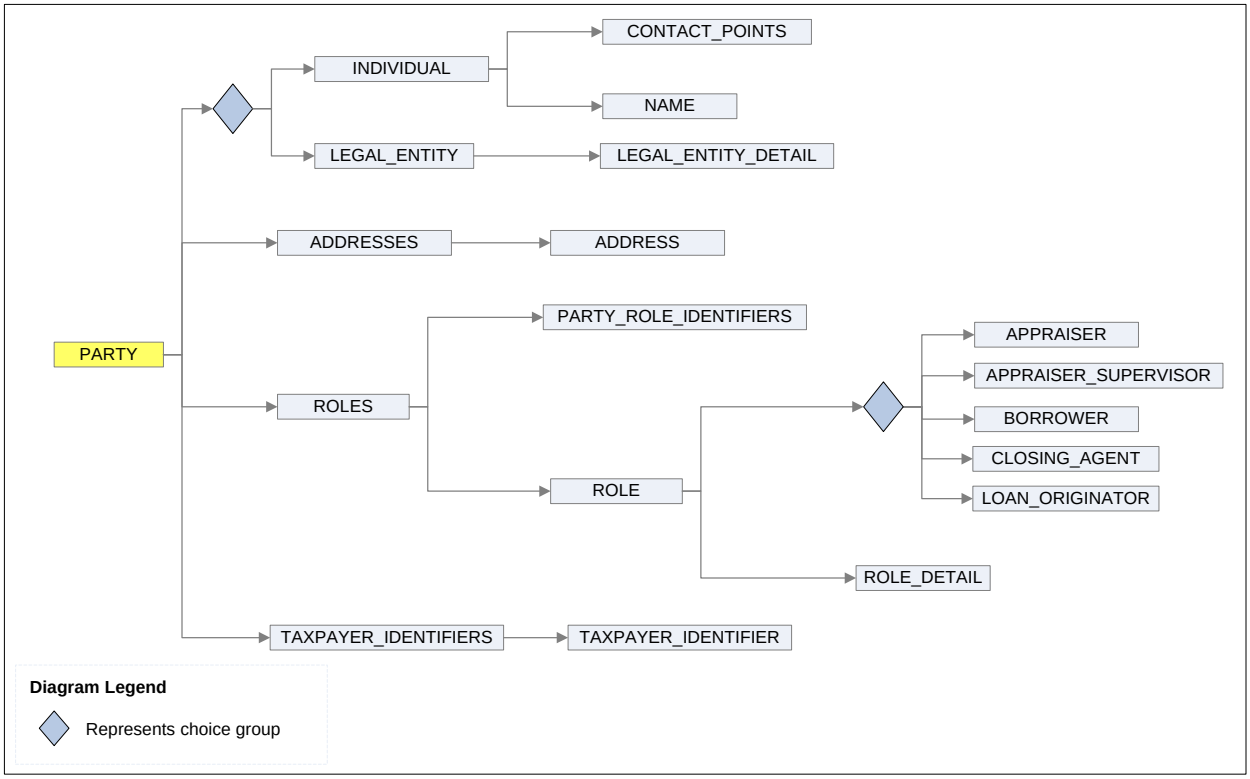


Figure IV-2. V3.0 Reference Model – PARTY Container Availability.

Example IV-4. Container Choice Group

- **INDIVIDUAL OR LEGAL_ENTITY:** In the PARTY container, business partners must specify whether the information within this container describes an individual or a legal entity. Depending on the selection, the name of the party will be reported either in the NAME container for individuals or in the LEGAL_ENTITY_DETAIL container for non-individuals.
- **ROLE:** The ROLE_DETAIL child container holds the identification of the role the party is playing in the transaction: the value in the data point PartyRoleType, for example, "Borrower." ROLE has child containers that match certain values of PartyRoleType in order to communicate additional detail about that particular party role. Only one detail container can be selected for each PartyRoleType within ROLE_DETAIL—the one that matches the value in PartyRoleType—in this case, BORROWER.

  ROLE / ROLE_DETAIL / PartyRoleType = "Borrower"

  ROLE / BORROWER

Notes: The PARTY container is constructed to enable the capture of multiple roles for a given party to a transaction. However, the GSEs' implementation of the Reference Model in the ULDDS limits the number of roles a party can play to one per instance of the PARTY container.

E. Characteristics: Container Attributes

Attributes are specified for certain V3.0 Reference Model containers and data points (see Section III-C. Attributes). Attributes at the container level qualify the entire container and all data points within that container. The GSEs are using only two container attributes in ULDDS Appendix A—MISMO Reference Model Identifier and Loan Role Type.

The LOAN container within the MISMO V3.0 Reference Model can be qualified with an attribute called "LoanRoleType." The LoanRoleType attribute identifies the loan data in the qualified LOAN container as either a "SubjectLoan" or a "RelatedLoan" and is required with every instance of LOAN. Together with the value in LoanStateType (discussed in the next section), LoanRoleType richly defines the data points in each instance of LOAN.

Example IV-5. Container Attributes--LoanRoleType

LoanRoleType = SubjectLoan: Use this value for all instances of the LOAN container that specifically describe the loan being delivered to the GSE.

LoanRoleType = RelatedLoan: Use this value for all instances of the LOAN container that report on loans having some sort of relationship to the SubjectLoan. Usually, LOAN containers will have a value of RelatedLoan if they provide information about subordinate liens.

Notes: Each GSE has a specific implementation of the RelatedLoan, so refer to the GSE-specific *Implementation Guides for Loan Delivery Data* for more information.

F. Additions: The EXTENSION Container

See Section VI. V3.0 Reference Model Features Not Used in the ULDDS.

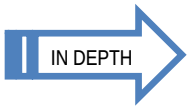
G. Container-Specific Concepts: Loan State and Loan Role

1. Definitions

The LOAN_STATE container (Child of LOAN) holds two data points—LoanStateType and LoanStateDate. The values in LoanStateType and LoanStateDate indicate the point in time for which the other data points within the same Parent LOAN container are valid.

Table IV-6 lists the five "snapshots in time" that can be communicated with the MISMO data point LoanStateType. Along with the value in LoanRoleType, these data points lend additional meaning to the other data points in the same LOAN container. The LoanStateDate specifies the "effective" date for the LoanStateType.

Table IV-6. Data Points in the LOAN_STATE Container		
Data Point	**Definition**	**Valid Values / Format**
LoanStateType	Identifies the point in time for which the data associated with this occurrence of LOAN is valid.	**AtClosing**: A snapshot of the loan data at the completion of the closing process. This is sometimes referred to as "original."
		AtConversion: For loans with a conversion option, a snapshot of the loan data at the time the conversion features become effective (e.g., biweekly to monthly payments; adjustable to fixed rate amortization).
		AtModification: For loans that undergo term modifications not originally specified in the note, snapshots of the loan data at the time the new note terms become effective.
		AtReset: For balloon mortgages with a reset feature, a snapshot of the loan data on the balloon maturity date at the time the borrower exercises the reset option to modify and extend the balloon note.
		Current: A snapshot of the loan data as of the LoanStateDate.
LoanStateDate	Specifies the date for the "Loan State Type."	YYYY-MM-DD



2. Loan States and Loan Delivery.

Use of the LoanStateType values enables loan delivery file submitters to be precise about the timing of the information for each loan transaction. For this reason, the LoanStateType needs to be linked with the associated data points in the LOAN container so that the data can be used accurately in business logic and calculations.

The LOAN_STATE container must be submitted with every instance of LOAN. The data required for every subject loan delivered to the GSEs will be submitted in a minimum of two LOAN containers—one with a LoanStateType of "AtClosing" and one with a LoanStateType of "Current."

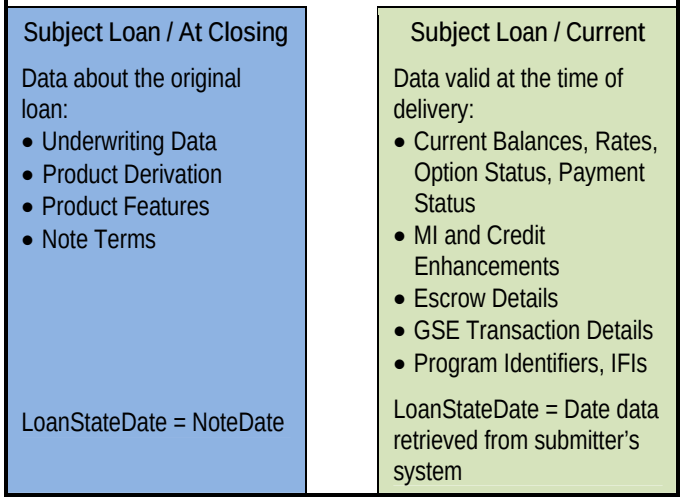
Depending on the business condition triggering the requirement for the LOAN container in a particular loan state, the GSEs have developed the following usage requirements. These are summarized in Table IV-7, below, and described in more detail in the following sections.

