Structured Finance User Guide

Version 16.0

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This document describes how to install and use the Structured Finance module.

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Section 1. Structured Finance Module

Calypso has the ability to handle cash structured finance bonds (ABS, RMBS, CMBS, CBO and CLO) entered manually, imported from Bloomberg or integrated with Intex. The Intex Module allows one to trade and process structured finance bonds on a bond-only informational level (see the Intex Integration User Guide). The Structured Finance Module integrates with the Intex Module to add the benefit of being able to view and query the entire deal structure that wraps around the individual bonds (or tranches).

Bonds entered either manually or with the use of Bloomberg have the disadvantage of static amortization schedules and cash flows. These amortization schedules and cash flows may be updated from time to time; however, they are not dynamically calculated by providing market data and run-time parameters such as prepayment speeds and default assumptions. Intex is an integrated solution whereby amortization schedules and cash flows are calculated on-the-fly with the addition of assumptions regarding forward interest rates, prepayment rates and default information.

The structured finance security market is characterized by a voluminous amount of static and dynamic data to define the securities and to derive cash flows for the securities. Intex Solutions, Inc. is a major supplier of security data and subroutines that may be employed to both define the securities and to derive cash flows under user-supplied assumptions. Intex has amassed a database of over 20,000 structured deals and has been a leader in this field since starting business in 1985. Intex's coverage includes the following asset classes:

- Residential Collateralized Mortgage Obligations (U.S. Agency and Non-Agency CMO)
- Residential Mortgage Backed Securities (RMBS)
- Asset Backed Securities (ABS)
- Commercial Mortgage Backed Securities (CMBS)
- U.S. Agency Pass-through Securities (Ginnie Mae, Freddie Mac and Fannie Mae MBS)
- Collateralized Debt Obligations (CDOs – a term used generically to describe CBOs, CLOs and other structures)
- Collateralized Bond Obligations (CBOs)
- Collateralized Loan Obligations (CLOs)

Please refer to the Intex Integration User Guide for more information on the Intex Database and the functions provide by the integration.

The main advantage that the Structured Finance Module offers is an extensive build out of the data model to encompass the additional attributes of the deal from which the bond is issued. These data model enhancements are viewable in the Structured Finance Deal Product and include:

- Descriptive attributes of the underlying collateral, historical prepayments and losses of the underlying collateral.
- The granularity of the collateral information available drills down to the individual collateral level for many structures (e.g. corporate loans, corporate bonds, mortgage loans, etc.).
- The legal entities that are party to a deal and thus are sources of potential credit exposure. This would include issuers, trustees, collateral managers, servicers, originators and guarantors, etc.
- The results of various monthly cash flow tests, compliance tests and cash flow triggers that the rating agencies impose on the deal structures.

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Section 2. General Installation

2.1 Module Installation

The Structured Finance module is installed as part of the Calypso Installer when you select the "Structured Finance" optional module.

Please refer to the Calypso Installation Guide for complete details.

This module has the most beneficial use when it is used in conjunction with the Intex module; however, it may also be installed without the Intex module. With the Intex module, the Structured Finance capability will add the ability to view and query overall deal information for the structures modeled in the Intex database. If the Intex module is not installed, the Structured Finance capability may also be used with user data entry of the deal information.

If the Intex module is to be installed as well, the directions for installing Intex may be referenced in the Intex Integration User Guide.

2.2 Database Synchronization

The Calypso Installation Guide also covers the synchronization of the database.

When you run Execute SQL as part of your installation, the Structured Finance files will be already loaded, and any required upgrade process will be performed.

2.3 Demo Data Set

The Database Synchronization creates the following data elements in your database:

- All of the Domain Names and Values that are included in the Demo Data and are described in *Section 3.2 – Domain Values*.
- The additional intex_values and intex_bond_map table that are required to store the configurable Intex-to-Calypso mapping values and would not have been included in the Intex Module Database Synchonization. These would include the following: Collateral Loan Attributes, Collateral Statistics, Test Name, TestSubType and TestType.

Section 3. Setup

3.1 Running the Intex Loader and Intex Engine

If the Structured Finance module is used in conjunction with the Intex module, it will be necessary to start the Intex Engine and to use the Intex Loader to import and update Structured Finance Deals.

The Intex engine is started as part of the Engine server using "`startEngineserver.bat`" on Windows platforms, or "`startEngineserver.bat`" on *nix platforms.

The Intex engine is used to compute forecasted cash flows for ABS bonds using the pricer PricerIntexBondAssetBacked.

The Intex Loader can be started from Calypso Navigator, provided you add it to the menu using Main Entry Customizer – action `intex.IntexLoaderWindow`.

The Intex Loader may be used to import securities from the Intex Database either for the first time or for update purposes. During the import process in the Intex Loader, Intex data items are mapped to Calypso data items. The value mapping that is configurable from Intex values to Calypso values is described below.

3.2 Domain Values

If the Structured Finance module is being used with Intex, then there are numerous Domain Values that must be present for the Intex module to function correctly. The Intex-specific Domain Values are referenced in the Intex User Guide. The Domain Values documented here are specific to the Structured Finance module. All of these Domain Value Names should be included in your database as a result of doing the Structured Finance Database Synchronization.

The Domain Values may be viewed and added via Calypso Navigator > Configuration > System > Domain Values…

3.2.1 Deal Sector (ABSDeal.extendedType)

Deal Sector is defined by ABSDeal.extendedType. Deal Sector is designed to be a sub-categorization of Deal Type (see next section). ABSDeal.extendedType populates the Deal Sector drop-down on the Intex Mapping Window so that Intex data may be mapped into this Calypso field. Deal Sector is displayed on the ABS Tab of the BondAssetBacked Product. Deal Sector is also viewable on the Deal Summary Panel of the Structured Finance Deal.

It is expected that the user will configure the Domain Values as needed; however, the Demo Data supplies the following Domain Values:

- ABS
- Aircraft
- Auto Leases
- Auto Loans
- Credit Cards
- Equipment Leases
- Floor Plan
- Franchise
- High Yield Bonds
- High Yield Bonds and Loans
- High Yield Loans
- Home Equity
- Hybrid
- Investment Grade Bonds
- Large Commercial
- Manufactured Housing
- Marine
- Mixed Properties
- Motorcycle

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- Multifamily
- Prime
- Private Label US Agency CMO
- Private Label Whole Loans
- RV
- Receivables
- Small Business
- Student Loans
- Subprime
- US Agency CMO
- US Agency Pass Through

3.2.2 Deal Type (ABSDeal.subtype)

Deal Type is defined by ABSDeal.subtype. ABSDeal.subtype populates the Deal Type drop-down on the Intex Mapping Window so that Intex data may be mapped into this Calypso field. Deal Type is displayed on the ABS Tab of the BondAssetBacked Product. Deal Type is also viewable on the Deal Summary Panel of the Structured Finance Deal.

It is expected that the user will configure the Domain Values as needed; however, the Demo Data supplies the following Domain Values:

- ABS
- CBO
- CDO
- CLO
- CMBS
- RMBS

3.2.3 Cash Flow Tests (ABSDealTest.CASHFLOW)

The Domain Value, ABSDealTest.CASHFLOW defines the Intex Cash Flow tests that may be performed on the Structured Finance Deal. This Domain Value is populated via the Database Synchronization Demo Data.

The Intex documentation for these Cash Flow Tests is as follows:

Cash Flow Test Domain Value	**Intex Description**
AC	Additional Coverage Test
CUMULATIVE_LOSS	Cumulative Loss Test
CURRENT_LOSS	Current Loss Test
DELINQUENCY	Delinquency Test
EOD	Event of Default
FG_DRAW	FG Draw Test
IC	Interest Coverage Test
OC	Over Collateralization Test
SPREAD	Excess Interest Test
UNKNOWN	Unspecified Cash Flow Trigger Type

3.2.4 Compliance Tests (ABSDealTest.COMPLIANCE)

The Domain Value, ABSDealTest.COMPLIANCE defines the Intex Cash Flow tests that may be performed on the Structured Finance Deal. This Domain Value is populated via the Database Synchronization Demo Data.

The Intex documentation for these Compliance Tests is as follows:

Compliance Test Value	**Intex Description**
AVG_LIFE	Weighted Average Life of Assets Test
AVG_LIFE_NP	Weighted Average Life of Assets Test with non-performing assets included
FT_AVG_DEBT_RATING	Fitch's Average Debt Rating Test
FT_AVG_DEBT_RATING_NP	Fitch's Average Debt Rating Test with non-performing assets included
MD_AVG_DEBT_RATING	Moody's Average Debt Rating Test
MD_AVG_DEBT_RATING_NP	Moody's Average Debt Rating Test with non-performing assets included
MD_DIVERSITY	Moody's Diversity Test
MD_DIVERSITY_NP	Moody's Diversity Test with non-performing assets included
SP_MIN_AVG_REC_RATE	Standard and Poor's Minimum Average Recovery Rate Test
SP_MIN_AVG_REC_RATE_NP	Standard and Poor's Minimum Average Recovery Rate Test with non-performing assets included
UNKNOWN	An unspecified test

3.2.5 Eligibility Tests (ABSDealTest.ELIGIBILITY)

The Domain Value, ABSDealTest.ELIGIBILITY defines the Intex Cash Flow tests that may be performed on the Structured Finance Deal. This Domain Value is populated via the Database Synchronization Demo Data.

The Intex documentation for these Eligibility Tests is as follows:

Eligibility Test Value	**Intex Description**
AVG_LIFE	Weighted Average Life of Assets Test
AVG_LIFE_NP	Weighted Average Life of Assets Test with non-performing assets included
FT_AVG_DEBT_RATING	Fitch's Average Debt Rating Test
FT_AVG_DEBT_RATING_NP	Fitch's Average Debt Rating Test with non-performing assets included
MD_AVG_DEBT_RATING	Moody's Average Debt Rating Test
MD_AVG_DEBT_RATING_NP	Moody's Average Debt Rating Test with non-performing assets included

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Eligibility Test Value	Intex Description
MD_DIVERSITY	Moody's Diversity Test
MD_DIVERSITY_NP	Moody's Diversity Test with non-performing assets included
SP_MIN_AVG_REC_RATE	Standard and Poor's Minimum Average Recovery Rate Test
SP_MIN_AVG_REC_RATE_NP	Standard and Poor's Minimum Average Recovery Rate Test with non-performing assets included
UNKNOWN	An unspecified test

3.2.6 Structured Finance Deal Test Type (ABSDealTest.type)

The Domain Name, ABSDealTest.type defines the three different test types. The Demo Data supplies the necessary Domain Values:

- CASHFLOW
- COMPLIANCE
- ELIGIBILITY

3.2.7 ABS Collateral Type (BondAssetBacked.collateralType)

The Domain Name, BondAssetBacked.collateralType provides the list of collateral types that may be selected in the "Collateral" field in the ABS panel of the Bond Definition window. These Domain Values are included as part of the core Calypso installation, however when the Structured Finance module is installed, the Demo Data supplies the following Domain Value:

- Agency ARM Pool

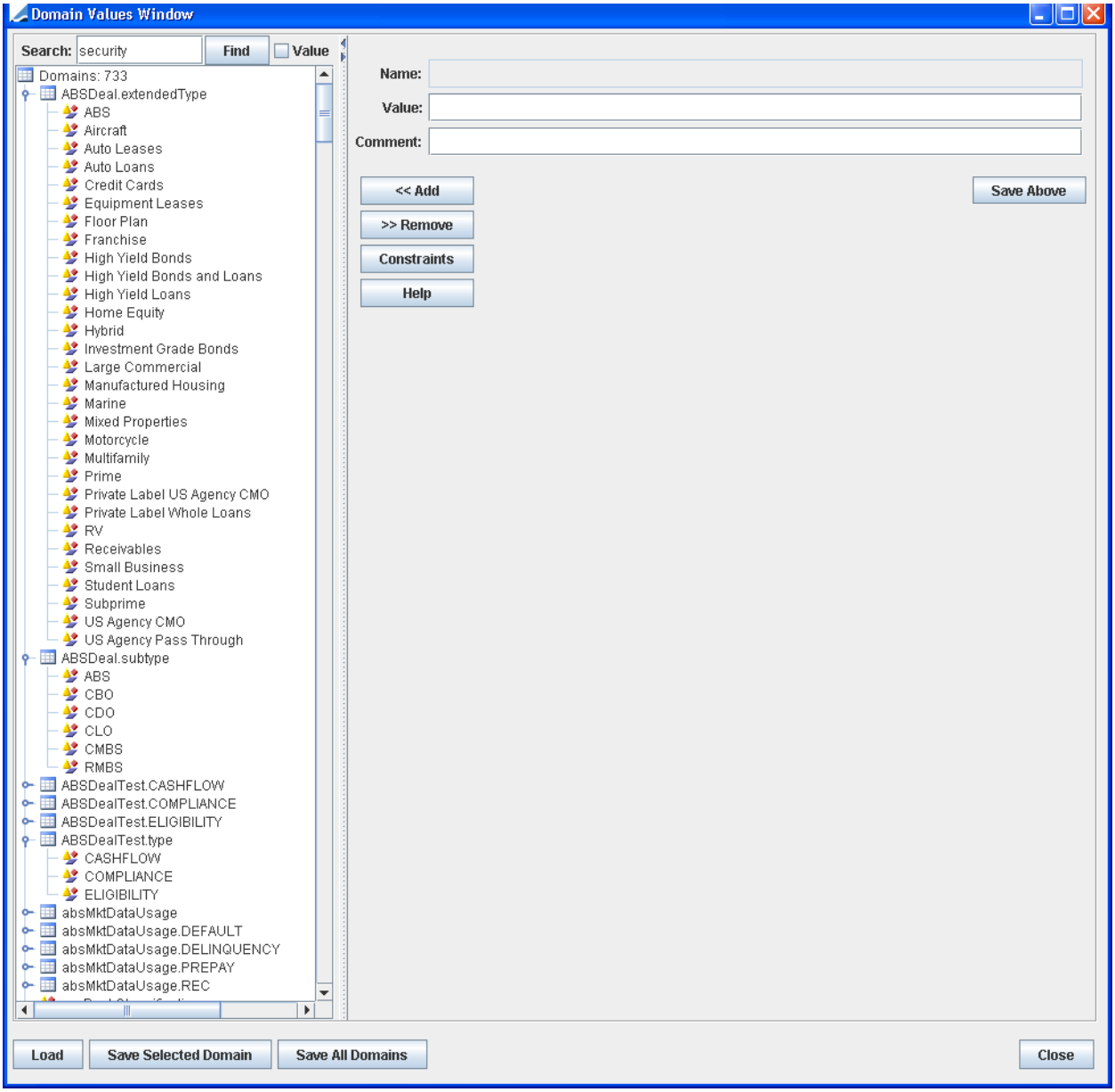
See ARM Bonds for details on ARM bonds.

3.2.8 Setting Missing Domain Names and Values

If any of the above-mentioned Domain Names are missing or the user wishes to configure Domain Values, one may simply follow this example for the ABSDealTest.type Domain Name and its Domain Values, "CASHFLOW", "COMPLIANCE" and "ELIGIBILITY":

- Navigate to Domain Values via: Calypso Navigator > Configuration > System > Domain Values…
- **Add** the Domain Name "ABSDealTest.type". Click **Save All**.
- Then click **Load**.
- In the Domain Name "ABSDealTest.type", add the values "CASHFLOW", "COMPLIANCE" and "ELIGIBILITY". Click **Save All**.

An illustration of the Domain Names with some of the Domain Values revealed is as follows:



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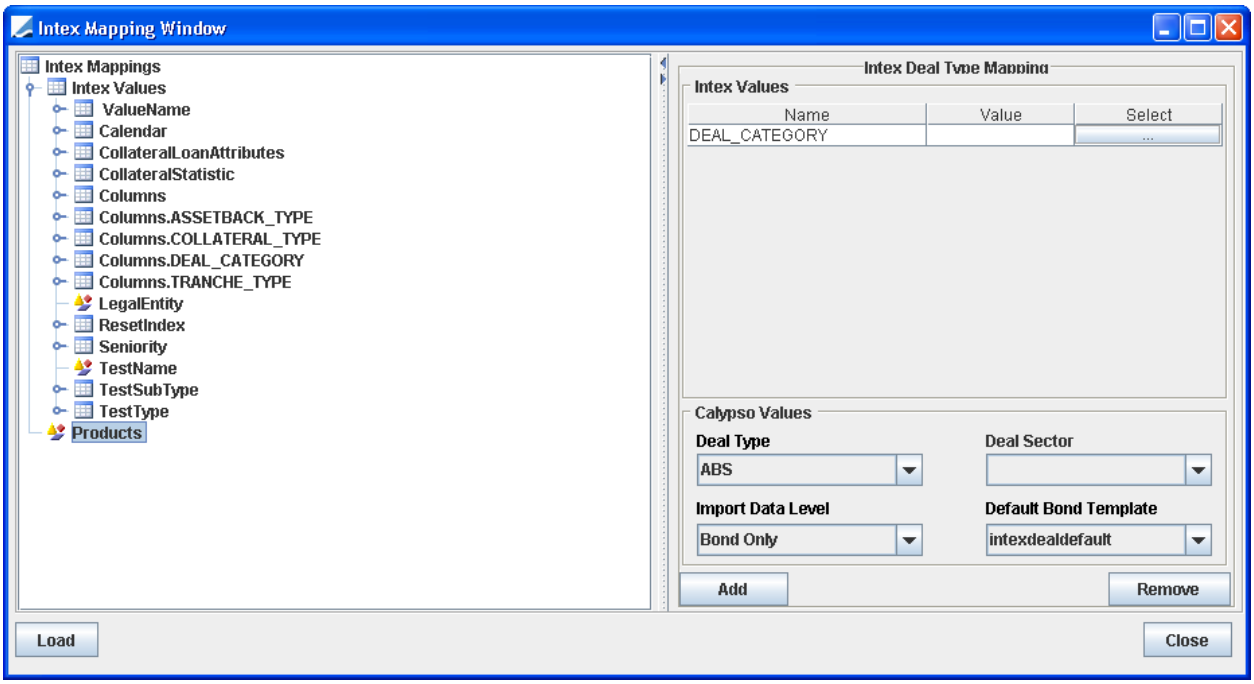
Section 4. Setting Intex Mapping Values

The Intex Loader is used to map Intex values to Calypso values. To accomplish the mapping, the relevant Domain Values must already have been created. The mapping process is accessed via:

Intex Loader Window > Utilities > Intex Mapping Setup

Following this navigation will reveal the window pictured below. The two main mapping sections are Intex Values and Products. Many of the Intex mappings will be necessary for Intex without Structured Finance and there are a few mappings that are specific to Structured Finance. Rather than forcing the reader to flip back and forth between the Intex User Guide and the Structured Finance User Guide, this *Section 4 – Setting Intex Mapping Values* is duplicated in its entirety in both guides. For clarity, the mapping values that are only available in the Structured Finance module are labeled as such.

The mapping values are defined in alphabetical order, as they are listed in the Intex Mapping Window.



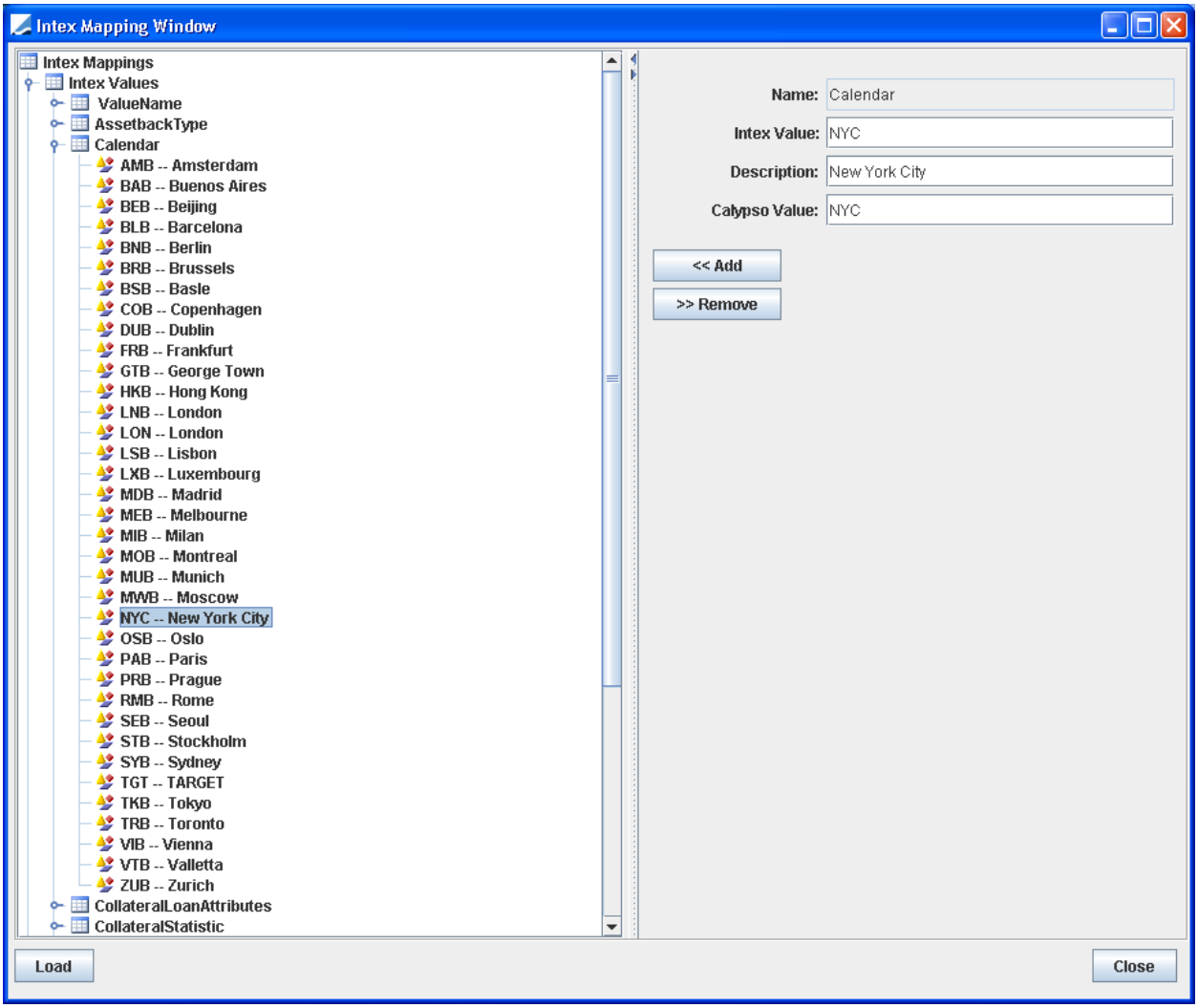
4.1 Value Name

A top level listing of all the mapping categories for Intex. The list is identical to the mapping categories in the window above.

4.2 Calendar

The Intex Calendar values have to be mapped to Calypso Calendar values. As this is very standard, the relationship is frequently a mapping of identical values as in the New York City example shown below.

Choose: Intex Loader > Utilities > Intex Mapping Setup



4.3 Collateral Loan Attributes

This is an Intex Value Mapping that is specific only to the Structured Finance Module.

These are the values that Intex assigns to the individual mortgage loan collateral. The codes along with their translations are as follows:

DC0 -- Other/Unknown

DC1 -- None

DC10 -- Mortgage Verification Only

DC11 -- Reduced

DC12 -- Underwriting Doc Incomplete

DC13 -- Program Violation

DC14 -- EZ/Simplified

DC15 -- Alternative

DC16 -- Streamline

DC2 -- Full

DC3 -- Income, Asset & Mortgage Verification

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DC4 -- Low/Limited
DC5 -- Income & Mortgage Verification
DC6 -- Income & Asset Verification
DC7 -- Asset & Mortgage Verification
DC8 -- Income Verification Only
DC9 -- Asset Verification Only
IC0 -- Other/Unknown
IC1 -- No Mortgage Insurance
IC10 -- Financial Guaranty
IC11 -- Foremost
IC12 -- GE
IC13 -- GMAC
IC14 -- Home Guaranty
IC15 -- Insured Credit Serv.
IC16 -- Integon
IC17 -- Investor's Mtg Ins
IC18 -- Kodak
IC19 -- Liberty
IC2 -- Alaska Housing
IC20 -- Maryland Housing
IC21 -- MGIC
IC22 -- Mortgage Guaranty Ins
IC23 -- NYC Rehabilitation
IC24 -- PMI Mortgage Ins
IC25 -- Policy Holders Benefits
IC26 -- Republic Mortgage Ins
IC27 -- Ticor
IC28 -- Triad Guaranty Ins
IC29 -- United Guaranty
IC3 -- Amerin
IC30 -- US Mortgage Ins
IC31 -- VA
IC32 -- Verex Assuarance
IC33 -- Vermont Home Mortgage
IC34 -- Wisconsin Mortgage Assurance
IC4 -- California Housing
IC5 -- Cavalier
IC6 -- Commonwealth
IC7 -- Dupont
IC8 -- FGIC
IC9 -- FHA

LP0 -- Other/Unknown
LP1 -- Purchase
LP2 -- Refi-Cash Out
LP3 -- Refi-No Cash Out
LP4 -- Second Mortgage
LP5 -- Refi-Unknown Cash
LP6 -- Construction
LP7 -- Home Improvement
LP8 -- Purchase or Construction
LP9 -- Remortgage
LT0 -- Other/Unknown
LT1 -- Conventional
LT10 -- Non Conforming
LT11 -- Subprime
LT12 -- Contract for Deed
LT13 -- Alt-A
LT14 -- FNMA
LT15 -- HELOC
LT16 -- Conforming
LT17 -- Jumbo
LT18 -- Commercial
LT2 -- FHA
LT3 -- VA
LT4 -- Conventional with PMI
LT5 -- Government (Unknown)
LT6 -- Affordable Housing Initiative
LT7 -- Consumer - Motorized
LT8 -- Consumer - Non-motorized
LT9 -- Multifamily
OC0 -- Other/Unknown
OC1 -- Primary (Owner Occupied)
OC2 -- Secondary (Owner Occupied)
OC3 -- Investor (Non-owner Occupied)
OC4 -- Buy to Let
OC5 -- Business
PT0 -- Other/Unknown
PT1 -- Single Family Residence
PT10 -- Bungalow
PT11 -- Detached
PT12 -- Semi-Detached
PT13 -- Terraced

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PT2 -- Condominium

PT3 -- Co-op

PT4 -- 2-4 Units

PT5 -- Townhouse

PT6 -- PUD

PT7 -- 5+ Units

PT8 -- Commercial

PT9 -- Manufactured Housing

4.4 Collateral Statistic

This is an Intex Value Mapping that is specific only to the Structured Finance Module.

These are the values that Intex assigns to either summary collateral statistics or to individual collateral instruments. The codes along with their translations are as follows:

AbsSummaryInfo.1MO_ACCUM_NET_LOSS -- collat realizedloss%.

AbsSummaryInfo.1MO_ACCUM_NET_LOSS_RATE -- Sum of realized loss($) / original collateral bal($) in percentage.

AbsSummaryInfo.1MO_BANKRUPT_RATE -- Loans in bankruptcy, %.

AbsSummaryInfo.1MO_COLLAT_BAL -- Current collateral balance, $.

AbsSummaryInfo.1MO_CPR -- Annual prepayment rate, % CPR.

AbsSummaryInfo.1MO_DELINQ_30_PLUS -- Number of loans 30 plus days delinquent.

AbsSummaryInfo.1MO_DELINQ_60_PLUS -- Number of loans 60 plus days delinquent.

AbsSummaryInfo.1MO_DELINQ_90_PLUS -- Number of loans 90 plus days delinquent.

AbsSummaryInfo.1MO_FORECLOSURE_RATE -- %Loan balance in foreclosure.

AbsSummaryInfo.1MO_REO_RATE -- Loans in real estate offering, %.

AbsSummaryInfo.1MO_WAC -- Gross collateral coupon, %.

AbsSummaryInfo.1MO_WAM -- Weighted average remaining term to stated maturity, months.

AbsSummaryInfo.3MO_CPR -- 3 month CPR, %.

AbsSummaryInfo.NUMBER_OF_LOANS -- Number of Outstanding Loans.

Current WAS

DSCR

LoanAttr.Asset Doc -- Loan documentation (full, limited, none, etc.).

LoanAttr.Asset Name -- Asset Name.

LoanAttr.Asset Purpose -- Loan purpose (purchase, refinance, cash out.).

LoanAttr.Insurer -- Insurer.

LoanAttr.Lein Position -- Lein Position.

LoanAttr.Loan Type -- Loan Type.

LoanAttr.Modification Code -- Loan Modification Code.

LoanAttr.Occupancy -- Occupancy Status.

LoanAttr.Property Code -- Loan Property type (single-family, PUD, condo, etc.).

LoanAttr.Servicer -- Servicer.

LoanData.APPR_VALUE -- Appraisal Value.

LoanData.APPR_VALUE_ASOF -- Appraisal Value As Of.

LoanData.ASSET_FREQUENCY -- Pay Frequency.

LoanData.ASSET_SUBTYPE -- Asset Subtype.

LoanData.ASSET_TYPE -- Asset Type.

LoanData.BORROW -- Borrower.

LoanData.CITY -- City.

LoanData.COUNTRY -- Country.

LoanData.CUSIP -- CUSIP.

LoanData.DEBT_SERVICE -- Debt Service.

LoanData.DEBT_SERVICE_ASOF -- Debt Service As Of.

LoanData.DEFAULT_FLAG -- Default Flag.

LoanData.DSCR -- DSCR.

LoanData.DSCR_ASOF -- DSCR As Of.

LoanData.EMERGING_MARKET -- Emerging Market.

LoanData.FICO -- Fico Score.

LoanData.FIX_FLT -- Fix or Float.

LoanData.FUNDED_STATUS -- Funded Status.

LoanData.HIRESBDTYP -- Hi-Res Bond Type.

LoanData.INDUSTRY_FITCH -- Fitch Industry Code.

LoanData.INDUSTRY_MOODY -- Moody's Industry Code.

LoanData.INDUSTRY_S&P -- S&P Industry Code.

LoanData.INTEX_DEALTYPE -- Intex Deal Type.

LoanData.ISIN -- ISIN.

LoanData.ISSUER_CODE -- Issuer.

LoanData.LOANX -- LoanX Id.

LoanData.MATUR_DATE -- Asset Maturity Date.

LoanData.NOI -- Net-Operating-Income.

LoanData.NOI_ASOF -- As Of Date for Net-Operating-Income.

LoanData.ORIGINATOR -- Loan Originator.

LoanData.PAID_THRU -- Paid-through Date.

LoanData.PIK -- PIK.

LoanData.REGION_MOODY -- RATING: Moody Region.

LoanData.SPONSOR -- Sponsor.

LoanData.STREET -- Street Address.

LoanData.STRUCTURED_FINANCE -- Structured Finance Security.

LoanData.SYNTHETIC -- Synthetic.

LoanData.TENANT1 -- The three largest tenants.

LoanData.TENANT2 -- The three largest tenants.

LoanData.TENANT3 -- The three largest tenants.

LoanData.TIER1FLAG -- Tier 1.

LoanData.TIER2FLAG -- Tier 2.

LoanData.UW_APPR_VALUE -- Underwritten Appraisal Value.

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LoanData.UW_APPR_VALUE_ASOF -- Underwritten Appraisal Value As Of.

LoanData.UW_NOI -- Underwritten NOI.

LoanData.UW_NOI_ASOF -- Underwritten NOI As Of.

LoanStat.Delinquency Status -- Delinquency Status.

PoolInfo.12MO_CPR -- historical 1 year prepay rate in CPR units.

PoolInfo.12MO_PSA -- historical 1 year prepay rate in PSA units.

PoolInfo.1MO_PSA -- historical 1 month prepay rate in PSA units.

PoolInfo.3MO_PSA -- historical 3 month prepay rate in PSA units.

PoolInfo.6MO_CPR -- historical 6 month prepay rate in CPR units.

PoolInfo.6MO_PSA -- historical 6 month prepay rate in PSA units.

PoolInfo.ARM: Gross Margin/Spread -- ARM: Gross Margin/Spread.

PoolInfo.ARM: Index -- ARM: Index.

PoolInfo.ARM: Life Cap -- ARM: Life Cap.

PoolInfo.ARM: Life Floor -- ARM: Life Floor.

PoolInfo.ARM: Payment Cap -- ARM: Payment Cap.

PoolInfo.ARM: Payment Floor -- ARM: Payment Floor.

PoolInfo.ARM: Rate Formula -- ARM: Rate Formula.

PoolInfo.ARM: Rate Reset Period -- ARM: Rate Reset Period.

PoolInfo.Amort Type -- Amorization rule.

PoolInfo.Asset Age -- The number of months that have elapsed since the pool/loan was issued.

PoolInfo.Balloon -- Number of balloon months.

PoolInfo.Cashflow Stratification -- Collateral cashflow type.

PoolInfo.Coupon -- Coupon.

PoolInfo.Current Amort Term -- The Pools' weighted-average remaining term, in months.

PoolInfo.Current Balance -- Current Balance.

PoolInfo.Current Factor -- Current Factor.

PoolInfo.Current LTV -- Pools' current LTV, in %.

PoolInfo.Day Count -- Day Count.

PoolInfo.Gross Coupon -- Gross Coupon.

PoolInfo.Group Number -- Group Number.

PoolInfo.Is Balloon -- Is Balloon.

PoolInfo.Issue Date -- Asset Issue Date.

PoolInfo.Item Number -- Item Number.

PoolInfo.LIFE_CPR -- historical lifetime prepay rate in CPR units.

PoolInfo.LIFE_PSA -- historical lifetime prepay rate in PSA units.

PoolInfo.MSA -- MSA.

PoolInfo.Maturity Date -- Asset Maturity Date.

PoolInfo.Net Coupon -- Annual pass-through interest rate, in percent.

PoolInfo.Orig LTV -- Orig LTV.

PoolInfo.Orig Term -- Orig Term.

PoolInfo.Original Balance -- Original Balance.

PoolInfo.Original IO -- Original IO.

PoolInfo.PSA 1M -- historical 1 month prepay rate in PSA units.

PoolInfo.PSA 3M -- historical 3 month prepay rate in PSA units.

PoolInfo.PSA 6M -- historical 6 month prepay rate in PSA units.

PoolInfo.Property Type Stratification -- Property type.

PoolInfo.Region -- MSA Region.

PoolInfo.Rem Term -- Rem Term.

PoolInfo.Remaining IO -- Remaining IO.

PoolInfo.State -- State.

PoolInfo.State Stratification -- This field holds the pools' location in state/province.

PoolInfo.Unique Name -- Unique Name.

PoolInfo.Zip Code -- Zip Code.

Source

4.5 Columns

Lists the columns that are viewable in the Intex Loader and able to be mapped. These are:

ASSETBACK_TYPE

COLLATERAL_TYPE

DEAL_CATEGORY

TRANCHE_TYPE

4.6 Columns.ASSETBACK_TYPE

Within the Intex subroutines, the Intex database is classified into three major classes:

- CMOs - They are either Agency Issued with Agency Collateral or Private Label Issued with Agency Collateral deals backed by residential mortgages. The agencies are Fannie Mae, Freddie Mac or Ginnie Mae.
- Whole Loans – This term has become a misnomer. The structured finance market has many examples of terms being invented and used for an original purpose that may evolve or blur over time. Some market participants may use the original meanings of these terms and other market participants may use different interpretations. It can be argued that Intex uses one of these variants for how it classifies "Whole Loans" at the database level. In Intex jargon, any deal that is not backed by agency collateral is considered to be a "Whole Loan" deal.
- Pass-throughs (or "MBSPOOLS") – These are securities that are issued by Fannie Mae, Freddie Mac or Ginnie Mae where the cash flows are not "structured" with rules. The cash flows of the underlying mortgage simply "pass-through" the structure to the bond holders.

Intex provides data describing the underlying collateral types for all Whole Loan deals. We have provided a means to map the Intex descriptor values for these collateral types to configurable Calypso values. As of this writing, the available Intex values that are contained in the Intex data item, "icmo_assetback_type" are documented by Intex to be the following:

Intex Values	Description
ICMOASSETBACK_LOAN	Normal whole loans
ICMOASSETBACK_CREDITCARD	Credit card receivables
ICMOASSETBACK_AUTOLOAN	Car loans
ICMOASSETBACK_HOMEEQUITY	Home equity loans

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Intex Values	Description
ICMOASSETBACK_MANUHOUSE	Manufactured housing loans
ICMOASSETBACK_FLOORPLAN	Floorplans
ICMOASSETBACK_EQUIPMENT	Equipment loans
ICMOASSETBACK_STUDENTLOANS	Education loans
ICMOASSETBACK_RECEIVABLES	Receivables
ICMOASSETBACK_COMMERCIAL	Commercial mortgages (CMBS)
ICMOASSETBACK_AGRICULTURE	Farmer Mac loans
ICMOASSETBACK_FRANCHISE	Franchise loans
ICMOASSETBACK_RV	Recreation vehicle loans
ICMOASSETBACK_MARINE	Marine loans
ICMOASSETBACK_MOTORCYCLE	Motorcycle loans
ICMOASSETBACK_AUTOLEASE	Auto leases
ICMOASSETBACK_AIRPLANE	Airplane loans
ICMOASSETBACK_CLO	Collateralized loan obligations
ICMOASSETBACK_HEALTHRECEIVABLES	Healthcare receivables
ICMOASSETBACK_CLN	Credit linked notes
ICMOASSETBACK_CDO	Collateralized debt obligations
ICMOASSETBACK_SMALLBUSINESS	Small business loans
ICMOASSETBACK_CONSUMER	Consumer loans
ICMOASSETBACK_TAXLIEN	Tax liens
ICMOASSETBACK_PROJECT	Project loans
ICMOASSETBACK_TIMESHARE	Timeshare loans
ICMOASSETBACK_STCD	Single Tranche Credit Derivative

4.7 Columns.COLLATERAL_TYPE

These are the collateral categories that Intex uses to describe the overall deal collateral. These collateral types are stored in the Intex field, ICMOADDLINFO_COLLAT_TYPE.

Intex Values	Applicable Group	Description
ABS	CDO	

Intex Values	Applicable Group	Description
ABS/REIT	CDO	
ALT_A	Whole Loan, HEQ	Alt-A and Alt-A-Minus loans. Alt-A loans are loans made to borrowers with good credit, but with non-conforming underwriting ratios, limited documentation, or other characteristics which don't meet the standards for prime loans. Alt-A pools may have lower FICOs (700-730), higher LTVs (> 75), and higher percentages of loans with limited or no documentation (30-50%) than typical prime jumbo pool. Alt-A-minus loans fall between Alt-A and subprime. Alt-A-minus pools may have lower FICOs (660-700), higher LTVs (> 80), and higher percentages of loans with limited or no documentation (>50%) than typical Alt-A pools.
ARREARAGE	Whole Loan, HEQ	Previously delinquent loans restructured with an arrearage component. Newer arrearage deals are put on the HE database but a handful of older deals originally put on the WL database in the late 1990s are still classified as WL.
Agency Multifamily	CMBS	
CDO Securities	CDO	
CDO Securities/ABS	CDO	
CDO^2	CDO	
CMBS	CDO	
CMBS/Loans	CDO	
CMBS/Loans/REIT	CDO	
CMBS/REIT	CDO	
CRE	CDO	
Conduit	CMBS	
Development	CMBS	
Emerging Market	CDO	
Enterprise	Franchise	
Equipment	Franchise	
Fee Simple	Franchise	
Fee Simple - 2nd	Franchise	
Fusion	CMBS	
Ground Lease	Franchise	
HELOC	Whole Loan, HEQ	Home Equity Lines of Credit. These are normally kept on the HE database but some deals with mixed HE/WL collateral types exist.
HIGH LTV	HEQ	First or second liens with combined LTVs greater than 100% of property value (typically 115%-125%).