Table IV-7. Summary of LOAN Container Delivery Requirements by LoanRoleType and LoanStateType Values.					
ID	Condition	LoanRoleType	LoanStateType	LoanStateDate	Conditions
i	Non-Modified Loans	SubjectLoan	AtClosing	NoteDate	Standard delivery
			Current	Date data retrieved from submitter's system	Required for every loan
ii	Modified Loans	SubjectLoan	AtClosing (Subset for modified loans)	NoteDate	Loan has been modified
			AtModification	LoanModificationEffectiveDate	Loan has been modified
			Current	Date data retrieved from submitter's system	Required for every loan
iii	Converted Loans	SubjectLoan	AtClosing	NoteDate	Convertible loan that has not been modified
			AtConversion	LatestConversionEffectiveDate	Conversion option has been exercised
			Current	Date data retrieved from submitter's system	Required for every loan
iv	Balloon Loans that have Reset *(For Future Use)*	SubjectLoan	AtClosing	NoteDate	Balloon Reset Loan that has not been modified
			AtReset	BalloonResetDate	Balloon reset option has been exercised
			Current	Date data retrieved from submitter's system	Required for every loan
v	Delivered Second Lien	RelatedLoan	AtClosing	NoteDate of Second Lien	Required data about the first lien if a second lien is being delivered
vi	Concurrently Closing Subordinate Liens	RelatedLoan	Current	Date data retrieved from submitter's system	Required for any of the scenarios listed above if more than one concurrently closing lien exists on the subject property

a. Non-Modified Loans

The majority of the information about the loan will be submitted with a LoanStateType of "AtClosing." This is the data that was valid at the time the loan was closed. A Current LOAN container also must be submitted.

Figure IV-8. LOAN Containers Required for Non-Modified Loans.



b. Modified Loans.

If the loan has been modified prior to delivery, the MortgageModificationIndicator with a value of "true" will be in the "Current" LOAN container as a signal to expect the "AtModification" container as shown in Figure IV-9 below. The business partner must deliver all the data about the loan that normally would be submitted with a LoanStateType of "AtClosing"; however, this data must be valid as of the loan modification date and therefore must be submitted with a LoanStateType of "AtModification."

In addition to the same child containers that are required "AtClosing" for non-modified loans, information about the modification itself will be included in a child container called "MODIFICATION."

A minimal set of data will be delivered in the LOAN container with a LoanStateType of "AtClosing" for modified loans—data necessary to identify the original loan product and note terms. This data is a subset of the full complement of data submitted for non-modified loans.

The Current LOAN container also must be submitted with information about the delivery transaction, subsequent loan servicing, and data that can be updated following closing. Data in the Current LOAN container should be valid as of the date of delivery to the GSE.

Figure IV-9. LOAN Containers Required for Modified Loans.

Subject Loan / At Modification	Subject Loan / At Closing	Subject Loan / Current
Data about the modified loan: • Underwriting Data • Product Derivation • Product Features • Note Terms • Modification Information LoanStateDate = LoanModificationEffective Date	Subset of data about the original loan: • Product Derivation • Note Terms LoanStateDate = NoteDate	Data valid as of time it was retrieved from submitter's system: • Current Balances, Rates, Option Status, Payment Status • MI and Credit Enhancements • Escrow Details • GSE Transaction Details • Program Identifiers, IFIs MortgageModificationIndicator = "true" and LoanStateDate = Date data retrieved from submitter's system

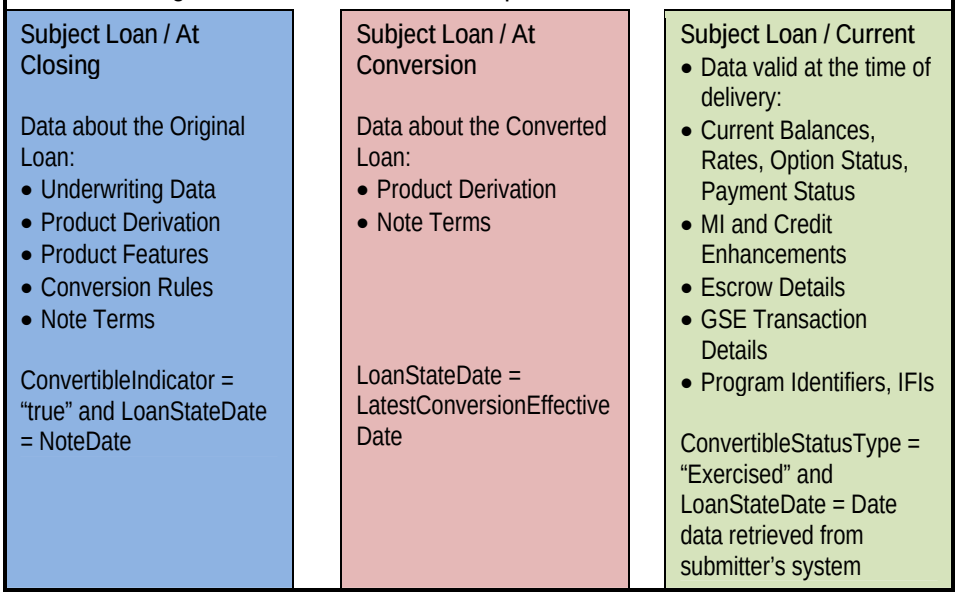
c. Converted Loans

If a convertible loan (indicated by a value of "true" for the ConvertibilityIndicator in the "AtClosing" LOAN container), has converted prior to delivery, the ConvertibleStatusType in the "Current" LOAN container will have a value of "Exercised" as a signal to expect the "AtConversion" container.

The AtConversion container holds information about loans that have changed as a result of the conversion from either biweekly to monthly payment frequency or from an adjustable to fixed note rate. Business partners must submit the original note information in the LOAN container with a LoanStateType of "AtClosing" and an additional LOAN container with a LoanStateType of "AtConversion" to provide the relevant information about how the loan terms have changed as a result of the conversion. As with all loan deliveries, the "Current" LOAN container must be submitted as well.

If the a convertible loan was modified prior to delivery, and the borrower subsequently exercised the conversion option, business partners need not submit information about the modification; simply submit the data for the original loan in "AtClosing" and the accurate information about the loan as converted in "AtConversion."

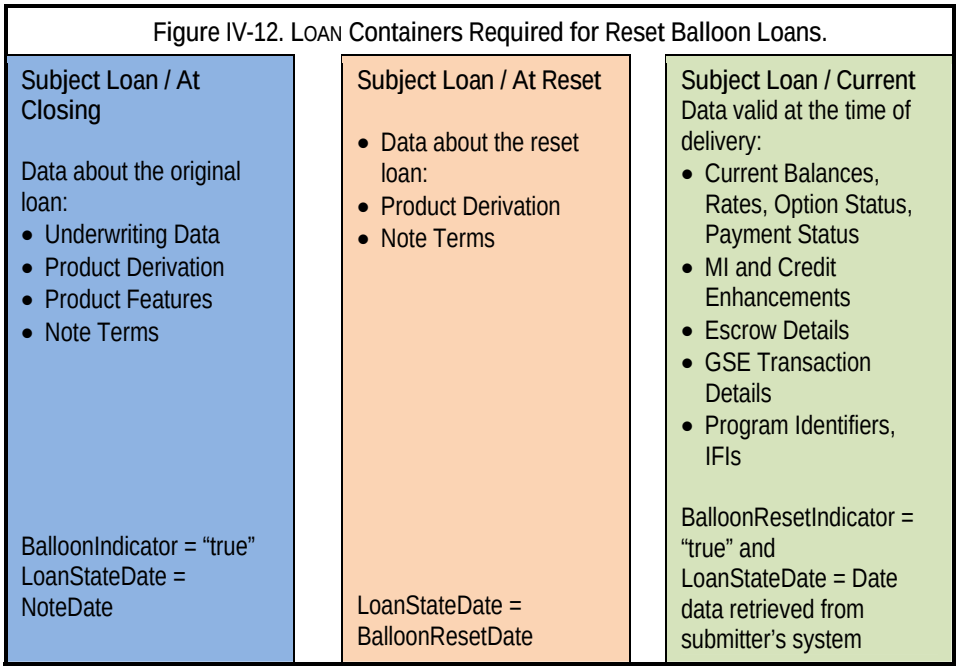
Figure IV-10. LOAN Containers Required for Converted Loans.



e. Reset Balloon Loans. Note: This implementation of Loan State is For Future Use.

If the loan being delivered was originated as a balloon and the balloon reset option has been exercised, the BalloonResetIndicator must have a value of "true." The business partner must deliver a LOAN container with a LoanStateType of "AtReset" and LoanStateDate equal to the BalloonResetDate to convey the data points about the reset note terms and characteristics.

Figure IV-12. LOAN Containers Required for Reset Balloon Loans.



The "AtReset" LOAN container must be submitted in addition to both the LOAN container with a LoanStateType of "AtClosing" (providing data about the original loan prior to reset) and the LOAN container with a LoanStateType of "Current" (providing the data at the point in which it was retrieved from the submitter's system).

f. Loans with Related Liens.

If the loan being delivered is associated with other liens against the same property, a container must be sent with a LoanRoleType of "RelatedLoan" to describe the related lien(s). There are two different treatments of related loans, depending on whether the loan being delivered to the GSE is a first or second lien.

If a second lien is being delivered, all the data about the second lien loan should be submitted in the AtClosing container, as described in Section "a" for non-modified loans. The data about the related first lien should be delivered in a LOAN container with LoanRoleType = "RelatedLoan" and a LoanStateType of "AtClosing." This related LOAN container holds a limited set of data about the note terms of the original first lien.

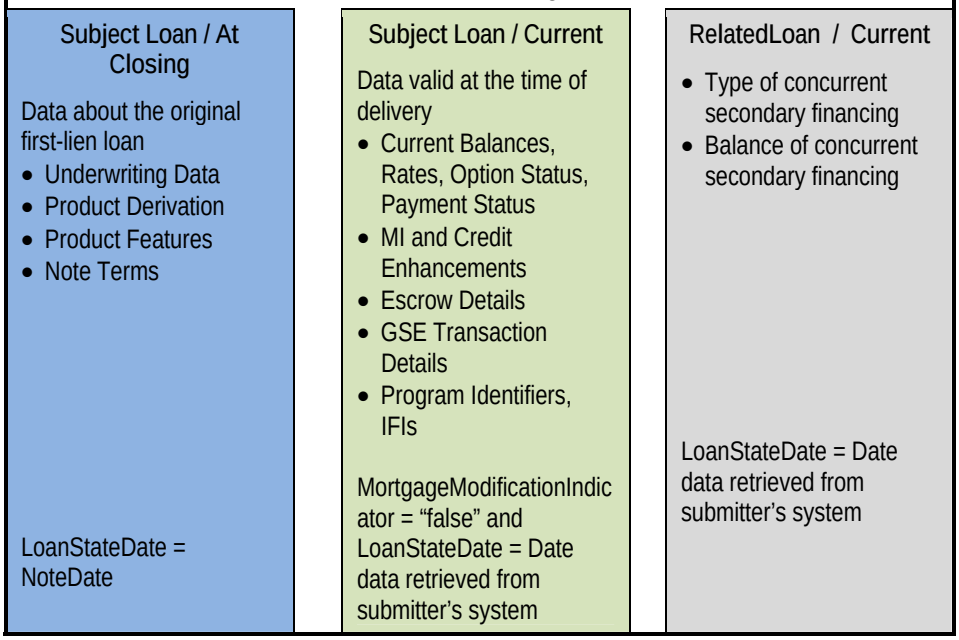
Figure IV-13. LOAN Containers Required when a Second Lien is Being Delivered

Subject Loan / At Closing	Subject Loan / Current	Related Loan / At Closing
Data about the original, second-lien loan • Underwriting Data • Product Derivation • Product Features • Note Terms LoanStateDate = Note Date of second lien	Data valid at the time of delivery about the second-lien loan • Current Balances, Rates, Option Status, Payment Status • MI and Credit Enhancements • Escrow Details • GSE Transaction Details • Program Identifiers, IFIs LoanStateDate = Date data retrieved from submitter's system	Data about the original, first-lien note terms LoanStateDate = Note Date of first lien

g. Loans with Concurrent Secondary Financing.

If more than one concurrently closing lien exists on the subject property, the "RelatedLoan" LOAN container must be sent with a LoanStateType of "Current" for each subordinate lien.

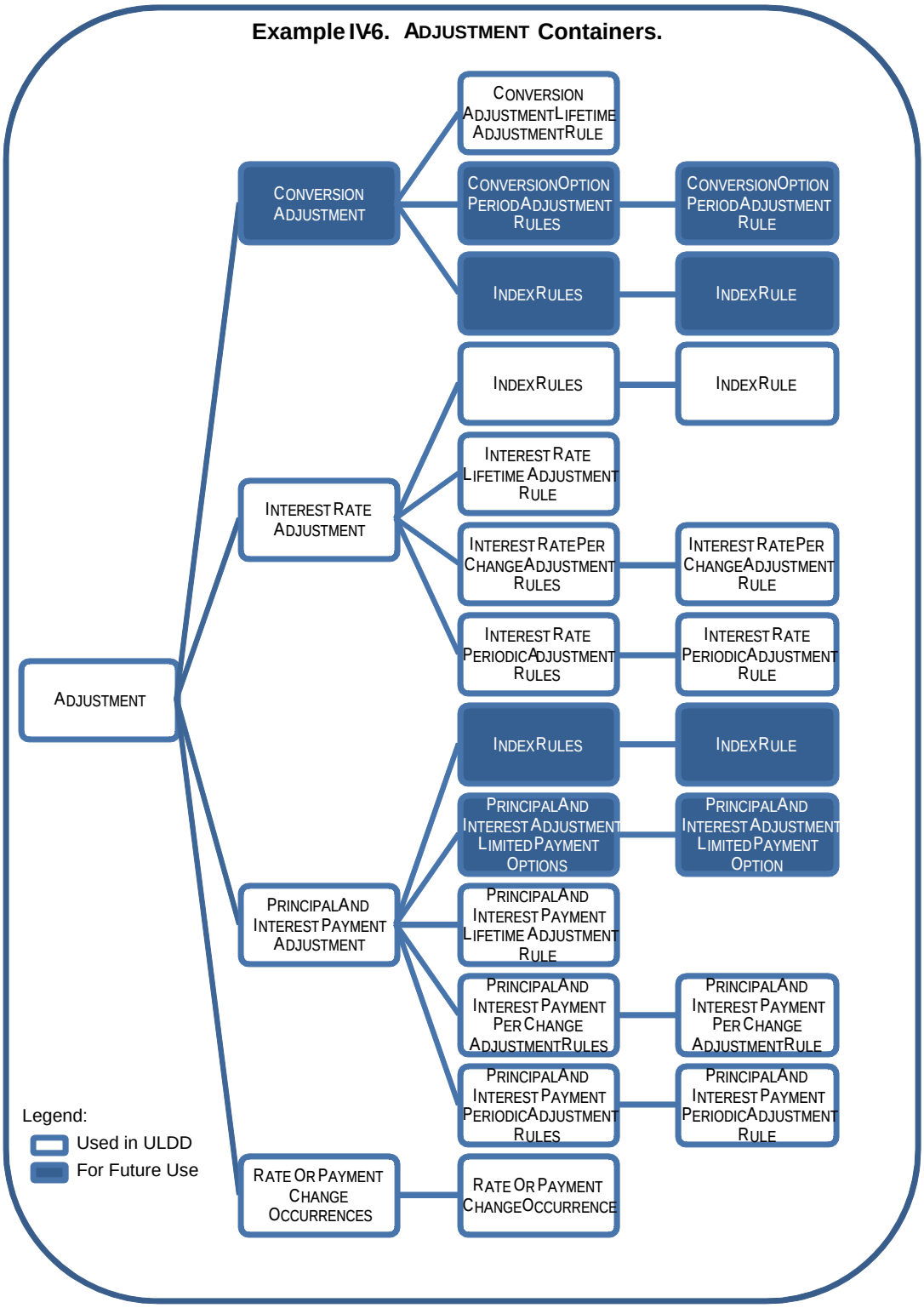
Figure IV-14. LOAN Containers Required for Concurrently Closing Secondary Financing when a First Lien is Being Delivered.



H. Container-Specific Concepts: Adjustment

The ADJUSTMENT container within LOAN, which holds child containers and data points that fully describe how the rate or payment structure of a loan can change, has several unique characteristics. The containers used in ULDDS Appendix A are shown in the white boxes.

Example IV-6. ADJUSTMENT Containers.



Each child ADJUSTMENT container has up to four child containers of similar structure: one to specify index rules, one to articulate the rules in effect for the life of the conversion option or loan, one to identify the rules applicable to "First" and "Subsequent" change periods, and one to communicate associated rules that also are in effect for specified time

periods. The RATE_OR_PAYMENT_CHANGE_ OCCURRENCE container holds data points that communicate values resulting from the execution of each of the applicable rules.

1. Index_Rules / Index_Rule

The INDEX_RULE contains data points specifying the index used to govern changes in the interest rate or principal and interest payment. The data points it contains include the index source, lookback period, rounding rules, calculation methods, and index averaging rules. While multiple Index Rules can be identified for each potential adjustment to a loan (conversion, adjustable rate, or adjustable payments), typically there is only one.

Example IV-7. Use of INTEREST_RATE_ADJUSTMENT / INDEX_RULE for an ARM

The interest rate adjustment is based on a 1-year LIBOR index published daily in the *Wall Street Journal* with lookback period of 25 days.

Data Point	Definition	Valid Value
IndexSourceType	Specifies the type and source of index to be used to determine the interest rate at each adjustment.	LIBOROneYearWSJ Daily
InterestAndPaymentAdjustmentIndexLeadDaysCount	The number of days prior to an interest rate effective date used to determine the date for the index value when calculating a new interest rate on a loan.	25

Notes: The index source and lookback period governing all the interest rate changes for this loan are known at the time of closing and are communicated as “Index Rules.”