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Intex Values	Applicable Group	Description
High Yield	CDO	
High Yield/CDO Securities	CDO	
High Yield/Emerging Market	CDO	
High Yield/Investment Grade	CDO	
High-Grade Structured Finance	CDO	
High-Yield Bonds	CDO	
High-Yield Loans	CDO	
Investment Grade	CDO	
Investment-Grade Bonds	CDO	
Kickout	CMBS	
LOT LOAN	Whole Loan	Loans made on unimproved land
Large Loan	CMBS	
Lease-Backed	CMBS	
Leasehold	Franchise	
Loans to Microfinance Institutions	CDO	
Long-Term Floating Rate	CMBS	
MIXED USE	HEQ	Loans for mixed use buildings where the commercial/small business portion is small relative to the residential portion.
Market Value	CDO	
Mezzanine	CDO	
Mezzanine Structured Finance	CDO	
Middle Market	CDO	
Military Housing	CMBS	
Mixed	CDO, CMBS	
Mixed - Conduit And Re-Securitization Of One Conduit Deal	CMBS	
Mixed - Fusion And Re-Securitization Of One Single-Borrower Deal	CMBS	
Mixed - Seasoned Loan And Re-Securitization Of Three	CMBS	

Intex Values	Applicable Group	Description
Mixed - Short-Term Floating Rate And Re-Securitization Of Two	CMBS	
NA	Whole Loan, Franchise, HEQ	Other/Unable to determine.
NIM	Whole Loan, HEQ	Net Interest Margin, typically a resecuritization of residuals from other deals
NON-CONFORMING		
NON-PERFORMING	HEQ	Sub-Performing and Non-Performing mortgages.
PRIME	Whole Loan	Loans made to borrowers with good credit that generally meet the lender's strictest underwriting criteria. Intex may also classify some limited documentation pools made to very high-quality borrowers (typically with weighted-average pool FICOs of 740+) as Prime instead of ALT_A.
Project Finance Loans	CDO	
REIT	CDO	
REPERFORMING	Whole Loan	Loans insured by the FHA/VA that were previously delinquent
REREMIC	Whole Loan	Resecuritization of other securities of multiple collateral types. Note: resecuritizations will normally be tagged with the collateral type of the underlying securities, the "reremic" collat type will only be assigned to deals backed by multiple collateral types.
RMBS	CDO	
Re-Securitization - Agency Multifamily	CMBS	
Re-Securitization - B-Piece	CMBS	
Re-Securitization - Conduit	CMBS	
Re-Securitization - Large Loan	CMBS	
Re-Securitization - Mixed	CMBS	
Re-Securitization - Seasoned Loan	CMBS	
Re-Securitization - Swap	CMBS	
Royalty	Franchise	
SBA ASSISTANCE	HEQ	SBA Assistance loans.
SCRATCH & DENT	Whole Loan, HEQ	May include many different loan types in one deal, including delinquent loans, re-performing loans, repurchases, loans with document or other deficiencies, and seasoned loans. Loans may either be acquired from various unaffiliated sources of the Seller, or may be loans originated by an affiliate of the Seller which do not conform to that Seller's standard guidelines for securitization. These are normally kept on the HE database but some deals with mixed HE/WL collateral types exist

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Intex Values	Applicable Group	Description
SECOND LIEN	Whole Loan, HEQ	Second lien mortgages. These are normally kept on the HE database but some deals with mixed HE/WL collateral types exist.
SLA/PPA	CDO	
SMALL-BALANCE COMMERCIAL MORTGAGE	HEQ, CMBS	Small-balance commercial mortgages
SUBPRIME	Whole Loan, HEQ	Loans to borrowers with poor credit, typically have weighted-average pool FICOs of 620 or less. These are normally kept on the HE database but some deals with mixed HE/WL collateral types exist.
SYNTHETIC: INDEX	HEQ, CMBS	Synthetic indices such as the ABX index.
Seasoned Loan	CMBS	
Short-Term Floating Rate	CMBS	
Short-Term Floating Rate Deals		
Single Borrower - Lease-Backed	CMBS	
Single Borrower - Multiple Properties	CMBS	
Single Borrower - Single Property	CMBS	
Single-Borrower Deals		
Structured Finance	CDO	
Structured Finance/REIT	CDO	
Synthetic: ABS	CDO	
Synthetic: ABS/RMBS	CDO	
Synthetic: CDO Securities	CDO	
Synthetic: CMBS	CDO	
Synthetic: CMBS Commercial Pool - Mixed	CMBS	
Synthetic: CMBS/REIT	CDO	
Synthetic: Conduit	CMBS	
Synthetic: Derivative Contracts	CDO	
Synthetic: Emerging Market	CDO	
Synthetic: High Yield	CDO	
Synthetic: Investment Grade	CDO	

Intex Values	Applicable Group	Description
Synthetic: Mezzanine	CDO	
Synthetic: Mixed	CDO	
Synthetic: REIT	CDO	
Synthetic: RMBS	CDO	
Synthetic: RMBS/CDO	CDO	
Synthetic: Revenue-Backed	CMBS	
Synthetic: Single Borrower - Multiple Properties	CMBS	
Synthetic: Small-Balance Commercial Mortgage	CMBS	
Synthetic: Structured Finance	CDO	
Synthetic: Trust-Preferred	CDO	
TIMESHARE	HEQ	Loans made on timeshare properties.
Tax-ExempTrust-Preferred	CDO	
Tax-Exempt	CDO	
Unsecured REIT Debt	CMBS	
VENDEE	Whole Loan	A "vendee loan" is a sale by the United States Department of Veterans Affairs on the credit terms of a residential property acquired following the foreclosure of a mortgage that was guaranteed by the United States Department of Veterans Affairs.

4.8 Columns.DEAL_CATEGORY

DEAL_CATEGORY (icmo_deal_category), as defined by Intex, may be one of the following seven choices:

0- AGENCY_ADMIN

1- PRIVATE

2- WHOLE_LOAN

3- POOL_MBS

4- SWAP

5- BOND

6- DEBENTURE

These are defined in Columns.DEAL_CATEGORY as seen below:

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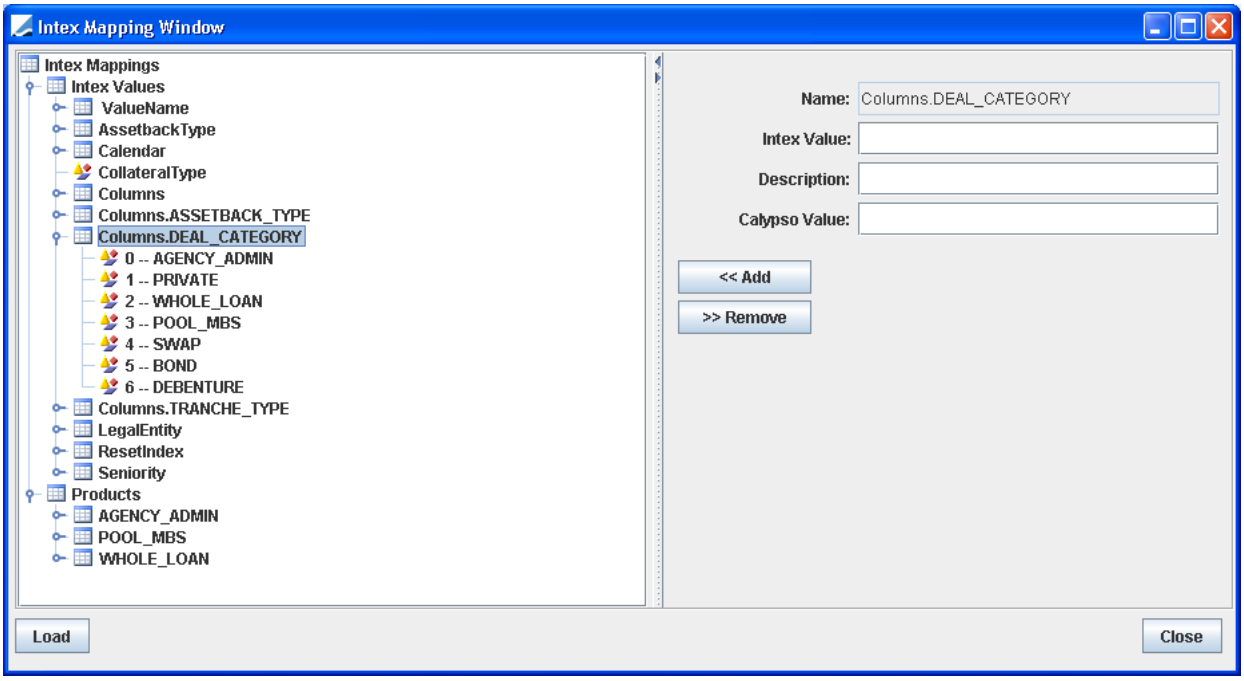

In actuality, the only selections from this list that have relevance with ABS and MBS are AGENCY_ADMIN, PRIVATE, WHOLE_LOAN and POOL_MBS. Calypso does not support SWAP, BOND nor DEBENTURE.

4.9 Columns.TRANCHE_TYPE

TRANCHE_TYPE (icmo_tranche_types) is defined by Intex as an array which concatenates the different applicable types for Principal Types, Interest Types, Residual Types, Whole Loan Class Types, and Agency Callable Types. As of this writing, the available Intex Tranche Types that are employed to describe the tranche characteristics are the following:

Intex Types	Description
Intex Principal Types	
AD	Accretion Directed
AFC	Available Funds Class
AMZ	Amortizing
AS	Accelerating Senior
BUL	Bullet Maturity
CAC	Controlled Amortization
CMP	Companion
CPT	Component
EDC	Extended Delay Class
LIQ	Liquid Asset
MEGA	Agency Mega, Giant or Platinum

Intex Types	Description
NAS	Non-Accelerating Senior
NIM	Net Interest Margin
NSJ	Non-Sticky Jump
NTL	Notional
PAC or PAC1 ... PAC4	Planned Amortization
PT	Pass-Through
RTL	Retail
SCH or SCH1 ... SCH4	Scheduled Payments
SEG	Segment
SEQ	Sequential Pay
SJ	Sticky Jump
SP	Single Payment
SPP	Shifting Payment Percentage
STP	Pro
SUP	Support
TAC or TAC1 ... TAC4	Targeted Amortization
XAC	Index Allocation
Intex Interest Types	
AFC	Available Funds Class
ARB	Ascending Rate Bond
CAB	Capital Accretion Bond
CAP	Fixed rate, but capped to collateral netrate
DLY	Float Delay
DRB	Declining Rate Bond
EXE	Excess
FIX	Fixed
FLT	Floating
IDC	Index Differential

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Intex Types	Description
INV	Inverse Floating Rate
IO	Interest Only
PEN	Prepayment Penalty tranche
PO	Principal Only
PRT	Participating Tranche – receives excess interest
PZ	Partial Accrual
SUB	Equity tranche. Receives excess interest
W	Coupon related to collateral interest rate
WAC	Coupon related to collateral interest rate
Z	Accrual
Intex Residual Types	
NPR	No-Pay Residual
R	Residual
RES	Residual
RL	Residual
RS	Residual
Intex Whole Class Types	
JUN	Junior
MEZ	Mezzanine
SPR	Super Senior
SEN	Senior
WAC_IO	Weighted-average Coupon Interest Only
XRS_IO	Excess-Ratio Strip Interest Only
XRS_PO	Excess-Ratio Strip Principal Only
Intex Agency Callable Types	
CALLABLE	With respect to a callable deal (FHL and GNM convention), a class of callable certificates or callable pass-through certificates representing the beneficial ownership of specified contributing assets, subject to optional redemption by a related call class.

Intex Types	Description
CALL	With respect to a callable deal (FHL and GNM convention), a class of certificates representing the right to direct the agency to redeem a related callable class and to acquire the contributing assets underlying such callable class.
REDEEMABLE	With respect to a redeemable deal (FNM convention), a class of redeemable certificates representing the beneficial ownership of specified contributing assets, subject to optional redemption by a related redemption class.
REDEMPTION	With respect to a redeemable deal (FNM convention), a class of certificates representing the right to direct the agency to redeem a related redeemable class and to acquire the contributing assets underlying such redeemable class.
RDM	With respect to a redeemable deal (FNM convention), a class of redeemable pass-through certificates representing the right to direct the agency to redeem a related redeemable class and to acquire the contributing assets underlying such redeemable class.
Intex Other Types	
FEE	Trustee fee, financial guarantee, or other expense
FG	Financial Guarantee
FND	Reserve Fund
NO	Non-Offered
OC	Overcollateralization
PP	Private Placement
RND	Rounding Account
RSV	Reserve Fund
SC	Structured Collateral

The Tranche Types are defined in Columns.TRANCHE_TYPE, as partially shown below:

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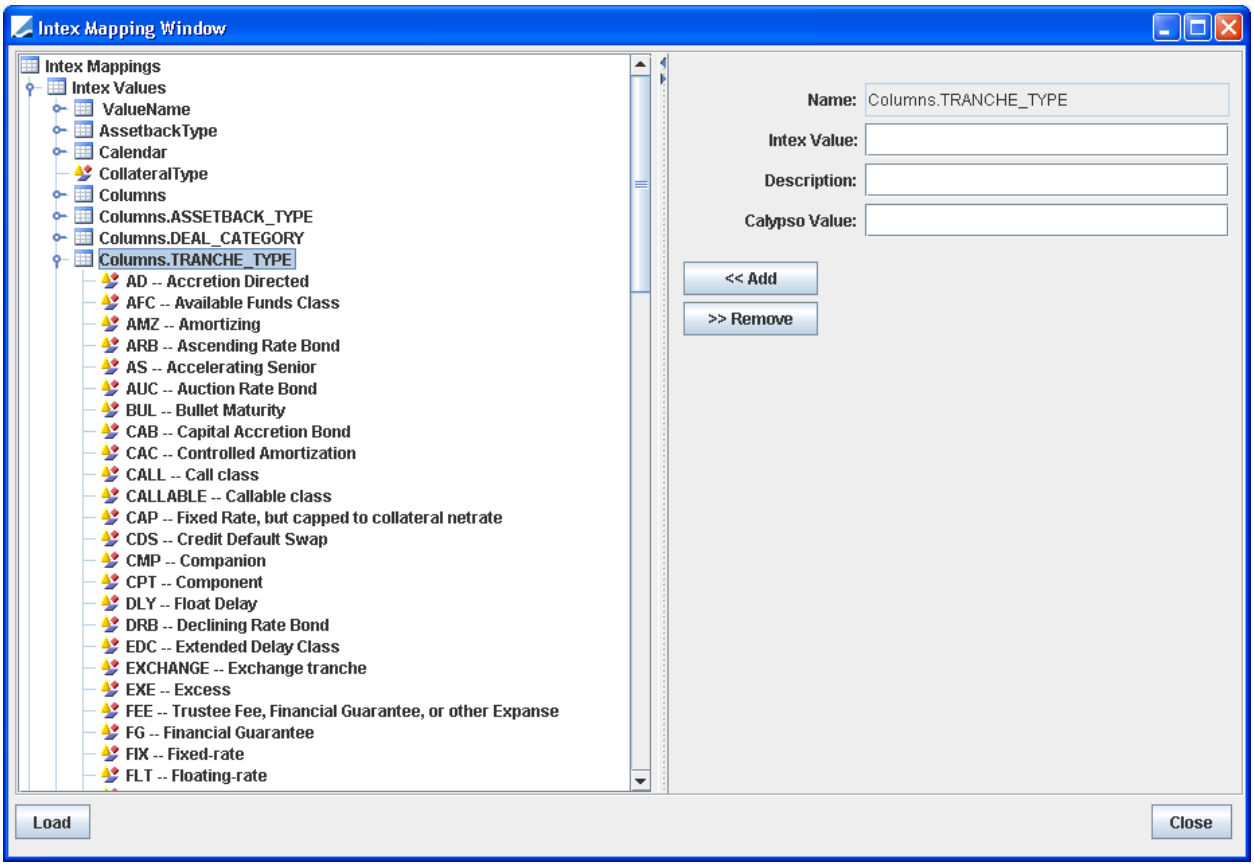
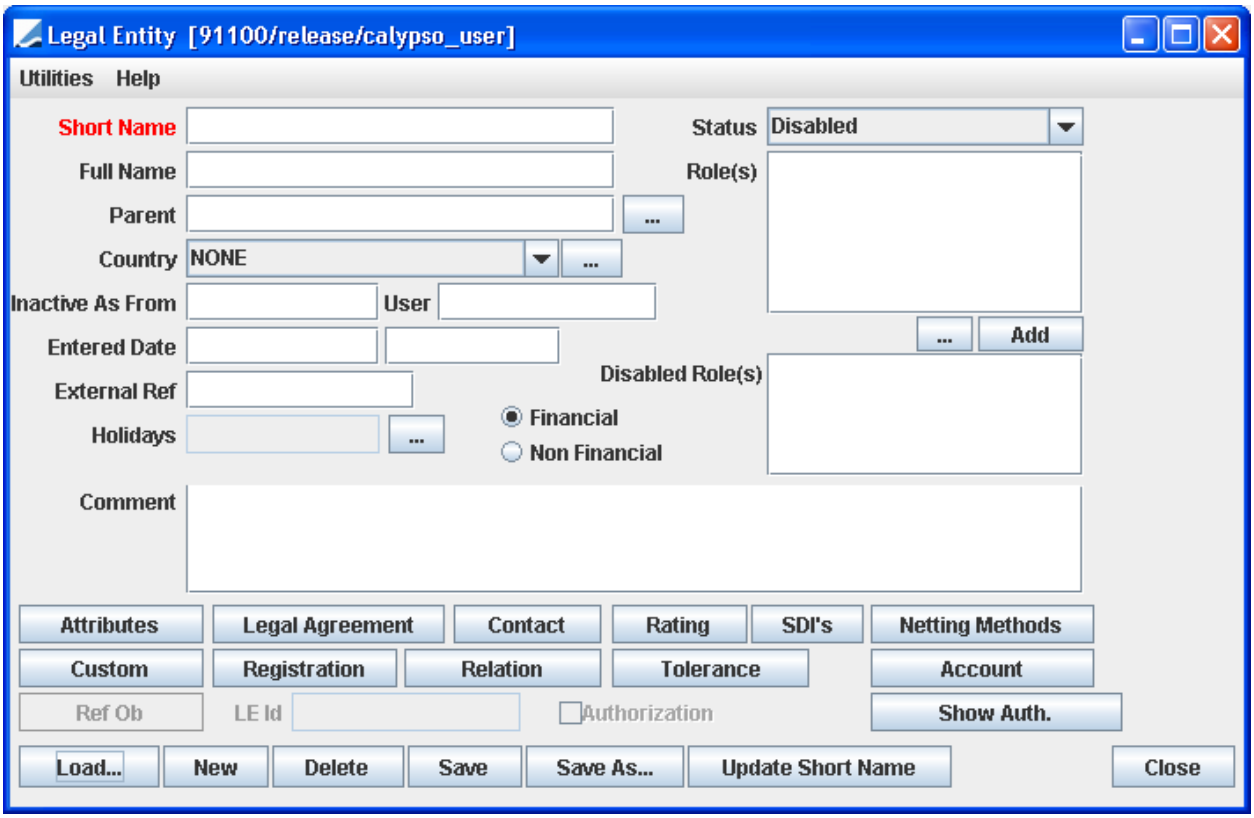


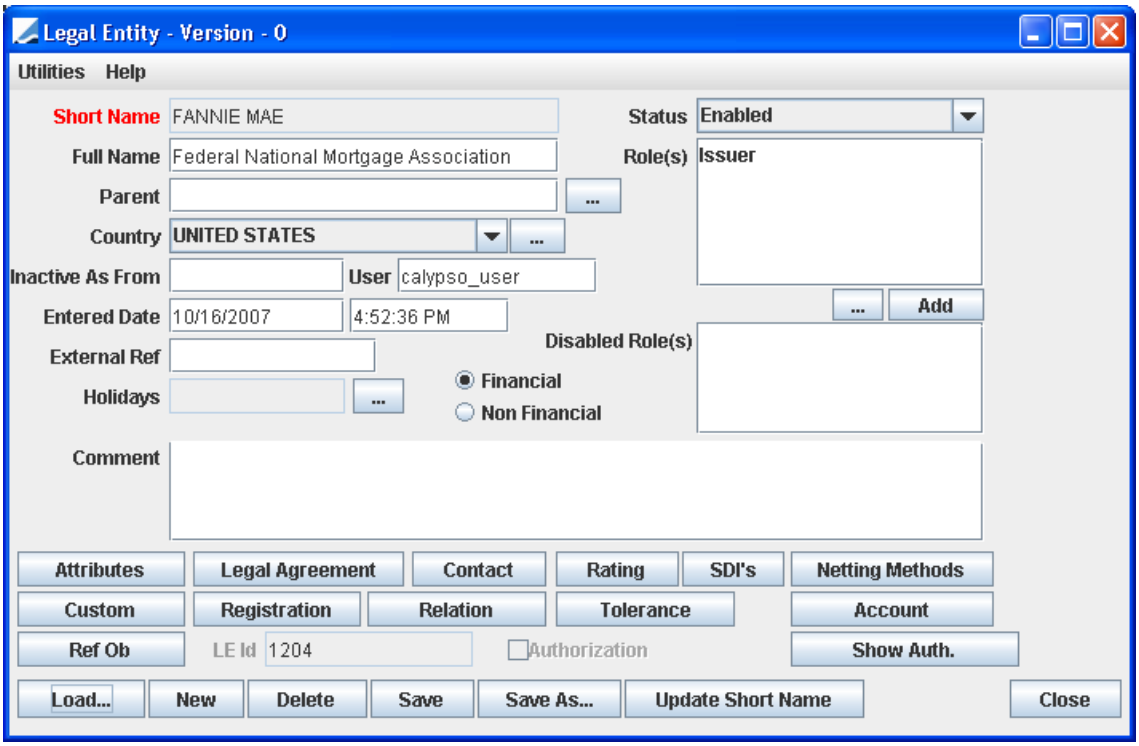
4.10 Legal Entity

The Intex Issuers (icmo_deal_issuer) have to be mapped to Calypso Legal Entities that have the role of Issuer and that have a status of being "Enabled". One accomplishes this by first creating the Legal Entity in Calypso through the following navigation path:

Calypso Navigator > Configuration > Legal Data > Entities …



One can create new Legal Entities on this window, assign the role of Issuer and change the status in "Enabled". For example, here is Fannie Mae as an Issuer:



Alternatively, if you are trying to look up previously created entities, one may use the Load button on this window and obtain a dialog window that allows the entry of the beginning of the Short Name, resulting in a list to choose from:

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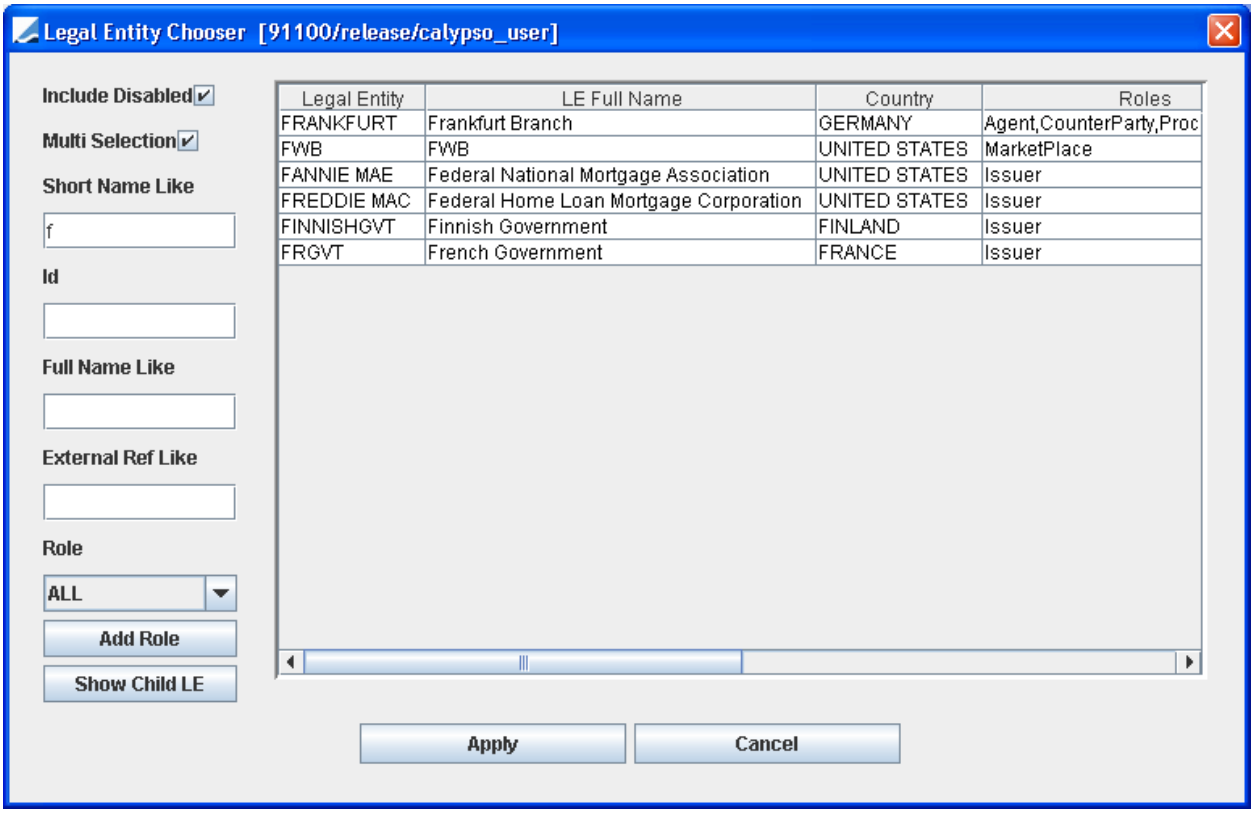
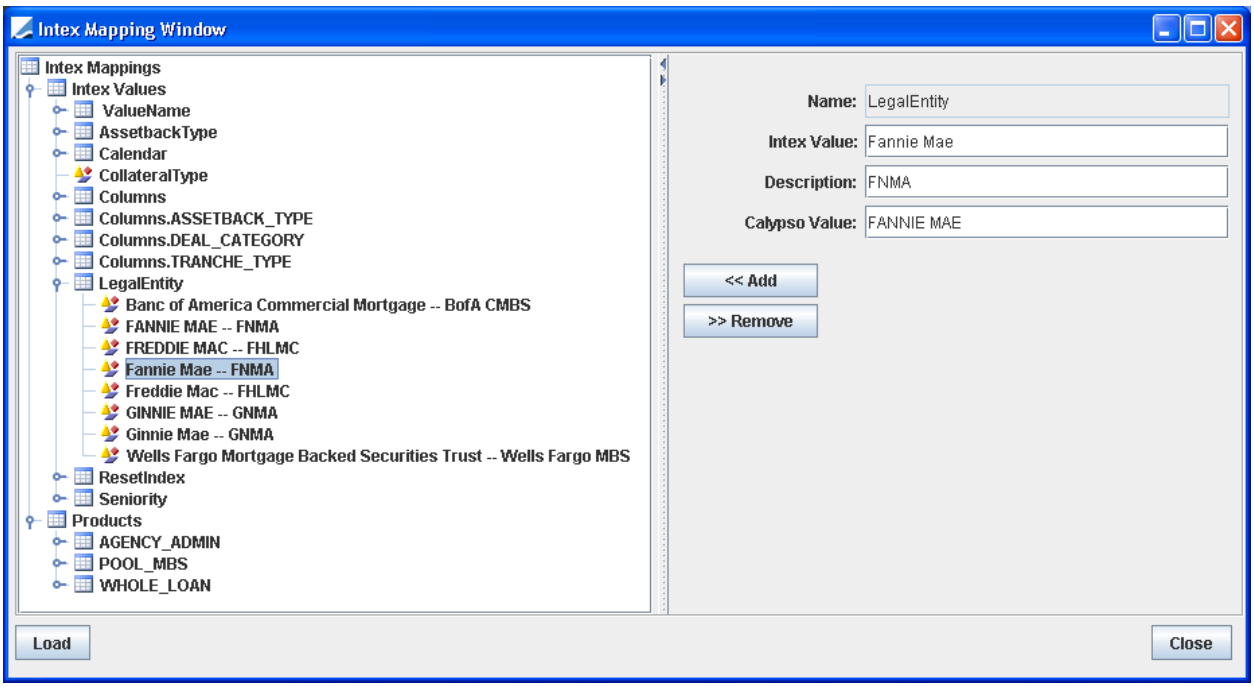


After the Legal Entities are established, one sets up the mapping in:

Intex Loader > Utilities > Intex Mapping Setup



Note that the Intex mapping is presently case sensitive and that Intex does store the agencies in both mixed case and upper case, so there are two mappings in this example that both associate to the Calypso, FANNIE MAE.

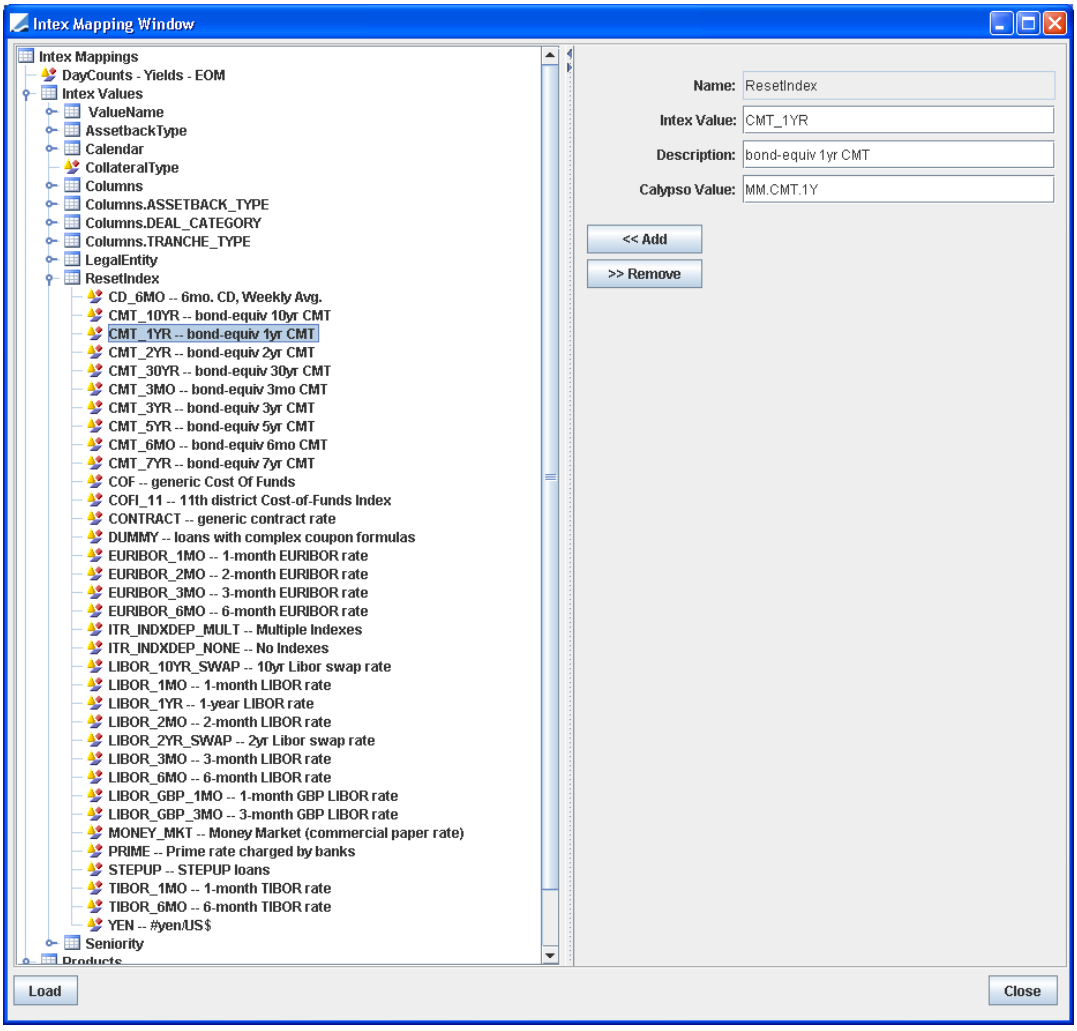
It is not always necessary to set up a Legal Entity as previously described if one just wants to fetch a bond for analysis purposes, etc. This is because there is actually a hierarchy in associating an Issuer with a Legal Entity. The hierarchy is as follows:

1. If a mapping exists between the Issuer in Intex and a Legal Entity in the Calypso database (as described above), then that will be used first.
2. If no mapping exists, then the loading process searches for an exact match with an existing Legal Entity in Calypso.
3. Finally, if there is no mapping and no match with preexisting Legal Entities, a dummy Legal Entity named, "Intex" is used.

4.11 ResetIndex

The Intex Reset Indices values have to be mapped to Calypso Indices values. Again, navigation is:

Intex Loader > Utilities > Intex Mapping Setup



4.12 Seniority

It may be desirable to designate the seniority of a bond separately from the Product Sub Type (Bond Type in the Bond Window). This may be accomplished by mapping the Intex Tranche Type to a Product Code called, DebtSeniority. Product Codes may be found in the center of the Bond Tab of the Bond Window.

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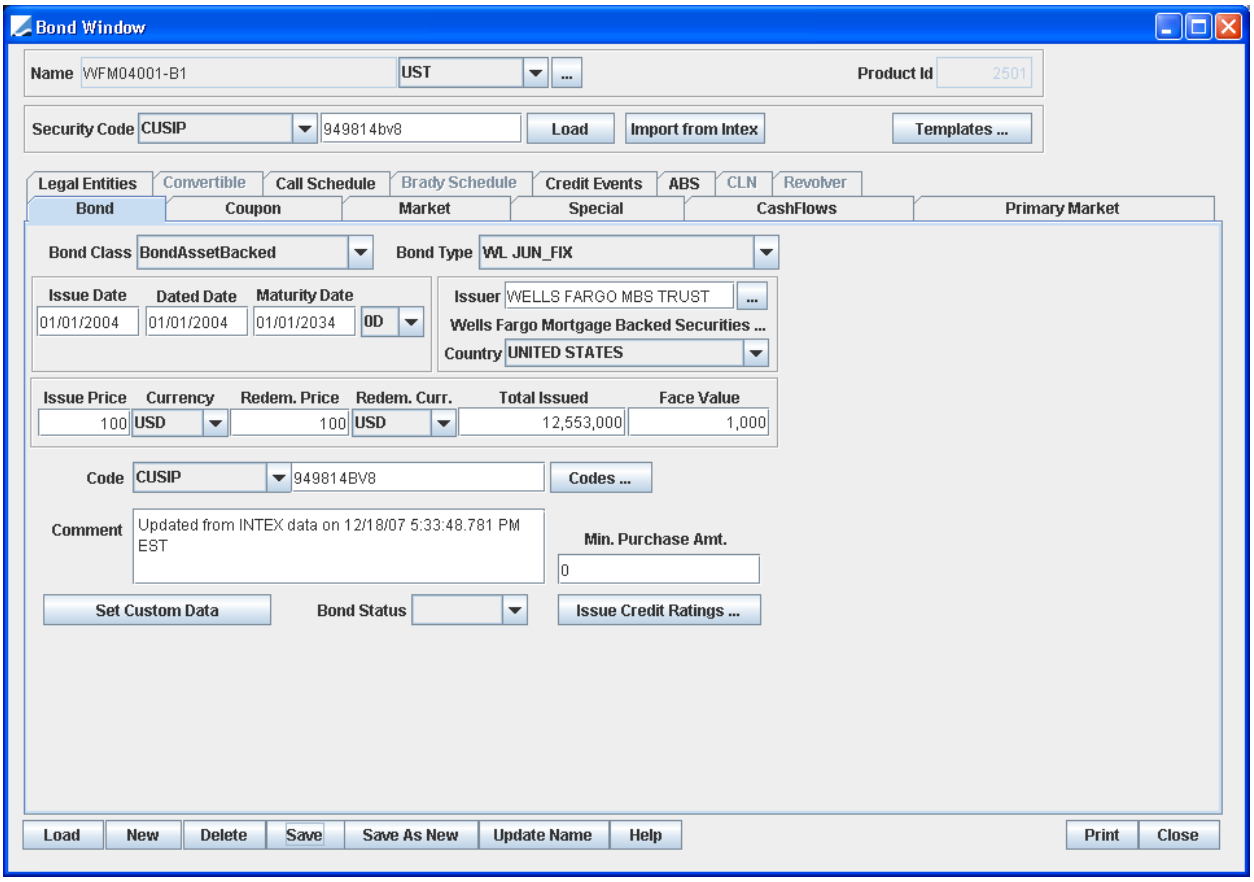
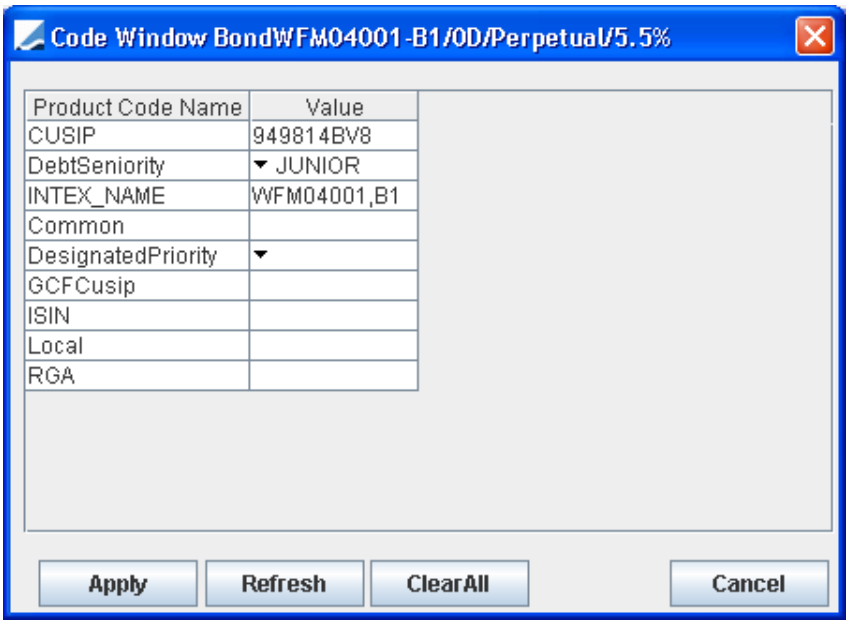
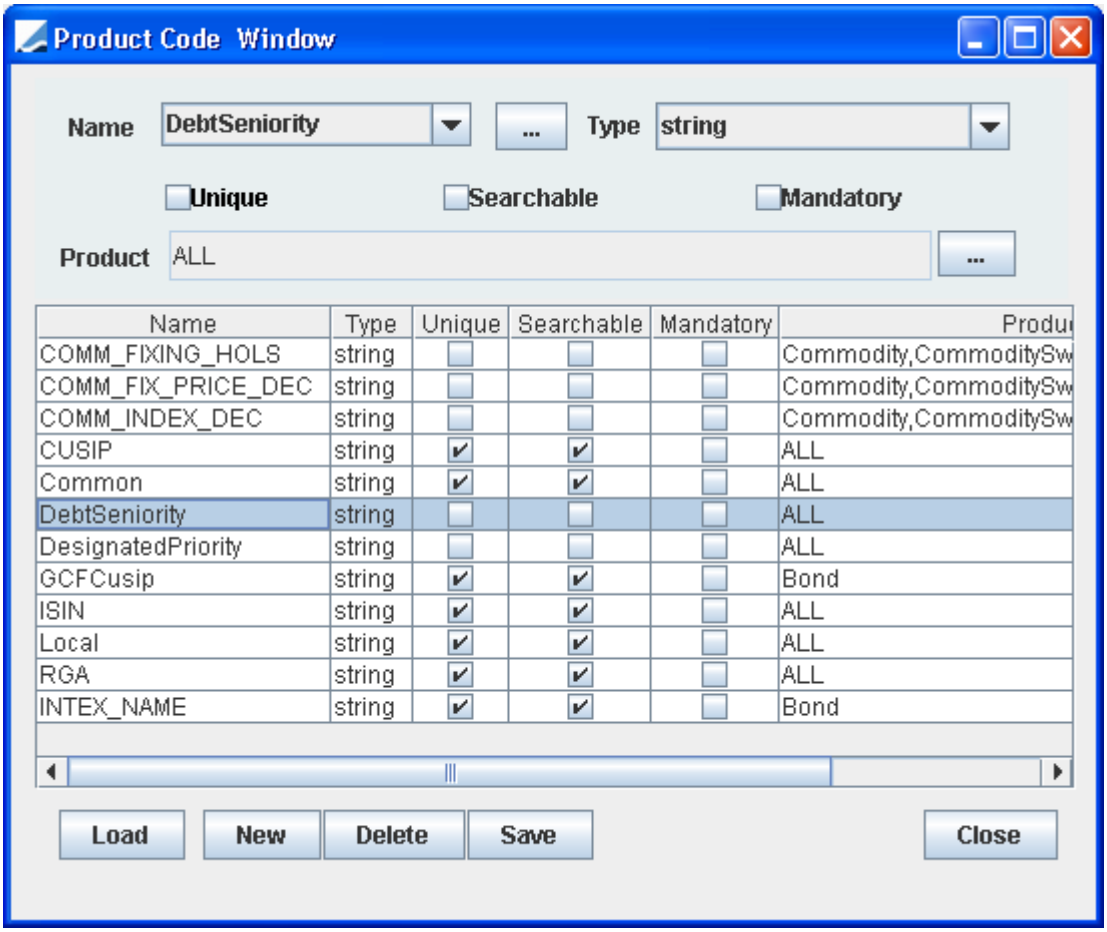


If one clicks on the "Codes …" button, the window below is displayed. This contains fields that are defined by the Product Code Window. In this instance, the most used Product Codes would probably be the CUSIP, DebtSeniority, INTEX_Name and the ISIN.



Please refer to the Fixed Income User Guide for how Product Codes are defined (see Section 2.1 – Specifying Product Code Definitions). The following Product Code Window displays which Product Codes are defined to be available for different Products. The Product Code may be accessed via:

Calypso Navigator > Configuration > Product > Code.