2. Lifetime_Adjustment_Rule

The LIFE_TIME_ADJUSMENT_RULE holds the set of rules that is in place for the duration of the conversion option or life of the adjustable rate loan.

a. Convertible Loans: For convertible mortgages, the lifetime rule applies for the full duration of the conversion option and includes data about option length, extendibility, repeatability, margin, rate caps, schedule, and type (biweekly to monthly or adjustable to fixed rate).

b. Adjustable Rate Loans: For ARMs, the lifetime rule applies for the full duration of the loan and includes data about: rate caps, first rate change date, calculation type, rounding, and truncation.

c. Adjustable Payment Loans: For loans with adjustable payments, the lifetime rule applies for the full duration of the loan and includes data about: payment caps, final

recast instructions, number of times the note term can be extended, payment calculation methods, and number of payments between adjustments.

Example IV-8. Use of INTEREST_RATE_LIFETIME_ADJUSTMENT_RULE for an ARM.

This loan, closed on January 15, 2010, has a 5-year initial fixed interest rate of 5.5%, with a 5/2/6 cap structure and a margin of 2.6%. There is no lifetime floor.

Data Point	Definition	Valid Value
CeilingRatePercent	The stated maximum percentage to which the interest rate can increase over the life of the loan.	11.5
FirstRateChangePaymentEffectiveDate	The due date of the payment at the first calculated interest rate change. To arrive at the actual (true) date that interest begins to accrue at the changed rate one payment period is subtracted if interest is paid in arrears.	2015-03-01
InterestRateRoundingPercent	The percentage to which the interest rate is rounded when a new interest rate is calculated. This field is used in conjunction with Interest Rate Rounding Type, which indicates how rounding should occur.	0.125
InterestRateRoundingType	Indicates how the interest rate is rounded when a new interest rate is calculated for an ARM change. The interest rate can be rounded Up, Down, or to the Nearest Factor. This field is used in conjunction with Per Change Interest Rate Rounding Factor, which indicates the percentage to which the rounding occurs.	Nearest
MarginRatePercent	The number of percentage points to be added to the index to arrive at the new interest rate.	2.60

Notes: The CeilingRatePercent is calculated as the initial note rate of 5.5% plus the Lifetime Cap of 6% (the "6" of 5/2/6). The FirstRateChangePaymentEffectiveDate begins with the end of the 5-year initial fixed period.

3. CONVERSION_OPTION_PERIOD_ADJUSTMENT RULES / CONVERSION_OPTION_PERIOD_ADJUSTMENT RULE (For Future Use)

This set of rules can repeat as required to specify the rules governing each conversion period associated with a loan (if there is more than one). Each conversion period is

defined by the values in ConversionOptionPeriodEffectiveDate and ConversionOptionPeriodExpirationDate.

4. **PER_CHANGE_ADJUSTMENT_RULES / PER_CHANGE_ADJUSTMENT_RULE**
   This set of rules is expected to repeat twice, with each rule identified by the value of AdjustmentRuleType as either "First" or "Subsequent." If the value of AdjustmentRuleType is "First," then the instance of the PER_CHANGE_ADJUSTMENT_RULE consists of instructions governing the initial interest rate or payment change. If the value of AdjustmentRuleType is "Subsequent," then the instance of the PER_CHANGE_ADJUSTMENT_RULE consists of instructions governing the interest rate changes that follow the "First" rate or payment change. Typically, the Subsequent adjustment rules remain in place once they become effective.

   a. Adjustable Rate Loans: If the ARM has an initial fixed period, the PER_CHANGE_ADJUSTMENT_RULE data govern the rate change that commences at the end of the fixed rate period. It specifies for this initial rate change, rate change maximums and minimums, calculation method, and rule duration (among other things). The "Subsequent" PER_CHANGE_ADJUSTMENT_RULE provides instructions for all following rate changes.

   b. Adjustable Payment Loans: The PER_CHANGE_ADJUSTMENT_RULE with AdjustmentRuleType of "First" governs the initial payment change period. It specifies payment percentage and dollar increase and decrease maximums and minimums, calculation method, and rule duration (among other things). The "Subsequent" PER_CHANGE_ADJUSTMENT_RULE provides instructions for all following payment changes.

5. **PERIODIC_ADJUSTMENT_RULES / PERIODIC_ADJUSTMENT_RULE**
   This set of rules can repeat, with each rule identified by the value of AdjustmentRuleType as either "First" or "Subsequent."

   a. Adjustable Rate Loans. When the AdjustmentRuleType = "First," the PERIODIC_ADJUSTMENT_RULE consists of instructions governing the establishment of the initial periodic base rate. It specifies the initial periodic base rate, effective date, and the selection date for next periodic base rate, and the upper and lower limits for the interest rate relative to the base rate.

Example IV-9. Use of INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE for an ARM.

This loan, closed on January 15, 2010, has a 5-year initial fixed interest rate period and adjusts annually thereafter with a 5/2/6 cap structure.

INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE —Instance #1

Data Point	Definition	Valid Value
AdjustmentRuleType	Specifies whether the occurrence of the adjustment is the first change or a subsequent change.	First
PerChangeMaximumDecreaseRatePercent	The maximum number of percentage points by which the rate can decrease from the previous interest rate.	5.0
PerChangeMaximumIncreaseRatePercent	The maximum number of percentage points by which the rate can increase from the previous interest rate.	5.0
PerChangeRateAdjustmentEffectiveDate	The date when the Interest Rate Per Change Adjustment Rule first becomes applicable. The Rule remains in effect unless another Rule with a later date is present on the loan.	2015-02-01
PerChangeRateAdjustmentFrequencyMonthsCount	The number of months between rate adjustments, if the interest rate on the subject loan can change.	12

Notes: The first instance of the INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE captures the interest rate caps for the intitial adjustment period (the “5” of 5/2/6), which begins five years after the note date at the conclusion of the fixed rate period, and remains in effect for one year.

INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE—Instance #2

Data Point	Valid Value
AdjustmentRuleType	Subsequent
PerChangeMaximumDecreaseRatePercent	2.0
PerChangeMaximumIncreaseRatePercent	2.0
PerChangeRateAdjustmentEffectiveDate	2016-02-01
PerChangeRateAdjustmentFrequencyMonthsCount	12

Notes: The second instance of the INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE captures the interest rate caps for all subsequent adjustment periods (the “2” of 5/2/6). This rule becomes effective at the conclusion of the initial adjustment period. It is applied annually thereafter and stays in effect for the remaining life of the loan.

The "Subsequent" PERIODIC_ADJUSTMENT_RULE consists of instructions governing the periodic base rates that follow the initial base rate. It provides instructions for establishment, duration, and use of all following periodic base rates.

b. Adjustable Payment Loans. When the AdjustmentRuleType = "First," the PERIODIC_ADJUSTMENT_RULE consists of instructions governing the first recast period for negatively amortizing loans, as well as the annual payment increase cap. The "Subsequent" PERIODIC_ADJUSTMENT_RULE consists of instructions governing subsequent recast periods.

6. Rate_Or_Payment_Change_Occurrences / Rate_Or_Payment_Change_Occurrence

Unlike all the containers ending in "Rule" discussed above, the data in this container is not known at time of closing. Instead, the data points in the container capture the status or results of the execution of the rules. Because the execution of the rules occurs after the loan has closed, the RATE_OR_PAYMENT_CHANGE_OCCURRENCE container is communicated in the "Current" LOAN container.

a. Convertible Loans: For convertible mortgages, the RATE_OR_PAYMENT_CHANGE_OCCURRENCE container communicates data about the execution of the conversion option including the status of the conversion option, the last date the conversion option was exercised, and the next date the conversion option can be exercised.

b. Adjustable Rate Loans: For ARMs, the RATE_OR_PAYMENT_CHANGE_OCCURRENCE container communicates data about the execution of the specified AdjustmentRuleType, including values of index, interest rate, and the adjustment on the adjustment date, and the next rate adjustment date.

c. Adjustable Payment Loans: For loans with adjustable payments, the RATE_OR_PAYMENT_CHANGE_OCCURRENCE container communicates data about the execution of the specified AdjustmentRuleType, including values of the payment, next payment change date, and payment cap dates.

d. Balloon Loans: For balloon loans that have exercised the reset option, the RATE_OR_PAYMENT_CHANGE_OCCURRENCE container must contain the BalloonResetDate.

Example IV-10. USE OF RATE_OR_PAYMENT_CHANGE_OCCURRENCE for an ARM.

This loan, closed on January 15, 2010, has a 5-year initial fixed interest rate. The Bank of Anytown delivered the mortgage to a GSE on January 25, 2010.

Data Point	Definition	Valid Value
NextRateAdjustmentEffectiveDate	The date on which the next interest rate adjustment goes into effect.	2015-02-01

Notes: The loan is still in its initial fixed rate period when it is delivered to the GSE. Therefore, the NextRateAdjustmentEffectiveDate is the PerChangeRateAdjustmentEffectiveDate of the First INTEREST_RATE_PER_CHANGE_ADJUSTMENT_RULE, the beginning of the initial adjustment period.

I. Container-Specific Concepts: PARTY

There must be a separate PARTY container for each party for whom information is required by ULDDS Appendix A. Because many entities and individuals play a role in the loan origination, servicing, and delivery processes, multiple PARTY containers will be delivered for each DEAL—for example, Borrower, Appraiser, Appraiser Supervisor, Loan Originator, and Loan Origination Company. If there is a Primary Borrower and a Co-Borrower, a separate PARTY container must be sent for each of them.

1. The Importance of PartyRoleType

a. Identifies the Entity Represented by PARTY

Just as LoanStateType is critical to the interpretation of data in the LOAN container, so PartyRoleType, within the ROLE_DETAIL container, identifies the entity about which all the data in a given instance of PARTY pertains.

Note that while the MISMO V3.0 Reference Model permits business partners to identify multiple roles for a given party, ULDDS Appendix A limits the use of PartyRoleType to one per PARTY. This is the simplest possible implementation of the PARTY container and avoids the need to use XLink to establish relationships within the PARTY container between a Party's roles and detailed data about each role.

b. Controls the Choice of the ROLE Container

The V3.0 Reference Model includes containers for the key PARTIES that participate in loan transactions as children of the ROLE container. Not all values for PartyRoleType have a corresponding ROLE child container because no detailed data points for that role have been identified. The current ROLE containers are shown below, with those included in ULDDS Appendix A shown in bold:

Table IV-8. PartyRoleType Values and ROLE Containers in the V3.0 Reference Model.			
PartyRoleType	ROLE Container	PartyRoleType	ROLE Container
Appraiser	APPRAISER	Notary	NOTARY
AppraiserSupervisor	APPRAISER_SUPERVISOR	NotePayTo	
AssignFrom		NotePayToRecipient	
AssignTo		Other	
Attorney		Payee	PAYEE
AuthorizedRepresentative		PowerOfAttorney	POWER_OF_ATTORNEY
BeneficialInterest		PreparedBy	
Borrower	BORROWER	PropertyOwner	PROPERTY_OWNER
Builder	BUILDER	PropertySeller	PROPERTY_SELLER
ClosingAgent	CLOSING_AGENT	RealEstateAgent	REAL_ESTATE_AGENT
CorrespondentLender		ReceivingParty	
CoSigner		RegulatoryAgency	REGULATORY_AGENCY
CustodianNotePayTo		RequestingParty	REQUESTING_PARTY
DeliverRescisionTo		RespondingParty	RESPONDING_PARTY
DocumentCustodian		RespondToParty	
eNoteController		ReviewAppraiser	REVIEW_APPRAISER
FloodCertificateProvider		ServiceProvider	
FulfillmentParty	FULFILLMENT_PARTY	Servicer	SERVICER
Grantee		ServicerPaymentCollection	
Grantor		ServicingTransferee	
HazardInsuranceAgent		ServicingTransferor	SERVICING_TRANSFEROR
HazardInsuranceCompany		Spouse	
Investor		SubmittingParty	SUBMITTING_PARTY
LawFirm		Subservicer	
Lender	LENDER	TaxableParty	
LenderBranch		TaxServicer	
LienHolder	LIEN_HOLDER	ThirdPartyInvestor	
LoanDeliveryFilePreparer		ThirdPartyOriginator	
LoanOriginationCompany		TitleCompany	
LoanOriginator	LOAN_ORIGINATOR	TitleHolder	
LoanSeller		Trust	TRUST
LossPayee	LOSS_PAYEE	TrustBeneficiary	
MERS		Trustee	TRUSTEE
MICompany		TrustGrantor	
MortgageBroker	MORTGAGE_BROKER	WarehouseLender	
		Witness	

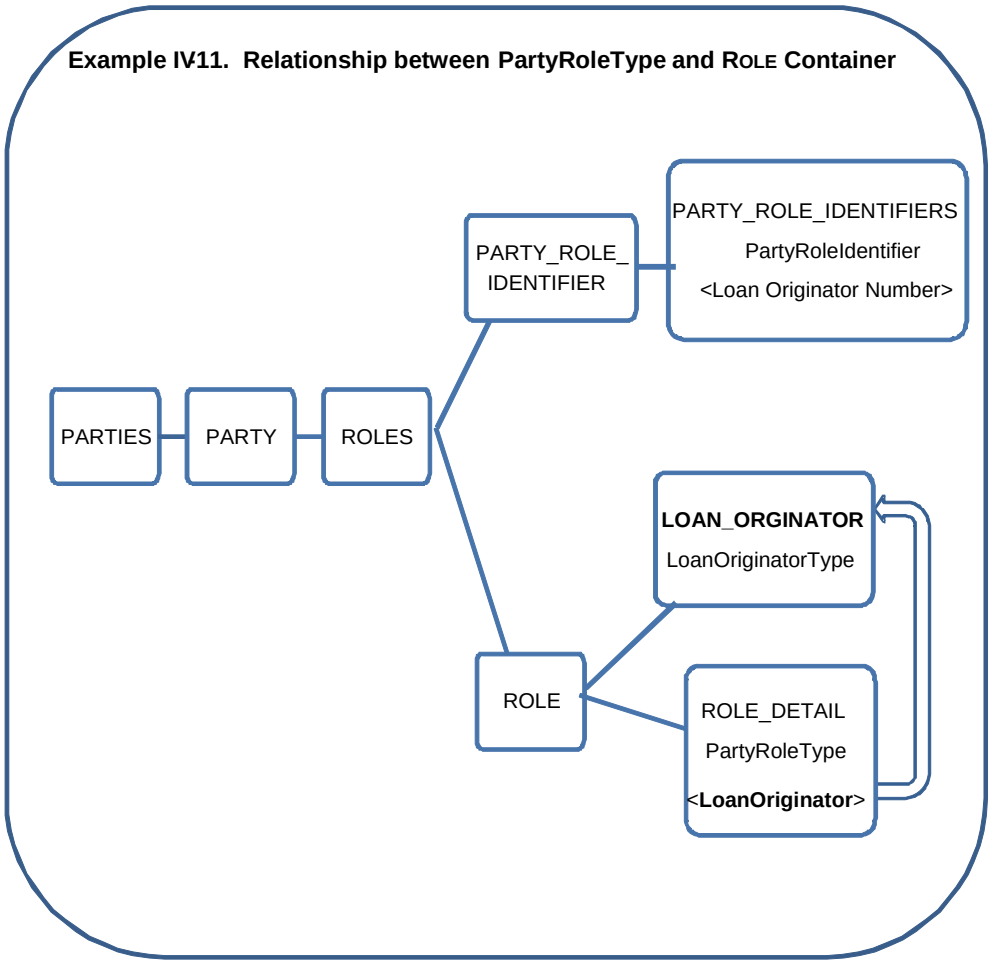
For those PartyRoleTypes without a corresponding detailed ROLE container, a rich set of data is still available:

Classification as an individual or organization (legal entity)

- Name
- Address
- Identifier
- Taxpayer Identifier

However, if business partners need to exchange more detailed information about a given Party, the value of PartyRoleType must match the selected detailed ROLE container, as illustrated in Example V-11, below. Here, LoanOriginator is the value of PartyRoleType. This enables the use of the LOAN_ORIGINATOR container if needed.

Example IV11. Relationship between PartyRoleType and ROLE Container



2. PartyRoleTypes Used in the Loan Delivery Data Set

PARTY loan delivery requirements are based on the PartyRoleTypes presented below. The PARTY container must be delivered for each instance of Party Role Type. The

GSEs support several of the same PARTY containers, but each also has GSE-specific implementations. Refer to each GSE's Implementation Guide for more information.

Table IV-9. PartyRoleTypes Used in ULDDS Appendix A.

PARTY Parent container	Party Role Type	Required By	Comments
LOAN	Appraiser	Both GSEs	Data needed for Title V reporting. Send if appraisal was used to value the property.
	Appraiser Supervisor	Both GSEs	Data needed for Title V reporting. Send if appraisal was used to value the property.
	Borrower	Both GSEs	The party container must be repeated for each Borrower
	Closing Agent	For Future Use	
	Document Custodian	FNM	See Fannie Mae Implementation Guide
	Loan Origination Company	Both GSEs	Data needed for Title V reporting
	Loan Originator	Both GSEs	Data needed for Title V reporting
	Loan Seller	Both GSEs	
	Payee	FNM	See Fannie Mae Implementation Guide
	Servicer	FNM	See Fannie Mae Implementation Guide
	Title Company	FNM	For Future Use
DEAL_SET	Document Custodian	FNM	See Fannie Mae Implementation Guide
	Loan Seller	FNM	See Fannie Mae Implementation Guide
	Servicer	FNM	See Fannie Mae Implementation Guide
DEAL_SETS	Loan Delivery File Preparer	Both GSEs	Used for submitted files to identify the sending system

a. Possible Instances of PARTY in a Loan Delivery Data Set—DEAL Level

The following examples illustrate how to send information about the parties to the loan transaction.