The first step in structuring the mapping of Seniority is to define the DebtSeniority and securityCode.DebtSeniority Domain Values. These are illustrated in the window that follows. One navigates to these Domain Values via:

Calypso Navigator > Configuration > System > Domain Values

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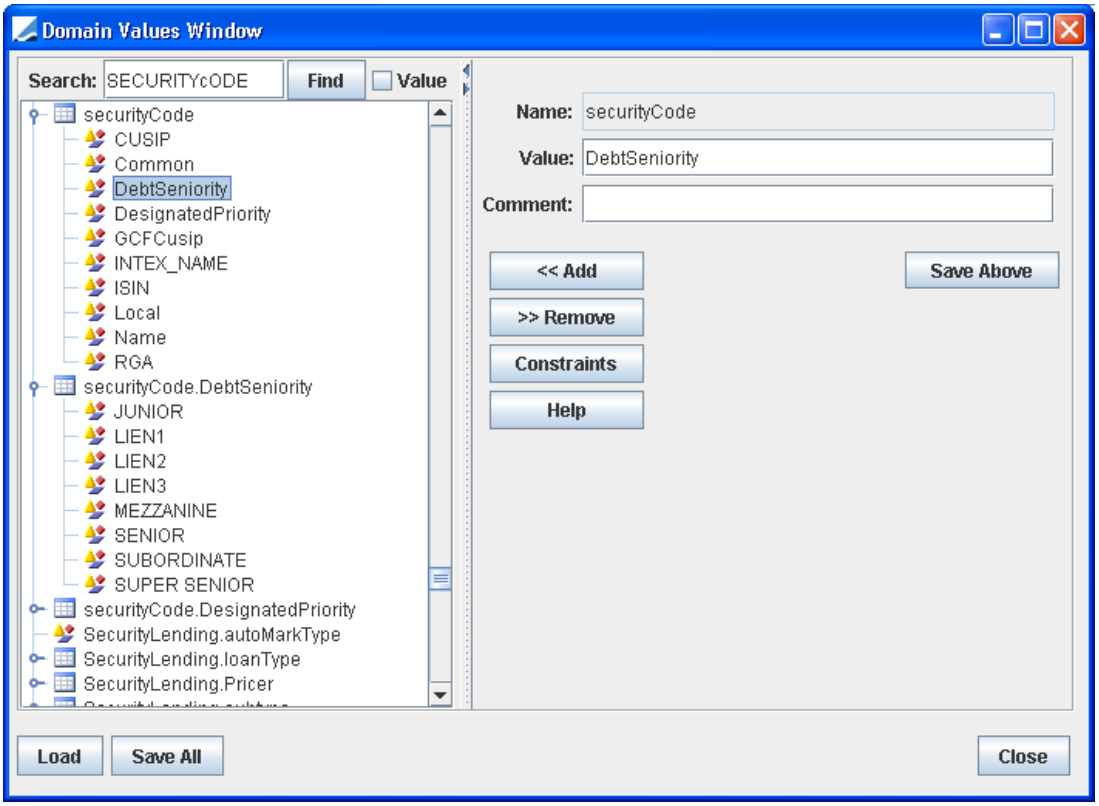
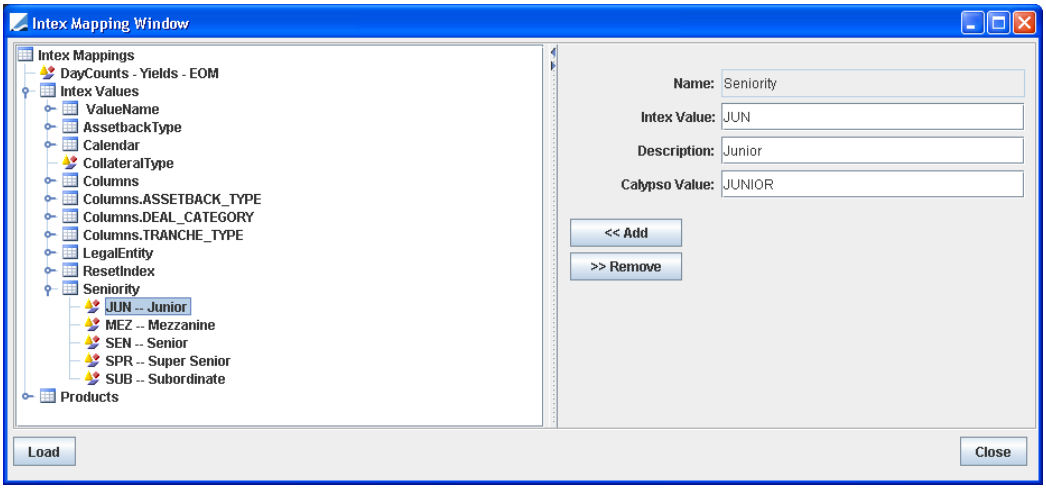


The Intex values for the Tranche Type are mapped to the Calypso values for securityCode.DebtSeniority via:

Intex Loader > Utilities > Intex Mapping Setup

In the following example, we have set up the Seniority values JUN, MEZ, SEN, SPR and SUB to map to the appropriate Calypso values which will appear in the Product Codes.



4.13 TestName

This is an Intex Value Mapping that is specific only to the Structured Finance Module.

Test Name may be used to map an Intex Test Name to a Calypso Test Name in a one-to-one or a many-to-one fashion.

4.14 TestSubType

This is an Intex Value Mapping that is specific only to the Structured Finance Module.

These are the subtype values that Intex assigns to the various deal tests. The codes along with their translations are as follows:

0 -- Unspecified CASHFLOW Test type.

1 -- Interest coverage test.

2 -- Over Collateralization test.

3 -- Additional Coverage test.

4 -- Delinquency test.

5 -- Current Loss test.

6 -- Cumulative Loss test.

7 -- FG Draw test.

8 -- Excess Interest test.

9 -- Event of Default.

4.15 TestType

This is an Intex Value Mapping that is specific only to the Structured Finance Module.

These are the type values that Intex assigns to the various deal tests. The codes along with their translations are as follows:

0 -- Unspecified Test type.

1 -- Test impacts the waterfall of cash in the structure.

2 -- Test determines if current collateral portfolio meets predefined compliance measures.

3 -- Test determines whether a new collateral item can be purchased into an existing portfolio.

4 -- Test is expected to occur at some point (FAIL status is expected and does not indicate a negative condition).

4.16 Defining Products

Mapping for Structured Finance and for Bond Asset Backed Products is a two step process:

First one maps the appropriate Intex values to Calypso values to define the Deal information. This is not a one-to-one mapping of fields; but, rather it is a group of three fields mapped to four attributes in Calypso.

Specifically, the mapping is for the fields:

DEAL_CATEGORY

ASSET_BACK_TYPE

COLLATERAL_TYPE

To:

Deal Type

Deal Sector

Import Data Level

Default Bond Template

The Import Data Level that is chosen sets the default when this deal is fetched via the Intex Loader. One may use the Import Data Level drop-down to subsequently change this setting before the "Update" or leave it as the setting has been mapped.

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The Default Bond Template is the Bond Template that will be used to import and save the bonds associated with the deal unless one changes this in the next step. These are the bonds or tranches that are the liabilities of the deal.

The instructions that follow will illustrate this mapping process to produce a product that has the following characteristics:

Deal Type =	CDO
Deal Sector =	High Yield Bonds
Import Data Level =	ABS Deal & Collateral
Bond Template Name =	intexdealdefault
Bond Type =	CDO Senior Fixed

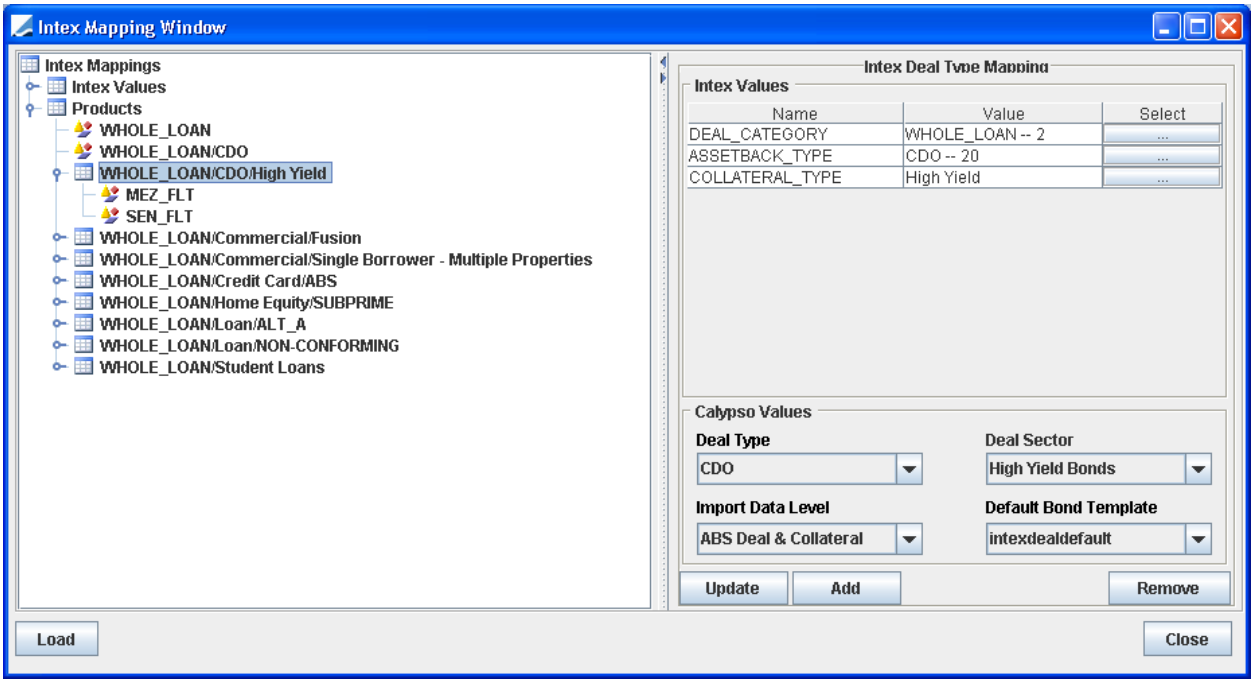
Navigate to the Intex Mapping Window via: Intex Loader > Utilities > Intex Mapping Setup

In the next window picture, it can be seen that the following values:

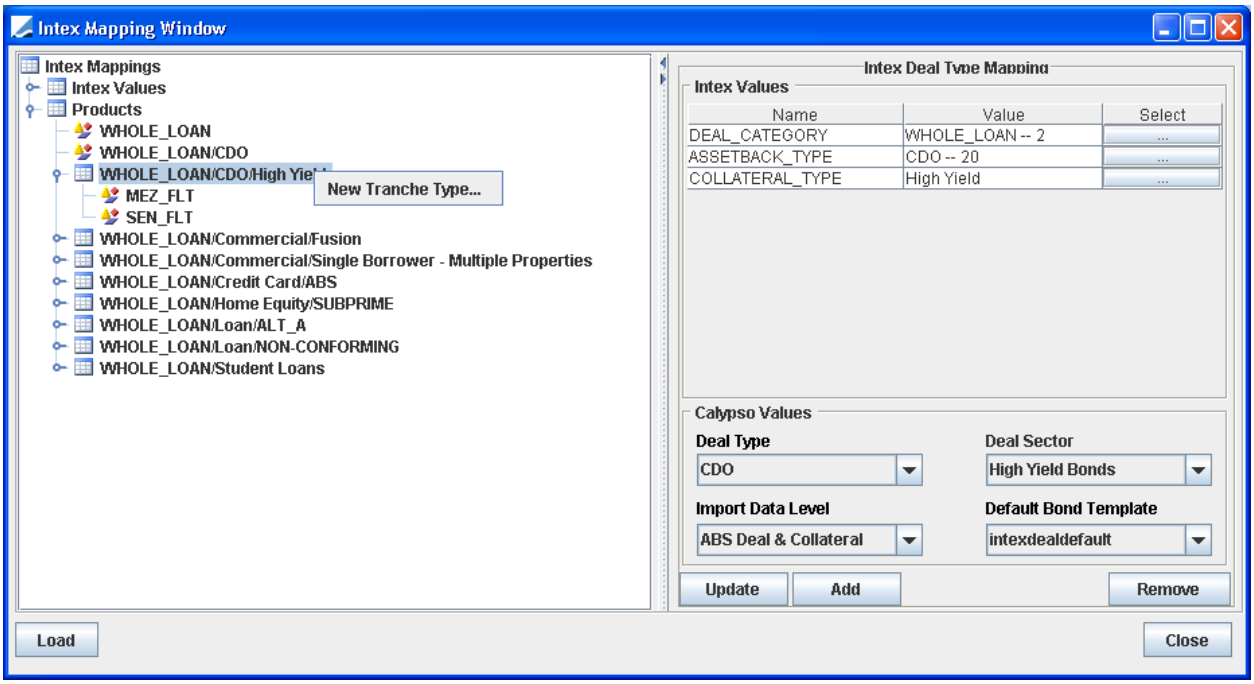
DEAL_CATEGORY =	WHOLE_LOAN
ASSETBACK_TYPE =	CDO
COLLATERAL_TYPE =	High Yield

Have already been mapped to:

Deal Type =	CDO	"CDO" is selected from a drop-down list defined by the Domain Value, ABSDeal.subtype.
Deal Sector =	High Yield Bonds	"High Yield Bonds" is selected from a drop-down list defined by the Domain Value, ABSDeal.extendedType.
Import Data Level =	ABS Deal & Collateral	"ABS Deal & Collateral" is selected from a drop-down list defined by the Domain Value, IntexMapping.datalevel to be: ABS Deal ABS Deal & Collateral Bond Only
Default Bond Template =	intexdealdefault	"intexdealdefault" is selected from a drop-down list of the possible Bond Templates that have been defined.



For the second step, the tranche has to be defined to be "Senior Fixed". This is done by right clicking on the WHOLE_LOAN/CDO/High Yield Product entry and the button to choose to set a "New Tranche Type" is displayed:



Using this button supplies a new tranche entry that is to be defined:

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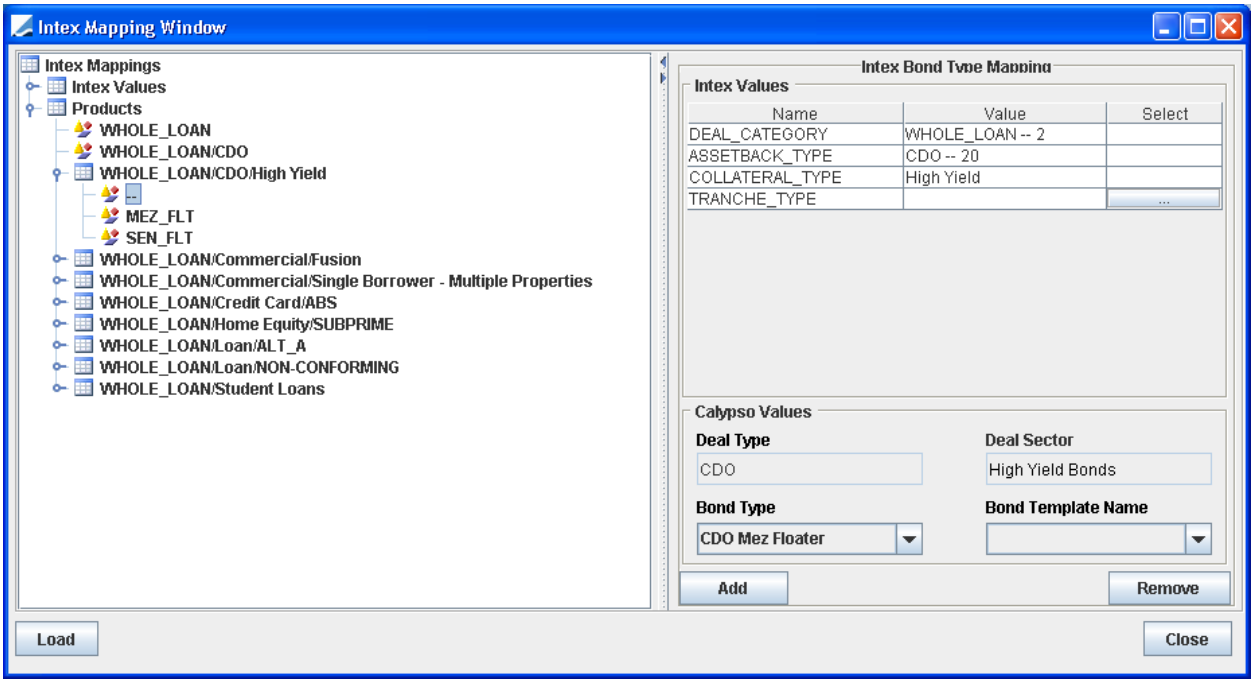
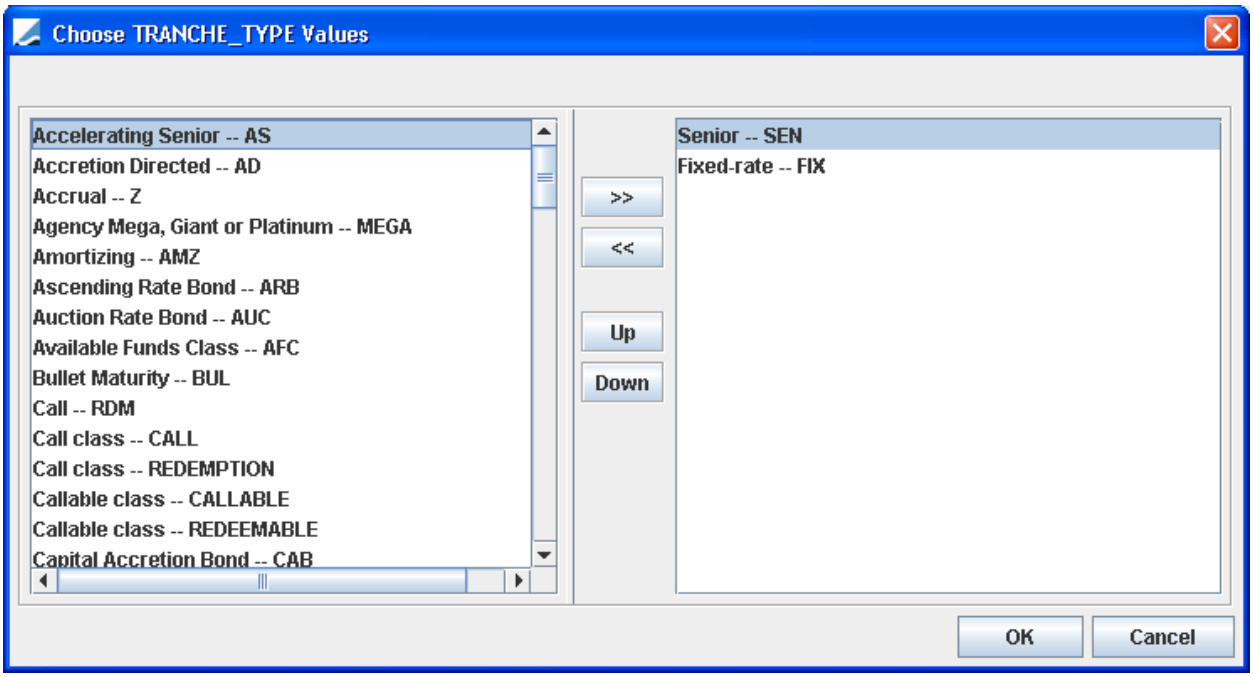
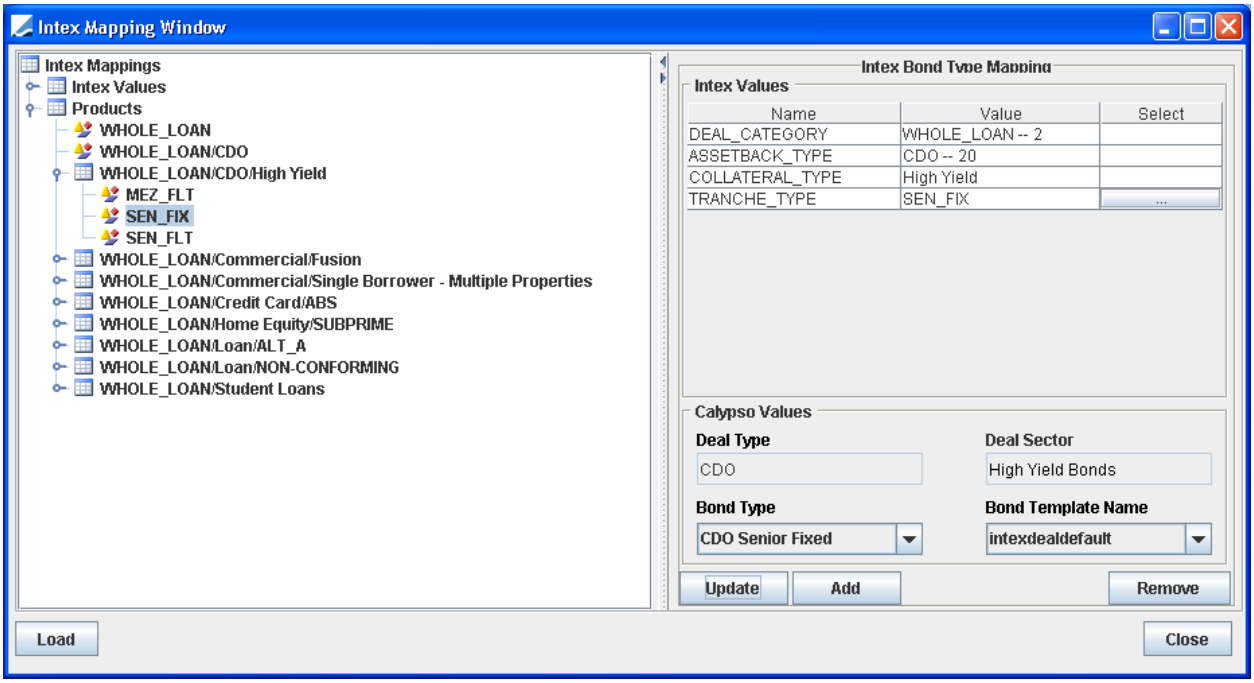


Use the ellipsis (…) next to TRANCHE_TYPE to select both of the Tranche Types, SEN and FIX:



Change the Bond Type to CDO Senior Fixed, make sure the Bond Template Name is set to the desired value and "Add" it to the Product mapping list:



This completes the definition of the mapping for a CDO – High Yield Bonds – Senior Fixed with the bond template, intexdealdefault.