Example IV-12. PARTY Container for PartyRoleType = Appraiser

AppraiserLicenseIdentifier	<Appraiser's license number>
PartyRoleType	Appraiser

Notes: This instance of PARTY will be sent only if an appraisal was used to value the subject property.

Example IV-13. PARTY Container for PartyRoleType = AppraiserSupervisor

AppraiserLicenseIdentifier	<Supervisory appraiser's license number>
PartyRoleType	AppraiserSupervisor

Notes: This instance of PARTY will be sent only if an appraisal was used to value the subject property.

Example IV-14. DEAL-Level PARTY Container with PartyRoleType = Borrower

INDIVIDUAL	GenderType
FirstName	HMDAEthnicityType
MiddleName	BorrowerQualifyingIncomeAmount
LastName	BorrowerFirstTimeHomebuyerIndicator
SuffixName	CounselingConfirmationType
OR LEGAL ENTITY	CounselingFormatType
FullName	
LegalEntityType	CreditRepositorySourceIndicator
BorrowerMailToAddressSameAsPropertyIndicator	CreditRepositorySourceType
AddressType	CreditScoreValue
AddressLineText	BorrowerClassificationType
CityName	BorrowerAgeAtApplicationYearsCount
StateCode	BorrowerBirthDate
PostalCode	TaxpayerIdentifierType
CountryCode	TaxpayerIdentifierValue
CitizenshipResidencyType	HMDARaceType

Notes: This instance of PARTY required for all loans. Check GSE-specific Implementation Guides for conditionality of listed data points.

Example IV-15. PARTY Container for PartyRoleType = DocumentCustodian

PartyRoleIdentifier	<Document custodian number>
PartyRoleType	DocumentCustodian

Notes: See Fannie Mae's Implementation Guide for delivery requirements.

Example IV-16. PARTY Container for PartyRoleType = LoanOriginationCompany

PartyRoleIdentifier	<Loan origination company number>
PartyRoleType	LoanOriginationCompany

Notes: This instance of PARTY is required if information is available.

Example IV-17. PARTY Container for PartyRoleType = LoanOriginator

PartyRoleIdentifier	<Loan originator number>
LoanOriginatorType	Broker Correspondent Lender
PartyRoleType	LoanOriginator

Notes: This instance of PARTY required if information is available.

Example IV-18. PARTY Container for PartyRoleType = LoanSeller

PartyRoleIdentifier	<Loan seller number>
PartyRoleType	LoanSeller

Notes: See Fannie Mae's Implementation Guide for delivery requirements.

Example IV-19. PARTY Container for PartyRoleType = Payee

PartyRoleIdentifier	<Payee number>
PartyRoleType	Payee

Notes: See Fannie Mae's Implementation Guide for delivery requirements.

Example IV-20. PARTY Container for PartyRoleType = Servicer

PartyRoleIdentifier	<Servicer number>
PartyRoleType	Servicer

Notes: See Fannie Mae's Implementation Guide for delivery requirements.

b. Possible Instances of PARTY in a Loan Delivery Data Set—DEAL_SET Level

The following examples illustrate how to send information about the parties to the pool transaction.

Example IV-21. PARTY Container for PartyRoleType = DocumentCustodian

PartyRoleIdentifier	<Document custodian number>
PartyRoleType	DocumentCustodian

Notes: See Fannie Mae's Implementation Guide for delivery requirements.

Example IV-22. PARTY Container for PartyRoleType = LoanSeller

PartyRoleIdentifier	<Loan seller number>
PartyRoleType	LoanSeller

Notes: See Fannie Mae's Implementation Guide for delivery requirements.

Example IV-23. PARTY Container for PartyRoleType = Servicer

PartyRoleIdentifier	<Servicer number>
PartyRoleType	Servicer

Notes: See Fannie Mae's Implementation Guide for delivery requirements.

c. Possible Instances of PARTY in a Loan Delivery Data Set—DEAL_SETS Level

The following example illustrates how to send information identifying the system preparing the XML schema file delivered to the GSE. This is only used for file submissions.

Example IV-24. Party Container for PartyRoleType = LoanDeliveryFilePreparer

PartyRoleIdentifier	<Vendor / application identification>
PartyRoleType	LoanDeliveryFilePreparer

Notes: This instance of PARTY required for all files. Used to identify the system creating the XML file.

V. Resources

A. ULDDS Document Package

The ULDDS is made up of the following package of documents, which consist of a technical narrative and accompanying appendices.

Table V-1. ULDDS Document Package.

Document Title	Description	Audience	Use
Fannie Mae and Freddie Mac Uniform Loan Delivery Data Specification, v1.0.1	• Detailed, narrative technical descriptions of the various documents in the ULDDS package • Explanation of technical MISMO and XML concepts • Instructions on how to use the appendices to create the loan delivery import file	Information technology staff and project managers of large lenders and vendors	• Scope the project to create the XML import file • Understand fundamental XML concepts underlying the new data set • Understand the underlying MISMO data population
Appendix A: XML Data Requirements	Detailed list of the MISMO XML data elements, definitions, format and shared conditionality and cardinality	• Data architects and modelers • Application developers	• Understand the scope of the data population • Identify source systems • Map internal data to new loan delivery data set
Appendix B: Common Usage Scenarios	Narrative descriptions of various loan delivery transactions with tables illustrating how the scenarios would be communicated to a GSE using the loan delivery data set: • Fixed-Rate 30-Year Purchase • ARM Refinance • Fixed-Rate 30-Year Purchase with Associated HELOC • Loan Feature Component Scenarios • Condominium • Investment Property • Legal Entity Borrower • Escrows • Mortgage Insurance	• Business stakeholders and analysts • Technology stakeholders • Project team members	Familiarize team members with MISMO data names, definitions, and usage
Appendix C: XML Samples	The representation of the MISMO data identified in the usage scenarios of Appendix B in working XML files	Application developers	• Measure technical team's understanding of how to create XML files using the new data set • Template for actual loan delivery XML files

B. GSE-Specific Implementation Guide Package

The GSE-specific Implementation Guides consist of a technical narrative and accompanying appendices as outlined below:

Table V-2. GSE-Specific Implement Guide Package

Document Title	Description	Audience	Use
GSE-Specific Technical Specification, v1.0.1	Detailed, narrative technical descriptions of the various documents in the Technical Specification package Relation of the technical requirements from the ULDDS to each GSE's loan delivery application	Information technology staff and project managers of large lenders and vendors	Scope the project to create the XML import file Understand fundamental XML concepts underlying the new data set Understand the underlying MISMO data population
Appendix A: XML Data Requirements	Detailed list of shared data elements, definitions, format, conditionality and cardinality GSE-specific: Conditionality Cardinality Valid values Loan delivery system screen names and mapping Usage guidance	Data architects and modelers Application developers	Understand the scope of the data population Identify source systems Map internal data to new loan delivery data set
Appendix B: Test Case Scenarios	The same narrative descriptions of various loan delivery transactions as the ULDDS, with tables illustrating how the scenarios would be communicated to the specific GSE using the GSE-specific loan delivery data set.	Business stakeholders and analysts Technology stakeholders Project team members	Familiarize team members with MISMO data names, definitions, and usage
Appendix C: XML Samples	The representation of the MISMO data identified in the usage scenarios of Appendix B in working XML files	Application developers	Measure technical team's understanding of how to create XML files using the new data set Template for actual loan delivery XML files
Appendix D: XML Data Requirements Reference Tool	An Excel version of the ULDDS data requirements, including a more easily understood rendering of the PARTY container requirements Business partners can cut and paste columns from either GSE's version to perform comparisons	Business stakeholders and analysts Project team members Developers	Understand the scope of the data population Identify source systems Map internal data to new loan delivery data set

C. Common Usage and GSE-Specific Test Case Scenarios

The Common Usage and Test Case Scenarios included as Appendix B to the ULDDS and GSE-specific packages provide examples of how to map to the loan delivery data set. They help lenders and vendors interpret the data requirements and relate each data point to

its plain language use in the business scenarios. Each scenario begins with a narrative description in business terms of the data to be communicated at time of delivery to the GSE. The scenarios are followed by a tabular representation of the containers, data points, conditionality, and valid values for communicating the scenario as a loan delivery XML file. The containers are presented in the order of the V3.0 Reference Model schema.

D. Resource Web Sites

Refer to the table below for a list of Web sites, documents, and URLs to access the additional documentation referenced in this *User Guide*.

Table V-3. Resources.

Document or Web Site Name	URL
Fannie Mae Implementation Guide for Loan Delivery Data	https://www.efanniemae.com/sf/lqi/umdp/index.jsp
Freddie Mac Implementation Guide for Loan Delivery Data	http://www.freddiemac.com/sell/secmktg/uniform_mortgage.html
List of XML Editors for Viewing V3.0 Reference Model and .xsd files	http://en.wikipedia.org/wiki/List_of_XML_editors
MISMO	http://www.mismo.org
MISMO Engineering Guidelines	http://www.mismo.org/specs/v30-candidate-recommendation.html
V3.0 Reference Model and Logical Data Dictionary, V30_B263-12_LDDReport.xls	http://www.mismo.org

E. XML schema Editors

In order to open and view .xsd files, an XML Editor is required. A variety of XML Editor Software is available, some of it freeware. Wikipedia lists a wide variety of XML editors at http://en.wikipedia.org/wiki/List_of_XML_editors. For business users, it is important to use an XML Editor that provides a pictorial view of the V3.0 Reference Model, which requires no need to understand and interpret an XML document. The graphical representation of the V3.0 Reference Model shows the relationships among all the different containers. The graphical capability should allow a user to see the V3.0 Reference Model at the highest level to obtain an understanding of the entire model and its organization, and the ability to drill down to increasingly detailed views of different sections of the V3.0 Reference Model. Users should be able to view the lowest level containers holding data points and valid values.

VI. V3.0 Reference Model Features Not Used in the ULDDS

For ease of use, the following components of the MISMO LDD and Reference Model that are not used in the ULDDS are presented together in this section.

A. The V30_B263-12_LDDReport

1. Data Point

a. Adding Data Points to the MISMO Standard

If the business partner believes that the V3.0 Reference Model is missing a data point that would be valuable to the Standard, the business partner should submit a change request to the MISMO Workgroup requesting that the data point be added to the next version. Contact MISMO staff at info@mismo.org for the proper procedure for initiating this process. In the meantime, if the business partners wish to use the data point, they must use the appropriate EXTENSION container.

2. Enumeration : Explanation

a. Adding Enumerations to the MISMO Standard.

If the business partner believes that the data point has a missing enumeration that would be valuable to the Standard, the business partner should submit a change request to the MISMO Workgroup requesting that the valid value be added to the next version of the Standard. This should be done even when the business partner is using "Other Description" in its current implementation, so that the Standard can continue to mature and remain relevant. Contact MISMO staff at info@mismo.org for the proper procedure for initiating this process.

3. Enumeration: -- URN Suffix

Business partners usually don't need to refer to the "Enumeration: -- URN Suffix" column. A Uniform Resource Name (URN) is included in the LDD for every enumeration; it is simply another representation of a data-point-valid-value combination. The URN for an enumeration is the URN of its data point, including the MISMO namespace, followed by a colon and the enumeration, all without spaces. (The MISMO namespace provides the source for this particular XML "vocabulary," and enables data points to remain unique if, for example, an instance of the MISMO schema were to be combined with terms from another XML vocabulary source.)

4. Sensitive Information

The purpose of this metadata tag in the V3.0 Reference Model was to enable business partners to identify data points as sensitive within their particular implementation of the Standard. However, it is not being used and has been removed from subsequent versions.

Business partners can classify a data point as sensitive by appending the word "Sensitive" to the MISMO data type. For example, "MISMOString" can be implemented as "MISMOString**Sensitive**."

5. URN

In the same way as for any enumeration--see Section IV-

4. Enumeration: -- URN Suffix--a "URN" column is included in the LDD for every data point. The URN is simply the MISMO Name Space in URN Form, followed by a colon, then the term name, all without spaces. This is another representation of the data point. Business partners usually don't need to refer to the "URN" column.

Example VI-1. MISMO LDD Data Point URN Suffix.

Data Point: AttachmentType

Definition: Specifies the type of physical attachment, if any, between the dwelling unit and adjacent dwelling units.

Enumerations:

- Attached
- Detached
- SemiDetached

Enumeration URN Suffixes:
urn:org:MISMO:residential:2009:LDD:AttachmentType:Attached

Type: AttachmentTypeEnumerated

Data Point URN Suffix:
urn:org:MISMO:residential:2009:LDD:AttachmentType

Notes: The URN Suffix is another way of identifying the data point. This is formed as "MISMO Name Space:Data Point."

Example VI-2. MISMO LDD Data Point Enumeration URN Suffix.

Data Point: AttachmentType

Definition: Specifies the type of physical attachment, if any, between the dwelling unit and adjacent dwelling units.

Enumerations:

- Attached
- Detached
- SemiDetached

Enumeration URN Suffixes:

MISMO Namespace | Data Point | Enumeration

- **urn:org:MISMO:residential:2009:LDD:AttachmentType:Attached**
- **urn:org:MISMO:residential:2009:LDD:AttachmentType:Detached**
- **urn:org:MISMO:residential:2009:LDD:AttachmentType:SemiDetached**

Notes: The URN Suffix is another way of identifying data point valid value combinations. This is formed as "MISMO Name Space:Data Point:Enumeration."

B. Containers

1. URN

In the same way as for data points and enumerations, a "URN" column is included in the LDD for every container. The URN is simply the MISMO Name Space in URN Form, followed by a colon, then the container name, all without spaces. This is another representation of the container. Business partners usually do not need to refer to this column.

Example VI-3. MISMO LDD Container URN Suffix.

Container: INTEREST_LIFETIME_ADJUSTMENT_RULE

Definition: Data that describes the rules that that apply to interest rate adjustments in effect for the entire life of the loan or for a single unique occurrence such as a first rate adjustment. In general the elements are usually known at the time of closing.

Container URN Suffix:
urn:org:MISMO:residential:2009:LDD: INTEREST_LIFETIME_ADJUSTMENT_RULE

Notes: The URN Suffix is another way of identifying the container. This is formed as "MISMO Name Space: CONTAINER."

C. Attributes

1. URN

In the same way as for data points and their enumerations and containers, a "URN" column is included in the LDD for every attribute. The URN is simply the MISMO Name Space in URN Form, followed by a colon, then the attribute name, all without spaces. This is another representation of the attribute. Business partners usually do not need to refer to this column.

Example VI-4. MISMO LDD Attribute URN Suffix.

Attribute: LoanRoleType

Definition: Used as an attribute on LOAN to distinguish subject loans from related loans.

Container URN Suffix:
urn:org:MISMO:residential:2009:LDD:LoanRoleType

Notes: The URN Suffix is another way of identifying the attribute. This is formed as "MISMO Name Space:Attribute."

D. Arc Roles

The relationships of data points and containers are handled through containment; that is, there can be a one-to-one or one-to-many relationship between the container and each container and data point within.

An example of how the containment concept is implemented in ULDDS Appendix A is with the PARTY container. Each PARTY container holds information about one party to a transaction, as specified by the PartyRoleType. If the value of PartyRoleType is "Borrower," all the data points within the parent PARTY container pertain to that one borrower and no one else.

XML allows the establishment of relationships between containers using a technical syntax (or language) called XML Linking Language (XLink) as defined by the World Wide Web Consortium (W3C®).[10] XLink relationships are expressed using a set of attributes that identify two end points and the kind of relationship they have to each other (from and to ResourceEndPoints and ArcLink). The relationships are captured in the RELATIONSHIPS container.

[10] http://www.w3.org/TR/xlink/

Figure VI-1. Questions Answered by the Arc Roles Worksheet.

- Is there a way to establish a relationship between two data points in the same container?
- Is there a way to establish a relationship between two different containers?

The "Arc Roles" tab of the LDD workbook provides the descriptions between containers (Arc Roles).

Example VI-5. Arc Role and Definition.

Attribute: PartyIsSellerOfProperty

Definition: A relationship between a party of Role Seller and one of the Properties that will be used for collateral.

Attribute: PartySharesAssetsWithParty

Definition: A relationship between two parties of Role Borrower

Notes: ULDDS Appendix A is not using Arc Roles.

E. Deprecated Data Points and Containers

The last two tabs of the LDD workbook, "Deprecated Data Points" and "Deprecated containers," provide lists of data points and containers that have been retired from Version 3.0 of the Reference Model. These two tabs are useful to business partners who have used previous versions of the MISMO standard and are more familiar with those data point or container names. The tabs provide a record of whether a data point or container used in an earlier version has been renamed for use in the Version 3.0 of the Reference Model or been excluded altogether.

Figure VI-2. Questions Answered by the Deprecated Data Points and containers Worksheets.

- Why can't I find a data point in the v3.0 Reference Model that I know is in earlier MISMO transaction sets?
- I need to use a data point from a previous version—how is it represented in Version 3.0?

1. Deprecated Data Points

The "Deprecated Data Points" worksheet is organized similarly to the "LDDReport" worksheet and provides an alphabetical list of the data points that have been retired from the V3.0 Reference Model. The first three columns (A – C) contain the term

name, definition, and enumerated values of the retired data point. Columns D and H provide the URN of the associated enumeration and data point. Column E, App Info, provides information about the disposition of the data point.

Example VI-6. Deprecated Data Points.

Data Point 1: AppraiserPostalCode

Definition: The postal code (ZIP code in US) of the address of the appraiser. ZIP code may be either 5 or 9 digits.

App Info: Deprecate: Replace by Party Role Type = Appraiser + PostalCode

Data Point 2: FRE Delivery Data Adjustment Type

Definition: Specifies the type of data adjustment made upon delivery based on Freddie Mac guidelines.

App Info: Deprecate. No longer required by FRE.

Data Point 3: LoanProgramAffordableIndicator

Definition: When true, indicates that the loan program is classified as an affordable program.