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Section 5. Importing Structured Finance Deals from Intex

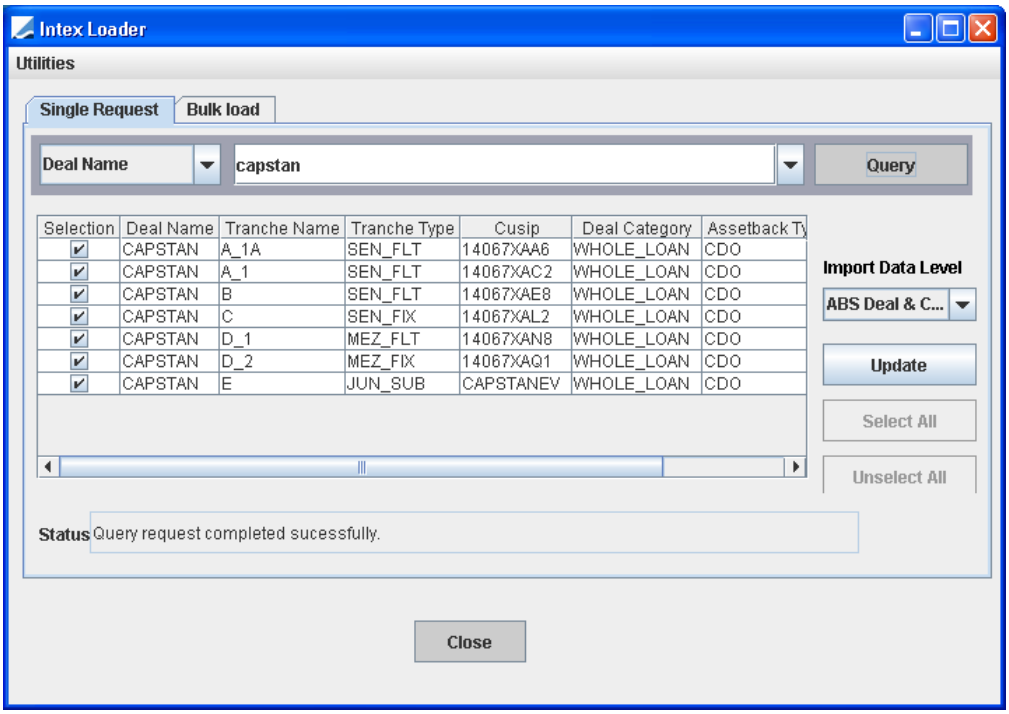
You can import Intex Structured Finance Deal data using the Intex Loader.

5.1 Using the Intex Loader

The Intex Loader is a separate process that is used to import Structured Finance Deals or individual Structured Finance Bonds (tranches) from the Intex database. The mapping from Intex values to Calypso values has already been illustrated in previous examples. This mapping facility is under the Utilities menu.

To fetch a Structured Finance Deal, use the Intex Deal Name. The following window illustrates having queried the database for the Structured Finance Deal, Capstan:

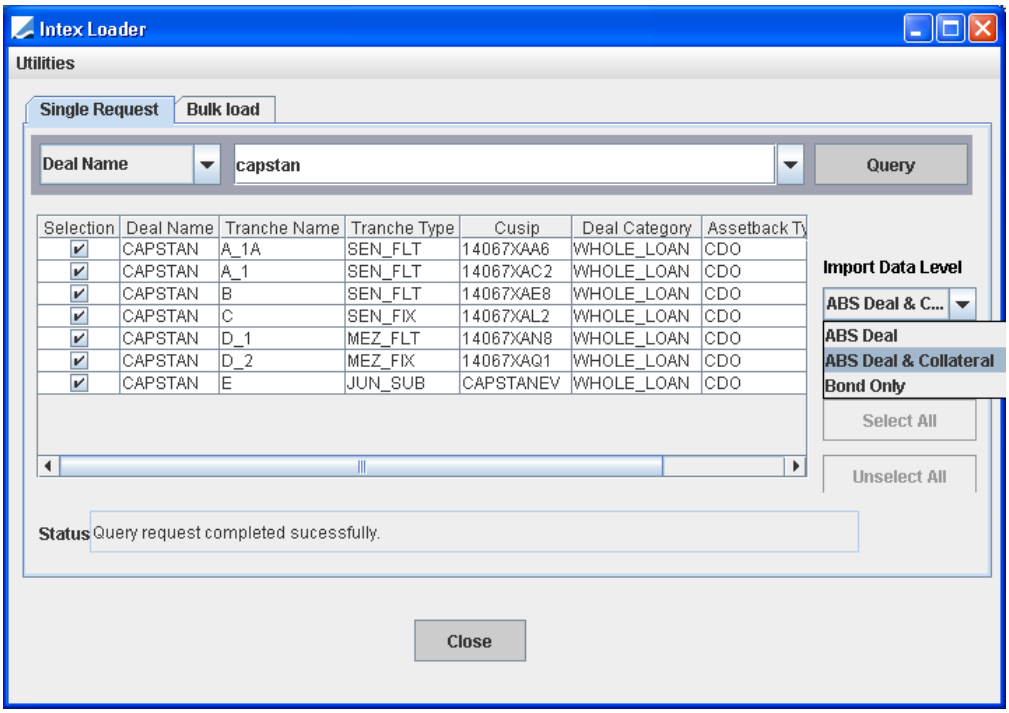
- Select the drop-down choice of Deal Name.
- Enter the Intex Deal Name and click on the "Query" button.



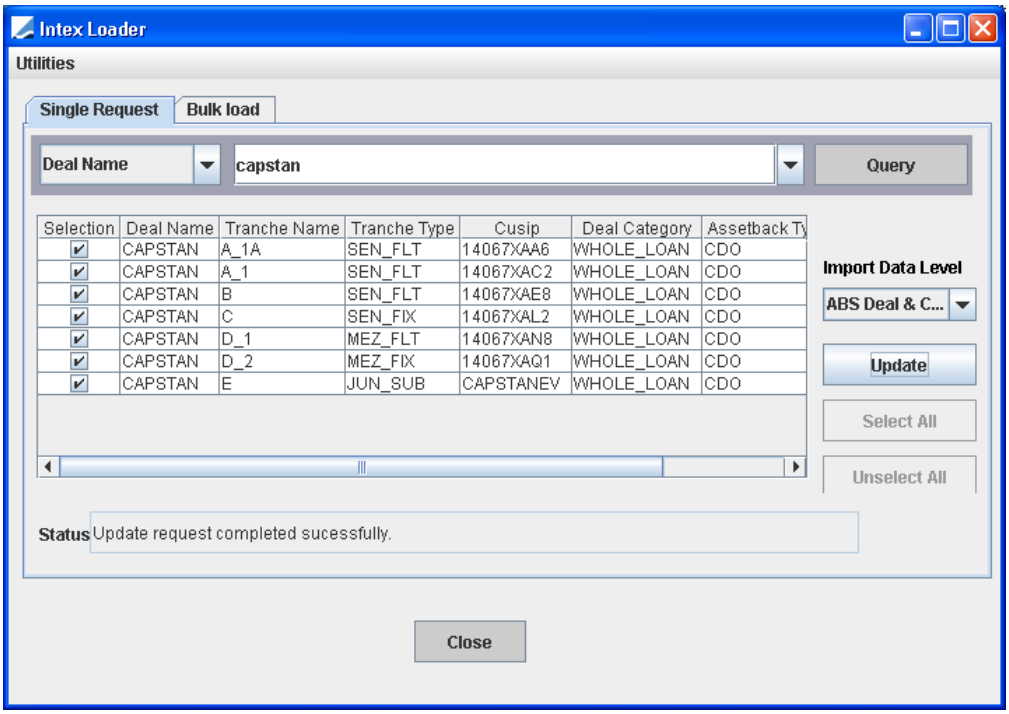
If the Structured Finance Deal is successfully fetched from the Intex database, the "Status" at the bottom of the window will read, "Query request completed successfully" and all of the bonds issued from the deal will appear in the body of the window as illustrated above.

The Import Data Level has defaulted to "ABS Deal & Collateral" as was set in the Intex Mapping for this structure (see the mapping instructions). However, this importing of the data level may be changed if necessary. As illustrated in the next window, the data import choices are:

ABS Deal	– just imports the deal without any of the individual collateral
ABS Deal & Collateral	– imports the deal and individual collateral, if it is available
Bond Only	– just imports all of the bonds without the deal structure



To update the Calypso database with the information from the Intex database, just click **Update**. The "Status" will change to "Processing update request …" and then to "Update request completed successfully" if the update is successful.



Note that within the Intex Loader, you may double-click on any of the bonds and the Bond Window will display with the information for that specific bond.

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Section 6. Structured Finance Deal Product Content

The Structured Finance Deal window is accessed via:

Calypso Navigator > Configuration > Fixed Income > ABS Deal

The Structured Finance Deal may be queried by any of the following identifiers in the drop-down:

CUSIP

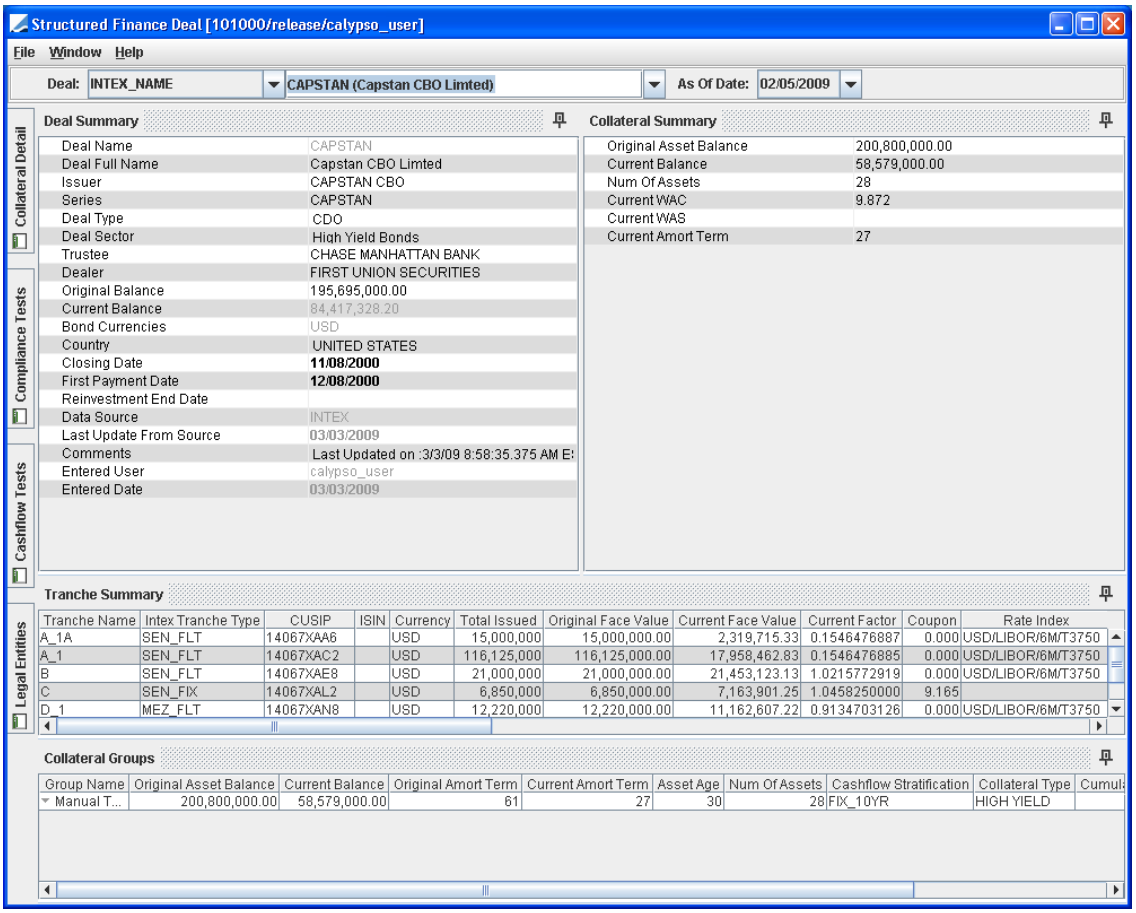
INTEX_NAME

ISIN

Name

The value of the identifier is placed to the right of the identifier label. When CUSIP or ISIN are used, one is actually employing a CUSIP or ISIN identifier of any of the tranches of the deal in order to display the complete Structured Finance Deal information. The individual tranche associated with the CUSIP or ISIN specified will appear in the Tranche Summary. If one is interested in that particular tranche's details, one may double-click on the appropriate row in the Tranche Summary and the Bond Product for that tranche will be displayed. Name may be used with the Deal Full Name.

The Structured Finance Deal window contains eight panels which present overall deal information, individual tranche (bond) information, collateral summary, group and detail information, etc. The panels and the data available on the panels are described in the sections that follow. The window and its panels are very configurable and dock-able as described in *Section 7.1 – Configuration Templates*; however, as an introduction, the window for a Collateralized Bond Obligation (CBO) example could be configured to appear similar to the following:

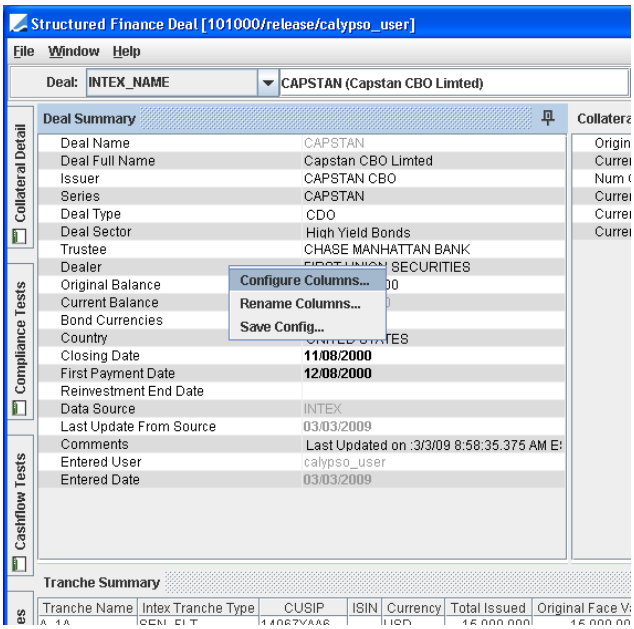


This Capstan CBO example will be used in the next sections describing each of the panels.

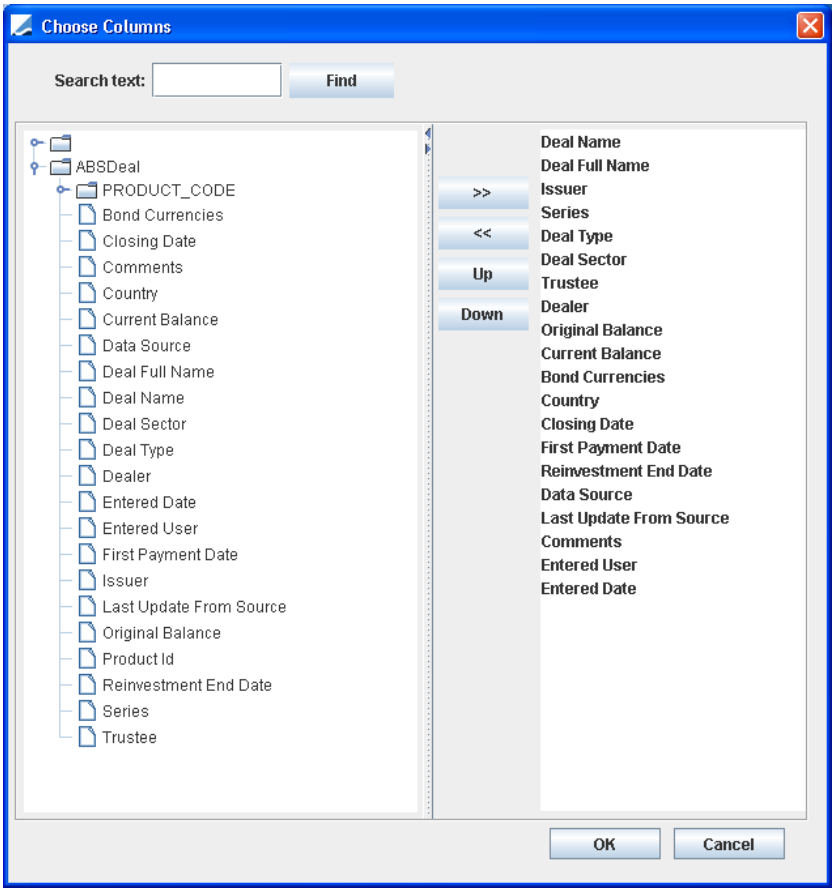
6.1 Deal Summary

The Deal Summary provides the essential identification information for the Structured Finance Deal as well as overall issue statistics, dates, and key legal entities such as the issuer, trustee and dealer. The Deal Summary Panel may be viewed in the Capstan CBO example pictured above in Section 6.

The rows in the Deal Summary are configurable and the row labels may be renamed. To do such, right click on the body of the panel and the following dialog will be displayed:



If the "Configure Columns" choice is selected, the Choose Columns window is displayed:



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If the configuration is saved, it will be saved in this manner for all Structured Finance deals that are the same Deal Type as this deal (e.g. CDO for Capstan).

The complete list of fields that may be selected for the Deal Summary Panel is included as Appendix 1.

Of course, the Product Code fields are configurable and extensible. The following fields are mandatory and may not be deleted:

Deal Name

Deal Full Name

Issuer

Series

Deal Type

Deal Sector

6.2 Collateral Summary

The Collateral Summary provides overall statistics for the underlying collateral. The Collateral Summary Panel may be viewed in the Capstan CBO example pictured above in Section 6.

The rows in the Collateral Summary are configurable and the row labels may be renamed. To do such, right click on the body of the panel and Choose Columns or Rename Columns windows will be accessible. The Collateral Summary fields are not editable as these fields are derived from the "Total" line of the Collateral Groups Panel. If one does edit the Collateral Groups Panel, the changes will roll-up to the Collateral Summary.

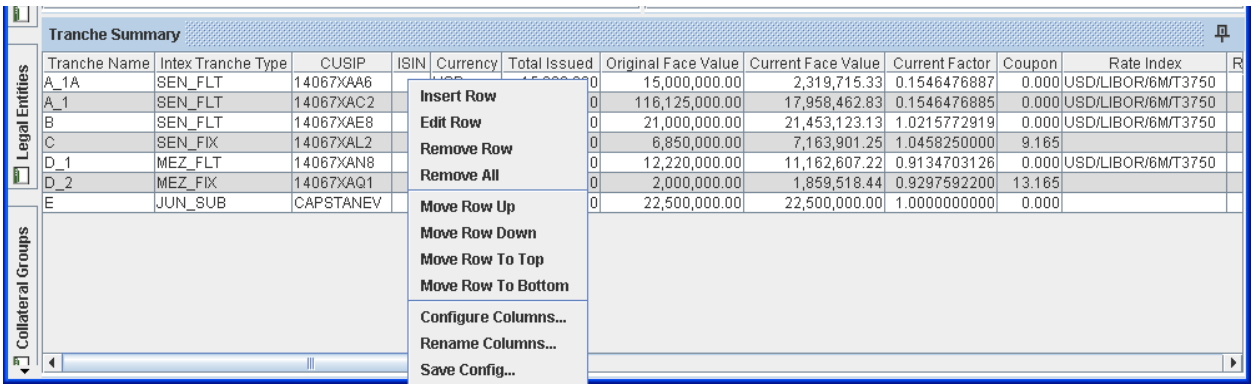
The complete list of fields that may be selected for the Collateral Summary Panel is included as Appendix 2.

6.3 Tranche Summary

The Tranche Summary provides a list of the tranches (bonds) that are the issued liabilities for this particular deal. Tranche identifiers (e.g. CUSIP, ISIN, etc.) and tranche statistics (e.g. Original Face Value, Current Face Value, Coupon, etc.) may be viewed on each tranche descriptor row. The Tranche Summary Panel may be viewed in the Capstan CBO example pictured above in Section 6.

The columns in the Collateral Summary are configurable and the column labels may be renamed. To do such, right click on the body of the panel and Choose Columns or Rename Columns windows will be accessible.

On the Tranche Summary, the right click provides one a few more choices as to how one can manipulate the tranches. As depicted in the following screen shot, one may add or delete tranches or move the order around, etc.:



If one double-clicks on a row in the Tranche Summary, the Bond Product associated with that tranche will display.

The complete list of fields that may be selected for the Tranche Summary Panel is included as Appendix 3.

6.4 Collateral Groups

The Collateral Groups provides overall statistics for the underlying collateral on a group by group basis. If there are not multiple groups of collateral for the deal being viewed, all of the collateral will be depicted in one summary row. The Collateral Groups Panel may be viewed in the Capstan CBO example pictured above in Section 6 as one row because there are no collateral groups defined for this CBO.

The columns in the Collateral Groups are configurable and the columns labels may be renamed. To do such, right click on the body of the panel and Choose Columns or Rename Columns windows will be accessible.

The Total row, which is on the top of the group list, has a drop-down in the "Group Name" column that may be set to "Manual Total" or "Auto Total". When it is set to "Manual Total", there is no summation or other logic happening between the individual group rows and the Total row. "Manual Total" is the way it will appear if the Structured Finance Deal is imported from Intex. This is to signify that the totals are taken from Intex as is without any calculations performed by Calypso between the group rows and the Total row. If the user selects "Auto Total" for the Total row, Calypso will do summations and weighted averages to arrive at the Total row from the data present in the group rows. This functionality allows the Total row to be functional when the deal is imported from Intex or when the deal is hand entered by the user.

The complete list of fields that may be selected for the Collateral Groups Panel is included as Appendix 4.

6.5 Legal Entities

The Legal Entities Panel displays all the legal entities associated with this deal that are either sourced from Intex or manually entered by the user.

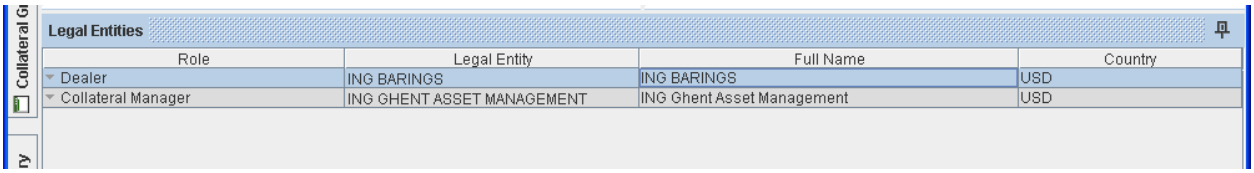
If one double-clicks on any value in the "Role" column, the field will convert to a drop-down from which the user may select the appropriate role.

If one single clicks on any value in the "Legal Entity" (short name) column, an ellipsis will display that may function to navigate the user to the Legal Entity Chooser window.

If one double-clicks on any other value in a row, the appropriate Legal Entity window will display.

The complete list of fields that may be selected for the Legal Entities Panel is included as Appendix 5.

Simply configured, the Legal Entities Panel may appear as follows:



6.6 Cash Flow Tests

The Cash Flow Tests Panel displays the results of tests typically performed on Collateralized Debt Obligations (CDOs). CDO is the general classification that encompasses either Structured Finance Deals backed by corporate bonds (Collateralized Bond Obligations or CBOs) or backed by corporate loans (Collateralized Loan Obligations or CLOs) or backed by other collateral such as ABS. These tests are usually performed at each payment date, which is typically monthly. If the user is sourcing data for the Structured Finance Deals from Intex, the results displayed here are the outcome of tests performed by the trustee and passed on by Intex. Alternatively, the user may enter this data from a different source. The typical cash flow tests relevant to CDOs are Interest Coverage (IC) tests and Overcollateralization (OC) tests. The IC test determines that there is enough interest coming from the underlying collateral to cover the interest due on the associated class or classes. The OC test determines if there is enough notional amount of collateral to pay off the notional amount of the associated class or classes. The test thresholds are defined for each class or a group of classes of securities. The Sub Type column is a drop-down of all the different types of tests that have been defined and may exist.

The complete list of fields that may be selected for the Cash Flow Tests Panel is included as Appendix 6.

The following is an example of how the panel might appear for the Capstan deal:

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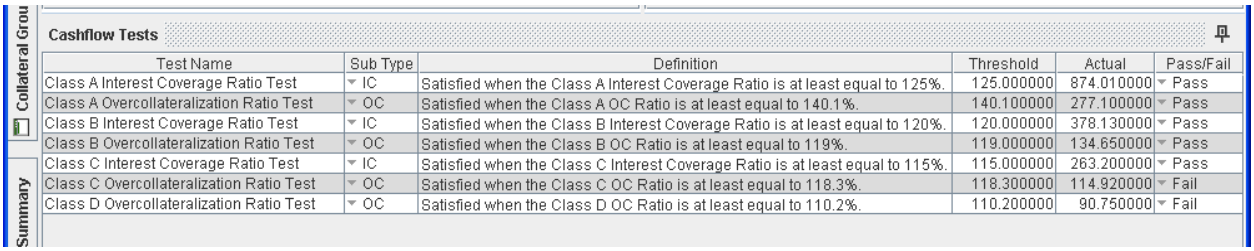


Test Name	Sub Type	Definition	Threshold	Actual	Pass/Fail
Class A Interest Coverage Ratio Test	IC	Satisfied when the Class A Interest Coverage Ratio is at least equal to 125%.	125.000000	874.010000	Pass
Class A Overcollateralization Ratio Test	OC	Satisfied when the Class A OC Ratio is at least equal to 140.1%.	140.100000	277.100000	Pass
Class B Interest Coverage Ratio Test	IC	Satisfied when the Class B Interest Coverage Ratio is at least equal to 120%.	120.000000	378.130000	Pass
Class B Overcollateralization Ratio Test	OC	Satisfied when the Class B OC Ratio is at least equal to 119%.	119.000000	134.650000	Pass
Class C Interest Coverage Ratio Test	IC	Satisfied when the Class C Interest Coverage Ratio is at least equal to 115%.	115.000000	263.200000	Pass
Class C Overcollateralization Ratio Test	OC	Satisfied when the Class C OC Ratio is at least equal to 118.3%.	118.300000	114.920000	Fail
Class D Overcollateralization Ratio Test	OC	Satisfied when the Class D OC Ratio is at least equal to 110.2%.	110.200000	90.750000	Fail

6.7 Compliance Tests

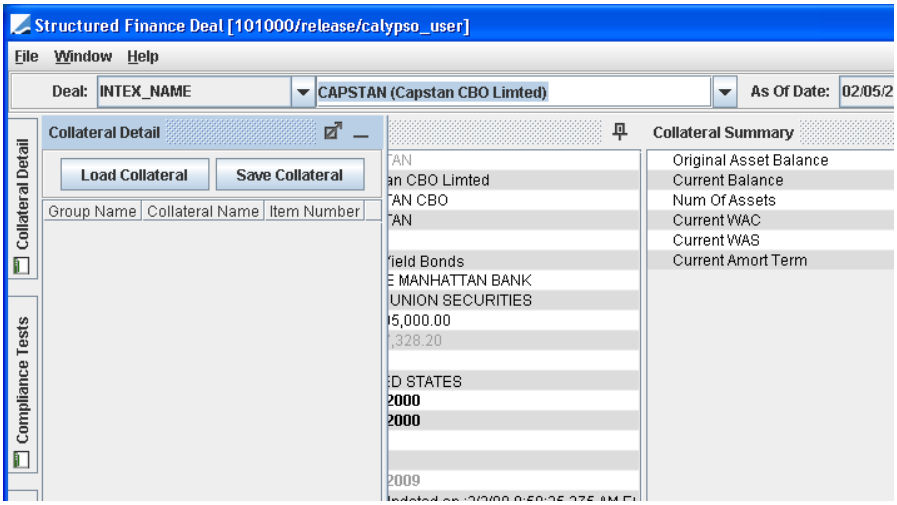
The Compliance Tests Panel is very similar to the Cash Flow Tests Panel in that there is typically a test name, a test definition, a threshold, an actual result and a pass/fail designation. These tests are also common for CDOs; however, there are more generic tests done on RMBS and other types of securities that may be reported in this section if one is sourcing data from Intex. Typical compliance tests relate to the diversification, concentration and default statistics of the underlying collateral.

The complete list of fields that may be selected for the Compliance Tests Panel is included as Appendix 6.

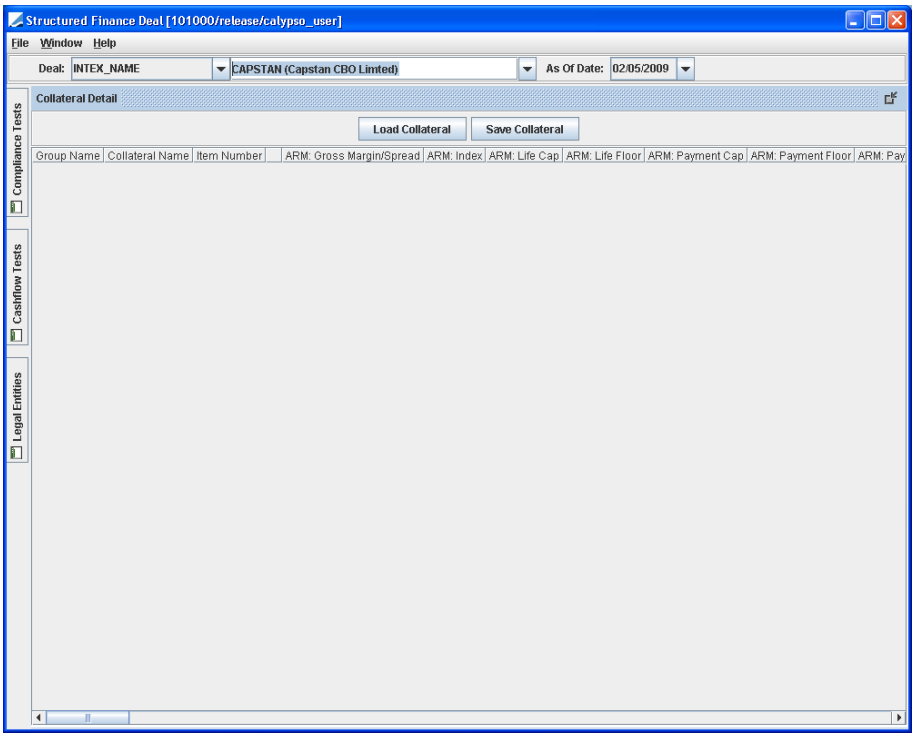
6.8 Collateral Detail

The Collateral Detail Panel will report the individual corporate bonds, corporate loans, mortgage loans, etc., that make up the underlying collateral, if several conditions are met. If the user is sourcing the data from Intex, then Intex has to have the data available. Additionally, when the user imported the deal from Intex, the choice to import the "ABS Deal & Collateral" had to be selected. Alternatively, the user may input this data from another source.

The Collateral Detail Panel is viewed slightly differently than the other panels in the Structured Finance Deal. One clicks on the docked label, "Collateral Detail" and a small version of the panel will appear without any data and two icons in the upper right hand corner.

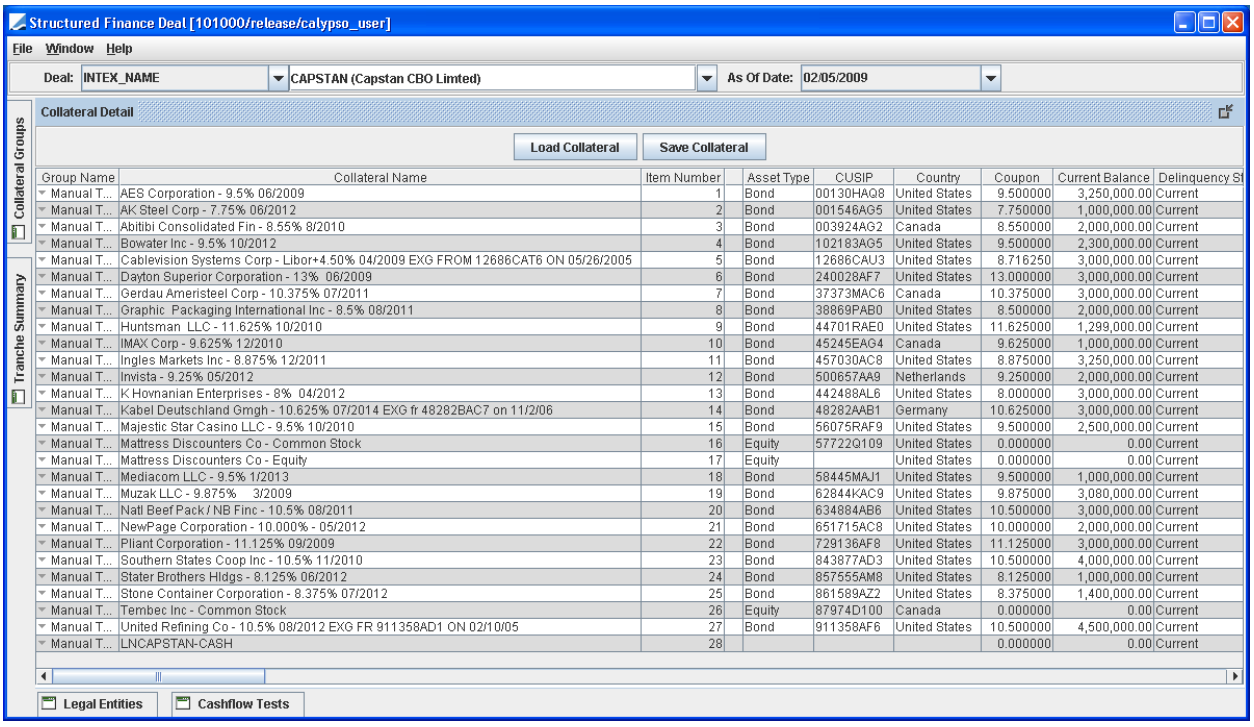


If one clicks on the box with the outward pointing arrow, the full panel will appear, still without any data:



It is then necessary to click on the button, "Load Collateral" to view the individual collateral. This may take some time if the volume of collateral is significant.

For the Capstan CBO example, the Collateral Detail Panel may be configured to look similarly to the following:



Group Name	Collateral Name	Item Number	Asset Type	CUSIP	Country	Coupon	Current Balance	Delinquency St
Manual T...	AES Corporation - 9.5% 06/2009	1	Bond	00130HAQ8	United States	9.500000	3,250,000.00	Current
Manual T...	AK Steel Corp - 7.75% 06/2012	2	Bond	001546AG5	United States	7.750000	1,000,000.00	Current
Manual T...	Abitibi Consolidated Fin - 8.55% 8/2010	3	Bond	003924AG2	Canada	8.550000	2,000,000.00	Current
Manual T...	Bowater Inc - 9.5% 10/2012	4	Bond	102183AG5	United States	9.500000	2,300,000.00	Current
Manual T...	Cablevision Systems Corp - Libor+4.50% 04/2009 EXG FROM 12686CAT6 ON 05/26/2005	5	Bond	12686CAU3	United States	8.716250	3,000,000.00	Current
Manual T...	Dayton Superior Corporation - 13% 06/2009	6	Bond	240028AF7	United States	13.000000	3,000,000.00	Current
Manual T...	Gerdau Ameristeel Corp - 10.375% 07/2011	7	Bond	37373MAC6	Canada	10.375000	3,000,000.00	Current
Manual T...	Graphic Packaging International Inc - 8.5% 08/2011	8	Bond	38869PAB0	United States	8.500000	2,000,000.00	Current
Manual T...	Huntsman LLC - 11.625% 10/2010	9	Bond	44701RAE0	United States	11.625000	1,299,000.00	Current
Manual T...	IMAX Corp - 9.625% 12/2010	10	Bond	45245EAG4	Canada	9.625000	1,000,000.00	Current
Manual T...	Ingles Markets Inc - 8.875% 12/2011	11	Bond	457030AC8	United States	8.875000	3,250,000.00	Current
Manual T...	Invista - 9.25% 05/2012	12	Bond	500657AA9	Netherlands	9.250000	2,000,000.00	Current
Manual T...	K Hovnanian Enterprises - 8% 04/2012	13	Bond	442488AL6	United States	8.000000	3,000,000.00	Current
Manual T...	Kabel Deutschland Gmgh - 10.625% 07/2014 EXG fr 48282BAC7 on 11/2/06	14	Bond	48282AAB1	Germany	10.625000	3,000,000.00	Current
Manual T...	Majestic Star Casino LLC - 9.5% 10/2010	15	Bond	56075RAF9	United States	9.500000	2,500,000.00	Current
Manual T...	Mattress Discounters Co - Common Stock	16	Equity	57722Q109	United States	0.000000	0.00	Current
Manual T...	Mattress Discounters Co - Equity	17	Equity		United States	0.000000	0.00	Current
Manual T...	Mediacom LLC - 9.5% 1/2013	18	Bond	58445MAJ1	United States	9.500000	1,000,000.00	Current
Manual T...	Muzak LLC - 9.875% 3/2009	19	Bond	62844KAC9	United States	9.875000	3,080,000.00	Current
Manual T...	Natl Beef Pack / NB Finc - 10.5% 08/2011	20	Bond	634884AB6	United States	10.500000	3,000,000.00	Current
Manual T...	NewPage Corporation - 10.000% - 05/2012	21	Bond	651715AC8	United States	10.000000	2,000,000.00	Current
Manual T...	Pliant Corporation - 11.125% 09/2009	22	Bond	729136AF8	United States	11.125000	3,000,000.00	Current
Manual T...	Southern States Coop Inc - 10.5% 11/2010	23	Bond	843877AD3	United States	10.500000	4,000,000.00	Current
Manual T...	Stater Brothers Hldgs - 8.125% 06/2012	24	Bond	857555AM8	United States	8.125000	1,000,000.00	Current
Manual T...	Stone Container Corporation - 8.375% 07/2012	25	Bond	861589AZ2	United States	8.375000	1,400,000.00	Current
Manual T...	Tembec Inc - Common Stock	26	Equity	87974D100	Canada	0.000000	0.00	Current
Manual T...	United Refining Co - 10.5% 08/2012 EXG FR 911358AD1 ON 02/10/05	27	Bond	911358AF6	United States	10.500000	4,500,000.00	Current
Manual T...	LNCAPSTAN-CASH	28				0.000000	0.00	Current

The complete list of fields that may be selected for the Collateral Detail Panel is included as Appendix 7.

The Collateral Detail Panel may be docked by clicking on the icon that looks like a box with an internally pointing arrow in the upper right hand corner.

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Section 7. Structured Finance Deal Product Functions

7.1 Configuration Templates

The Structured Finance Deal is viewable as a set of eight dock-able panels on a window or in other words, panels that may be maximized and viewable or minimized and indicated just by a label. The placement and size of the dock-able panels on the window and their iconized state may be saved in a template for each Deal Type. In addition, which data fields may be viewable and the placement of these data fields on the panel may be saved in the template for that Deal Type. Calypso defined default templates for a Generic Default, a CLO/CBO, a Leasing ABS, a Consumer ABS, a RMBS and a CMBS. The user may use these defaults, edit them or expand the number of templates up to the number of Deal Types that the user has defined. If a Deal Template is changed and saved for a particular deal, this change will affect all deals of that same Deal Type. If any change hides a data field that is populated, the data will remain unaffected in Calypso, just not viewable unless the Deal Template is changed back again to show the field.

7.2 Time Series and As of Date

All of the panels in the Structured Finance Deal except for the Legal Entities Panel have time-series data. In other words, there are data that change over time, such as the Current Balance in the Deal Summary and all of the collateral statistics in the Collateral Groups and the Collateral Summary. The tranches' factors and hence the Current Balances as well as floating rate coupons have the potential to change from payment date to payment date in the Tranche Summary. All of these data items that change with time are stored in the Calypso database and are associated with an "As of Date". If one has a need to look back on previously stored data, a historical As of Date may be selected from the drop-down on the Structured Finance Deal and the data will be appropriately populated.

When a deal is updated through the Intex Loader, the most recent As of Date that is available in the local Intex database is used. The As of Date follows the same logic as that employed by the Intex subroutines.

7.3 Menu Choices

The Structured Finance Deal has the following menu choices with the functionality described:

Menu Group = File	**Description**
New	Clears the Structured Finance Deal that you were viewing and displays a blank Structured Finance Deal for the user to enter an identifier and bring in a new deal.
Open	Displays the Product Chooser Window from which one may query and find the Structured Finance Deal that you want.
Save	Saves the current Structured Finance Deal.
Save Deal As New	Opens a dialog in which to enter a Deal Name and will save the current Structured Finance Deal under the new name. The deal that you started with remains as it was.
Save Performance Data As New	Opens a dialog in which to enter a date for the new Performance Data (Time Series Data). Saves the deal with the new performance data with date entered being the "As Of Date".
Delete Deal Only	Deletes the Structured Finance Deal without deleting any of the associated tranches.
Delete Deal With Bonds	Deletes the Structured Finance Deal along with all the associated tranches.

Import From Source	Displays the Intex Loader, from which one is able to import the deal and associated bonds from Intex.
Exit	Exits the Structured Finance Product.

Menu Group = Window	**Description**
Save <Deal Type> Configuration	Saves the panel configuration as the user default for the particular Deal Type that is set in the Structured Finance Deal.
Reset Layout	Resets the panel configuration to the user default for that particular Deal Type. If no Deal Type is set, it resets the panel configuration to the User Generic Configuration.
Reset to Calypso Layout	Resets the panel configuration to the Calypso default for the Deal Type set. If no Deal Type is set, it resets the panel configuration to the Calypso Generic Configuration.