App Info: Deprecated: replaced with Loan Affordable Indicator

Notes: These examples are a representative sample of the reasons why MISMO data points are retired. In the first case, the data point was made unnecessary by the new, modular structure of the v3.0 Reference Model. In the second case, the sponsoring entity no longer required the data point. In Case 3, the data point was re-named.

2. Deprecated Containers

The "Deprecated Containers" worksheet provides an alphabetical list of retired containers in Column A, with the associated definition, if available, in Column B, the URN in Column C, and Count and Parent containers in Column D. No explanation is given about the disposition of the containers. The "Deprecated Containers" worksheet simply notes the container's exclusion from the V3.0 Reference Model.

F. Additions: The Extension Container

Each container in the V3.0 Reference Model has a child EXTENSION container. The EXTENSION container makes it possible to add additional content yet still validate against the MISMO standardized schema.

EXTENSION containers can have multiple child containers, and any number of data points within either a childless EXTENSION container or each child container. Business partners needing to add data to the MISMO standard must use the EXTENSION container and should check with MISMO for the proper procedure for doing so.

VII. Glossary

Term	Definition
Business Partner	Any entity that is exchanging an electronic transaction with another entity. Sometimes referred to as a "trading partner."
Cardinality	The number of times a container within the V3.0 Reference Model can repeat. The V3.0 Reference Model has established the bare minimum of cardinality limits necessary to maintain the hierarchical relationships among the containers. The ULDDS and GSE-specific Implementation Guides have tightened the cardinality to meet specific business requirements. Cardinality is expressed next to each container heading bar in Appendix A as (MIN=*n*, MAX=*n*), with *n* equal to the number of times the container is to repeat (MIN) and the total number of times it can repeat (MAX). Sometimes referred to as "repeatability."
Class Word	The last component of all MISMO data point names, indicating the type of information conveyed by the data point (for example, Number, Date, andType.
Complex Type XML Elements	XML data elements that have child elements or attributes. XML data elements with child elements are also called "containers."
Conditionality	The specified business requirement or event (condition) governing whether a particular data point must be included in a transaction.
Container	A Complex Type XML Element used to categorize (contain) other data elements.
Data Point	A simple type XML data element used in the V3.0 Reference Model. Data point names are referred to as "terms" in MISMO's Logical Data Dictionary. Sometimes referred to as a "field" or "element."
Deprecated	A term used in data standards and documentation. Employed in the V3.0 LDD to identify data points and containers that have been removed or superseded and are no longer used. The data points are deprecated instead of completely removed from the standard to enable users of previous versions to understand how the data point has changed in the new version.
Enumerated List	The set of valid values for any data point ending in the word "Type."
Enumeration	A single valid value for any data point ending in the word "Type." Can also be called an enumerated value, or a valid value.
GSE	A Government-Sponsored Enterprise, implying either Freddie Mac or Fannie Mae.
GSE-specific Implementation Guide for Loan Delivery Data	Information about each GSE's business policies, processes, or delivery data requirements specific to the GSE's loan delivery application, and the GSE's specific usage of the ULDDS, including GSE-specific conditionality, cardinality, and valid values.
GSE loan delivery applications	Fannie Mae's Loan Delivery application and Freddie Mac's selling system.
Loan Delivery Dataset	The data specification portion of the ULDDS documented in *Appendix A-XML Data Requirements*.
MISMO Engineering Guidelines (MEG)	Technical specifications for the proper use of the MISMO standard published on MISMO's Web site.

Term	Definition
MISMO Logical Data Dictionary	A list of all the elements included in the V3.0 Reference Model, including their definitions, and context.
MISMO Version 3.0 Reference Model	An XML schema document of data used in the single family real estate finance industry. The V3.0 Reference Model establishes relationships among data across the mortgage life cycle.
MISMO Version 3.0 schema	The XML document representing the V3.0 Reference Model.
Parent Container	A complex data element holding either other containers (child containers) or data points.
Reusables	A MISMO container or data point that is used in more than one place in the V3.0 Reference Model. Reusable containers hold common information like "Name," "Address," "ContactPoint," and "AdjustmentRule." Similarly, reusable data points are basic information components. They can, but do not need to be used in reusable containers. Reusable containers and data points take their context from their parent container.
Simple Type Elements	XML elements that have only character data content—no child elements or attributes. Also referred to as data points.
Uniform Loan Delivery Data Specification (ULDDS)	The GSEs' common usage of the V3.0 Reference Model for loan deliveries. Also referred to as the "shared loan delivery dataset" or the "shared spec."
Uniform Mortgage Data Program (UMDP)	The joint adoption of and implementation by the GSEs of uniform data standards for appraisal and loan delivery data that will be required for all mortgages.
Uniform Resource Identifier (URI)	A string of characters used to identify a name or a resource on the Internet. Includes URLs and URNs.
Uniform Resource Locator (URL)	Specifies where an identified Internet resource is available and the mechanism for retrieving it. For example, the address of a Web page: http://www.mismo.org.
Uniform Resource Name (URN)	Identifies an Internet resource (the name of the resource). URNs are one component of the Internet's information architecture.
Upper Camel Case	A transcription method in which the words making up a term name are joined without spaces and the initial letter of each word of the term name is capitalized. For example "DownPaymentSourceType."
Valid Value	For data points ending in the word "type," one of a specified set of defined, acceptable terms. (Also referred to as an enumeration or enumerated value.)
World Wide Web Consortium (W3C)	The main international standards organization for the World Wide Web. Governs such languages as XML, XLink, and XPath.
XML Language	A set of rules for encoding documents in machine-readable form, emphasizing emphasize simplicity, generality, and usability over the Internet.
XML namespace	Defined by the W3C, used as a way to uniquely identify named elements and attributes in an XML document. An XML instance may contain element or attribute names from more than one XML vocabulary. If each vocabulary has a namespace, then it does not matter if there are ide ntically named elements or attributes; the namespace makes them unique. The namespace for data points in the V3.0 Reference Model is

Term	Definition
	"org:MISMO:residential:2009:LDD."
XML schema	A description of a type of XML document with file type extension ".xsd," typically expressed in terms of constraints on the structure and content, above and beyond the basic syntactical constraints imposed by XML alone. These constraints include grammatical rules governing the order of elements, conditions that the content must satisfy, data types governing the content of elements and attributes, and more specialized rules such as uniqueness and referential integrity constraints.
XML Linking Language (XLink)	The W3C specification that provides methods for creating internal and external links within XML documents and associating metadata with those links.
XPath Language	The XPath language is based on a "tree"-structured hierarchical representation of an XML document, providing the ability to navigate around the document.

VIII. Acronyms and Abbreviations

Acronym / Abbreviation	Full Term
2000 Character File	Fannie Mae's 2000-Character Loan Delivery File Format
ARM	Adjustable Rate Mortgage
AUS	Automated Underwriting System
AVM	Automated Valuation Model
FHFA	Federal Housing Finance Agency
Form 11	Freddie Mac's *Mortgage Submission Schedule*
Form 13SF	Freddie Mac's *Mortgage Submission Voucher*
GSE	Government Sponsored Enterprise
The GSEs	Freddie Mac and Fannie Mae
HUD-1	*Settlement Statement,* Form HUD-1
GSE-specific	Reference to the customized versions of the ULDDS documents issued by each investor.
LDD	MISMO Logical Data Dictionary
Loan Delivery Data Set	Uniform Loan Delivery Data Specification Appendix A – XML Data Requirements
MAX	Maximum number of occurrences allowed
MEG	MISMO Engineering Guideline
MI	Mortgage Insurance Company
MIN	Minimum number of occurrences allowed
MISMO®	Mortgage Industry Standards Maintenance Organization
schema	XML schema Document
TILA	Truth in Lending Disclosure Statement
ULDD	Uniform Loan Delivery Dataset—used to refer to GSE-specific implementations of the joint dataset; also referred to as the "Loan Delivery Dataset"
ULDDS	Uniform Loan Delivery Data Specification—used to refer to the Joint GSE specification
ULDDS Appendix A	Uniform Loan Delivery Data Specification Appendix A – XML Data Requirements—used to refer to the joint GSE Appendix A
UMDP	Uniform Mortgage Data Program
URAR	*Uniform Residential Appraisal Report*, Fannie Mae Form 1004, Freddie Mac Form 70
URI	Uniform Resource Identifier
URLA	*Uniform Residential Loan Application*, Fannie Mae Form 1003, Freddie Mac Form 65
URN	Uniform Resource Name
User Guide	*Using MISMO® V3.0 and the Uniform Loan Delivery Data Specification*
V30_B263-12_LDDReport	The file name for the V3.0 LDD
V3.0	Version 3.0 of the Reference Model and associated LDD
W3C	World Wide Web Consortium
XLink	XML Linking Language
XML	eXtensible Markup Language
XPath	XML Path Language

IX. Data Points Referenced

X. Index

The index includes key words referenced in this document. Page numbers in bold type refer to the entry in the Glossary for the associated term. If a term appears more than once on a page, the page number is only listed once.