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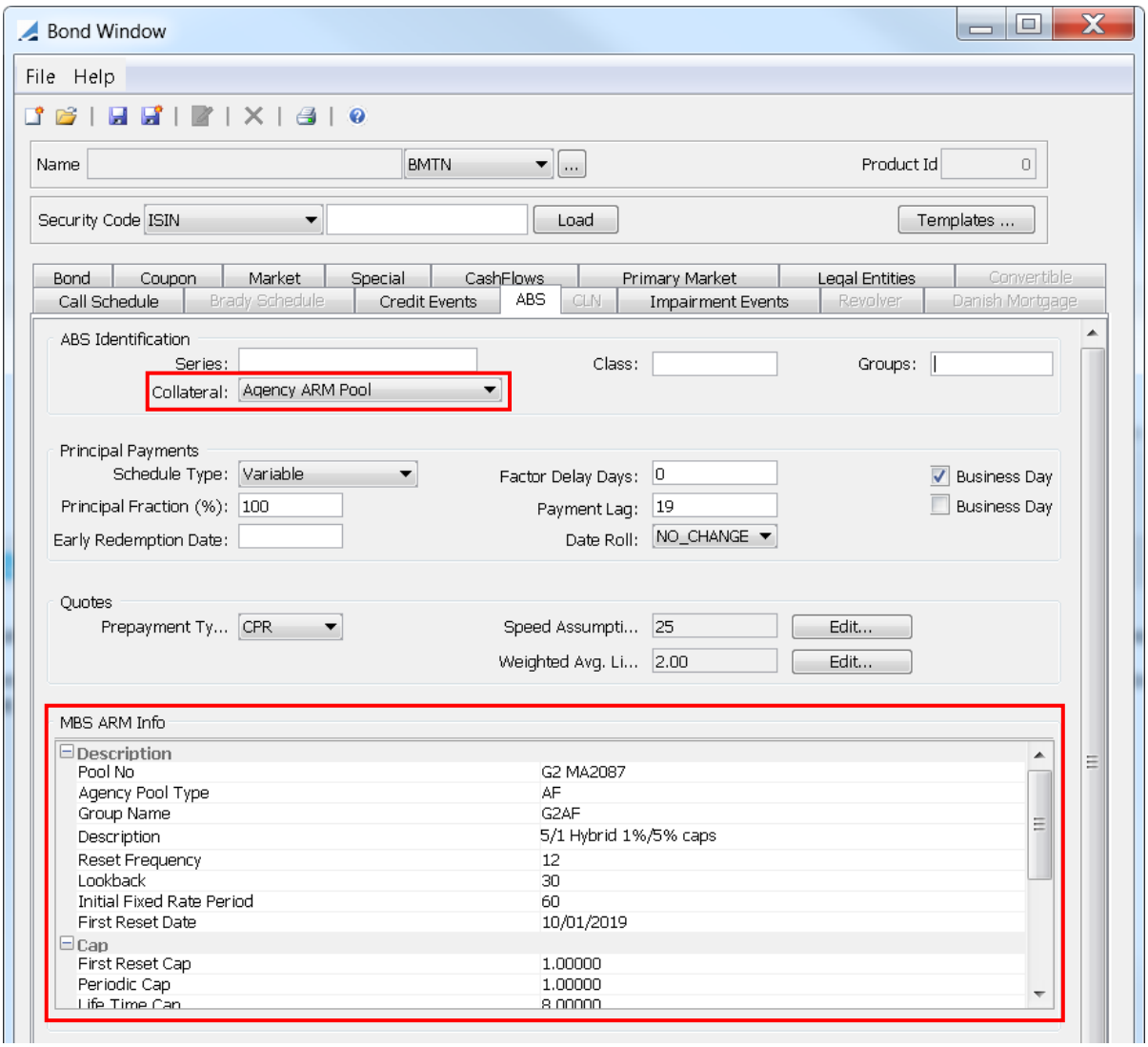
Section 8. ARM Bonds

ARM Bonds must be created with Bond Class = BondAssetBacked and Bond Type = ABS.

8.1 ARM Attributes

When "Agency ARM Pool" is selected as the collateral type in the ABS panel of the Bond Definition window, the MBS ARM Info area is added. The MBS ARM Info area contains the ARM attributes, which can be imported from Bloomberg.



8.2 ARM Bonds Pricing

8.2.1 Pricing Environment Settings

The following pricing environment settings are required for ARM bonds:

- Use Pricing Parameter, FORECAST_FROM_CURVE = True for the Forecasted WAC (Weighted Average Coupon) and forecasted index values. The Security Coupon will adjust up or down based on the forward rates of the Index (CMT or LIBOR) and the restrictions of the caps and floors.

- Pricing Parameter, PREPAYMENT, should be set to QUOTE to use prepayment quotes.
- Use the pricer BondAssetBacked.

8.2.2 Quotes

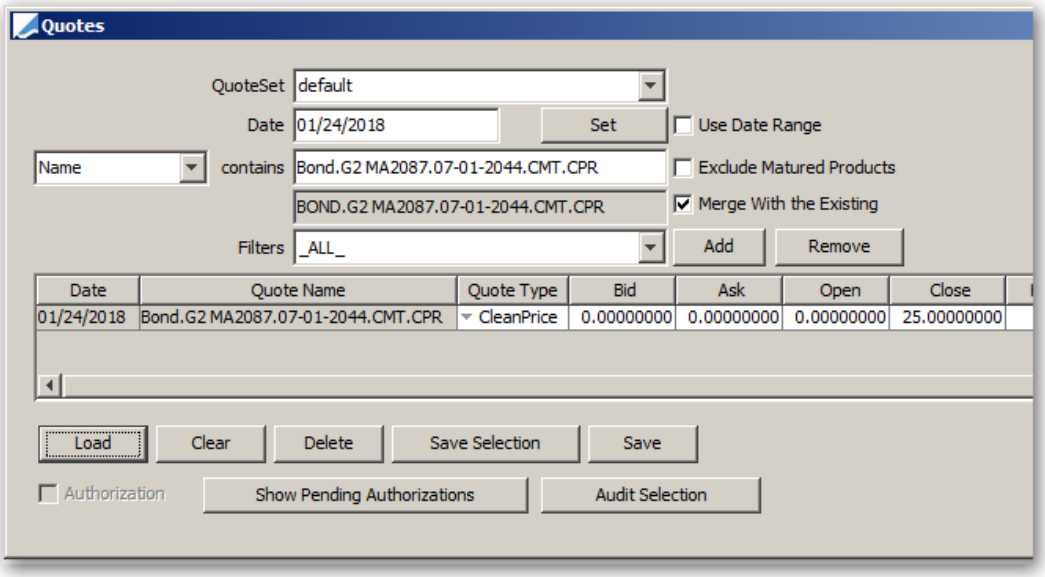
The following quotes are required for ARM bonds:

- Index Quotes – Historical Index quotes are necessary for the index in use, such as CMT and Libor.
- Prepayment Quotes – The ARM will utilize CPR or PSA Prepayment Quotes to determine forecasted principal prepayments.

  If the bond is set up for a CPR quote and no quote is present, 6% CPR will be assumed.

  If the bond is set up for a PSA quote and no quote is present, 100% PSA will be assumed.

  An example of a 25% CPR quote follows:



8.2.3 Curves

The following curves are required for ARM bonds:

- Discount Curve – A discount curve will be necessary to price the bond.
- Index Forward Curve – An Index Forward Curve will be necessary to the price the bond if the Pricing Parameter, FORECAST_FROM_CURVE is set to True.

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Section 9. Appendices

9.1 Appendix 1 – Deal Summary Fields

PRODUCT_CODE.BB

PRODUCT_CODE.BB_UNIQUE

PRODUCT_CODE.CUSIP

PRODUCT_CODE.Common

PRODUCT_CODE.DTC

PRODUCT_CODE.FED

PRODUCT_CODE.Feed

PRODUCT_CODE.ID_BB_ULTIMATE_PARENT_CO_NAME

PRODUCT_CODE.INTEX_NAME

PRODUCT_CODE.ISIN

PRODUCT_CODE.Local

PRODUCT_CODE.RGA

PRODUCT_CODE.Status

Bond Currencies

Closing Date

Comments

Country

Current Balance

Data Source

Deal Full Name

Deal Name

Deal Sector

Deal Type

Dealer

Entered Date

Entered User

First Payment Date

Issuer

Last Update From Source

Original Balance

Product Id

Reinvestment End Date

Series

Trustee

9.2 Appendix 2 – Collateral Summary Fields

Asset Age
CPR 12M
CPR 1M
CPR 3M
CPR 6M
CPR Life
Cashflow Stratification
Collateral Type
Cumulative Loss Amount
Cumulative Loss%
Current Amort Term
Current Balance
Current Factor
Current LTV
Current WAC
Current WAM
Current WAS
DSCR
Delinq 30+
Delinq 60+
Delinq 90+
Delinq Bankruptcies
Delinq Foreclosures
Delinq Reo
Group Name
Net Coupon
Num Of Assets
Original Amort Term
Original Asset Balance
Originator
PSA 12M
PSA 1M
PSA 3M
PSA 6M
PSA Life
Property Type Stratification
Source
State Stratification

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9.3 Appendix 3 – Tranche Summary Fields

- Bond
  - Issue
    - CreditRating
      - Issue.CreditRating.Duff_Phelps
      - Issue.CreditRating.Fitch
      - Issue.CreditRating.McCarthy_Crisanti_Maffei
      - Issue.CreditRating.Moody
      - Issue.CreditRating.S&P
    - OriginalCreditRating
      - Issue.OriginalCreditRating.Duff_Phelps
      - Issue.OriginalCreditRating.Fitch
      - Issue.OriginalCreditRating.McCarthy_Crisanti_Maffei
      - Issue.OriginalCreditRating.Moody
      - Issue.OriginalCreditRating.S&P
  - Issuer_Rating
    - Issuer_Rating.Duff_Phelps
    - Issuer_Rating.Fitch
    - Issuer_Rating.McCarthy_Crisanti_Maffei
    - Issuer_Rating.Moody
    - Issuer_Rating.S&P
  - ABS Class
  - ABS Collateral Group(s)
  - ABS Series
  - ABS(Nominal on Trade Date)
  - ABS(Nominal today)
  - ABS(Pool Factor on Trade Date)
  - ABS(Pool Factor today)
  - Accrual Daycount
  - Accrual Days
  - Accrual Rounding
  - Amortizing Structure
  - Benchmark
  - Benchmark Desc
  - Bond Day Count
  - Bond Status
  - Cap
  - Class
  - Collateral Type
  - Country

Coupon
Coupon Frequency
Coupon Offset
Coupon Type
Current Face Value
Current Factor
Date Roll
Ex-Dividend Days
Face Value
Floor
Holidays
IMM Remaining Maturity
Issue Price
Issued Date
Issuer
Issuer Long Name
MATURITY_TENOR
Name
Next Call Date
Next Coupon Date
Next Put Date
Next Reset Date
Notional
Notional Index
Option Type
Paydown Offset
Pool Factor Type
Price Decimals
Principal Percentage
Quote Type
Rate Index
Rate Index Spread
Redemption Date
Remaining Maturity
Roll Day
Stub End Date
Stub Start Date
Tick Size
Total Issued
Type
Yield Decimals

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- Yield Method
- Product
  - Issue
    - CreditRating
      - Issue.CreditRating.Duff_Phelps
      - Issue.CreditRating.Fitch
      - Issue.CreditRating.McCarthy_Crisanti_Maffei
      - Issue.CreditRating.Moody
      - Issue.CreditRating.S&P
  - Issuer
    - CreditRating
      - Issuer.CreditRating.Duff_Phelps
      - Issuer.CreditRating.Fitch
      - Issuer.CreditRating.McCarthy_Crisanti_Maffei
      - Issuer.CreditRating.Moody
      - Issuer.CreditRating.S&P
    - Issuer.COUNTRY
    - Issuer.INDUSTRY
    - Issuer.Parent Issuer
  - Issuer_Attr
    - Issuer_Attr.ACCOUNTING
    - Issuer_Attr.ALLOCATE_TO_CHILDREN_ONLY
    - Issuer_Attr.ANNEX_VER
    - Issuer_Attr.BAFI
    - Issuer_Attr.CEDEL
    - Issuer_Attr.CLS
    - Issuer_Attr.CREDITDOC(Y/N)
    - Issuer_Attr.DestinationBook
    - Issuer_Attr.EBA_TIME
    - Issuer_Attr.EBS
    - Issuer_Attr.EUROCLEAR
    - Issuer_Attr.FASB
    - Issuer_Attr.FUND ID
    - Issuer_Attr.FUND LONG NAME
    - Issuer_Attr.FXConnect
    - Issuer_Attr.FX_MARGIN
    - Issuer_Attr.Hypothetical Book
    - Issuer_Attr.ID_BB_ULTIMATE_PARENT_CO_NAME
    - Issuer_Attr.INDUSTRY
    - Issuer_Attr.INTERNAL
    - Issuer_Attr.INTERNATIONAL

Issuer_Attr.INTEX
Issuer_Attr.ISDA
Issuer_Attr.NRTAX
Issuer_Attr.OptionF_CustomerId
Issuer_Attr.OptionF_DateOfBirth
Issuer_Attr.OptionF_NationalId
Issuer_Attr.OptionF_PartyId
Issuer_Attr.OptionF_PlaceOfBirth
Issuer_Attr.RESIDENT
Issuer_Attr.REUTERS
Issuer_Attr.RIB
Issuer_Attr.SICOVAM
Issuer_Attr.STP
Issuer_Attr.STP(Y/N)
Issuer_Attr.Siren
Issuer_Attr.SpotDays
Issuer_Attr.TAX

PRODUCT_CODE

PRODUCT_CODE.BB
PRODUCT_CODE.BB_UNIQUE
PRODUCT_CODE.CUSIP
PRODUCT_CODE.Common
PRODUCT_CODE.DTC
PRODUCT_CODE.DebtSeniority
PRODUCT_CODE.DesignatedPriority
PRODUCT_CODE.FED
PRODUCT_CODE.Feed
PRODUCT_CODE.GCFCusip
PRODUCT_CODE.ID_BB_ULTIMATE_PARENT_CO_NAME
PRODUCT_CODE.INTEX_NAME
PRODUCT_CODE.INTEX_TRANCHE_TYPE
PRODUCT_CODE.ISIN
PRODUCT_CODE.LoanXID
PRODUCT_CODE.Local
PRODUCT_CODE.Name
PRODUCT_CODE.RGA
PRODUCT_CODE.Status

ReferenceEntity

Attr

ReferenceEntity.Attr.ACCOUNTING
ReferenceEntity.Attr.ALLOCATE_TO_CHILDREN_ONLY

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ReferenceEntity.Attr.ANNEX_VER
ReferenceEntity.Attr.BAFI
ReferenceEntity.Attr.CEDEL
ReferenceEntity.Attr.CLS
ReferenceEntity.Attr.CREDITDOC(Y/N)
ReferenceEntity.Attr.DestinationBook
ReferenceEntity.Attr.EBA_TIME
ReferenceEntity.Attr.EBS
ReferenceEntity.Attr.EUROCLEAR
ReferenceEntity.Attr.FASB
ReferenceEntity.Attr.FUND ID
ReferenceEntity.Attr.FUND LONG NAME
ReferenceEntity.Attr.FXConnect
ReferenceEntity.Attr.FX_MARGIN
ReferenceEntity.Attr.Hypothetical Book
ReferenceEntity.Attr.ID_BB_ULTIMATE_PARENT_CO_NAME
ReferenceEntity.Attr.INDUSTRY
ReferenceEntity.Attr.INTERNAL
ReferenceEntity.Attr.INTERNATIONAL
ReferenceEntity.Attr.INTEX
ReferenceEntity.Attr.ISDA
ReferenceEntity.Attr.NRTAX
ReferenceEntity.Attr.OptionF_CustomerId
ReferenceEntity.Attr.OptionF_DateOfBirth
ReferenceEntity.Attr.OptionF_NationalId
ReferenceEntity.Attr.OptionF_PartyId
ReferenceEntity.Attr.OptionF_PlaceOfBirth
ReferenceEntity.Attr.RESIDENT
ReferenceEntity.Attr.REUTERS
ReferenceEntity.Attr.RIB
ReferenceEntity.Attr.SICOVAM
ReferenceEntity.Attr.STP
ReferenceEntity.Attr.STP(Y/N)
ReferenceEntity.Attr.Siren
ReferenceEntity.Attr.SpotDays
ReferenceEntity.Attr.TAX

CreditRating

ReferenceEntity.CreditRating.Duff_Phelps
ReferenceEntity.CreditRating.Fitch
ReferenceEntity.CreditRating.McCarthy_Crisanti_Maffei
ReferenceEntity.CreditRating.Moody

ReferenceEntity.CreditRating.S&P

Obligation

Attr

ReferenceEntity.Obligation.Attr.ACCOUNTING
ReferenceEntity.Obligation.Attr.ALLOCATE_TO_CHILDREN_ONLY
ReferenceEntity.Obligation.Attr.ANNEX_VER
ReferenceEntity.Obligation.Attr.BAFI
ReferenceEntity.Obligation.Attr.CEDEL
ReferenceEntity.Obligation.Attr.CLS
ReferenceEntity.Obligation.Attr.CREDITDOC(Y/N)
ReferenceEntity.Obligation.Attr.DestinationBook
ReferenceEntity.Obligation.Attr.EBA_TIME
ReferenceEntity.Obligation.Attr.EBS
ReferenceEntity.Obligation.Attr.EUROCLEAR
ReferenceEntity.Obligation.Attr.FASB
ReferenceEntity.Obligation.Attr.FUND ID
ReferenceEntity.Obligation.Attr.FUND LONG NAME
ReferenceEntity.Obligation.Attr.FXConnect
ReferenceEntity.Obligation.Attr.FX_MARGIN
ReferenceEntity.Obligation.Attr.Hypothetical Book
ReferenceEntity.Obligation.Attr.ID_BB_ULTIMATE_PARENT_CO_NAME
ReferenceEntity.Obligation.Attr.INDUSTRY
ReferenceEntity.Obligation.Attr.INTERNAL
ReferenceEntity.Obligation.Attr.INTERNATIONAL
ReferenceEntity.Obligation.Attr.INTEX
ReferenceEntity.Obligation.Attr.ISDA
ReferenceEntity.Obligation.Attr.NRTAX
ReferenceEntity.Obligation.Attr.OptionF_CustomerId
ReferenceEntity.Obligation.Attr.OptionF_DateOfBirth
ReferenceEntity.Obligation.Attr.OptionF_NationalId
ReferenceEntity.Obligation.Attr.OptionF_PartyId
ReferenceEntity.Obligation.Attr.OptionF_PlaceOfBirth
ReferenceEntity.Obligation.Attr.RESIDENT
ReferenceEntity.Obligation.Attr.REUTERS
ReferenceEntity.Obligation.Attr.RIB
ReferenceEntity.Obligation.Attr.SICOVAM
ReferenceEntity.Obligation.Attr.STP
ReferenceEntity.Obligation.Attr.STP(Y/N)
ReferenceEntity.Obligation.Attr.Siren
ReferenceEntity.Obligation.Attr.SpotDays
ReferenceEntity.Obligation.Attr.TAX

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CreditRating

ReferenceEntity.Obligation.CreditRating.Duff_Phelps

ReferenceEntity.Obligation.CreditRating.Fitch

ReferenceEntity.Obligation.CreditRating.McCarthy_Crisanti_Maffei

ReferenceEntity.Obligation.CreditRating.Moody

ReferenceEntity.Obligation.CreditRating.S&P

ReferenceEntity.Obligation.Issuer

ReferenceEntity.Name

Underlying

Issue

CreditRating

Underlying.Issue.CreditRating.Duff_Phelps

Underlying.Issue.CreditRating.Fitch

Underlying.Issue.CreditRating.McCarthy_Crisanti_Maffei

Underlying.Issue.CreditRating.Moody

Underlying.Issue.CreditRating.S&P

Issuer

CreditRating

Underlying.Issuer.CreditRating.Duff_Phelps

Underlying.Issuer.CreditRating.Fitch

Underlying.Issuer.CreditRating.McCarthy_Crisanti_Maffei

Underlying.Issuer.CreditRating.Moody

Underlying.Issuer.CreditRating.S&P

Product Code

Underlying.Product Code.BB

Underlying.Product Code.BB_UNIQUE

Underlying.Product Code.CUSIP

Underlying.Product Code.Common

Underlying.Product Code.DTC

Underlying.Product Code.DebtSeniority

Underlying.Product Code.DesignatedPriority

Underlying.Product Code.FED

Underlying.Product Code.Feed

Underlying.Product Code.GCFCusip

Underlying.Product Code.ID_BB_ULTIMATE_PARENT_CO_NAME

Underlying.Product Code.INTEX_NAME

Underlying.Product Code.INTEX_TRANCHE_TYPE

Underlying.Product Code.ISIN

Underlying.Product Code.LoanXID

Underlying.Product Code.Local

Underlying.Product Code.Name

Underlying.Product Code.RGA

Underlying.Product Code.Status

Underlying.Security

Underlying.Security Currency

Underlying.Security Id

Underlying.Security Name

Accrual start date

Amort

Available Position

Book

Current Notional

Current Notional (Base)

Current Par

Customized

Family

First CashFlow Date

Index Factor 1

Index Factor 2

Initial Notional

Is Exotic

Issuer

Issuer Full Name

Maturity Date

Need Resets

Needs Termination

Open Term

Original Par

Outstanding Notional

Prd Description

Product Comment

Product Currency

Product Extendedtype

Product Extension

Product Id

Product Subtype

Product Type

Quote Name

Rate Index 1

Rate Index 2

Security

Security Currency

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Security Id

Security Name

Seniority

Ticker Name

Trade Date Notional

Underlying Security

Underlying Security Id

Underlying Security Name

9.4 Appendix 4 – Collateral Groups Fields

Asset Age
CPR 12M
CPR 1M
CPR 3M
CPR 6M
CPR Life
Cashflow Stratification
Collateral Type
Cumulative Loss Amount
Cumulative Loss%
Current Amort Term
Current Balance
Current Factor
Current LTV
Current WAC
Current WAM
Current WAS
DSCR
Delinq 30+
Delinq 60+
Delinq 90+
Delinq Bankruptcies
Delinq Foreclosures
Delinq Reo
Group Name
Net Coupon
Num Of Assets
Original Amort Term
Original Asset Balance
Originator
PSA 12M
PSA 1M
PSA 3M
PSA 6M
PSA Life
Property Type Stratification
Source
State Stratification

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9.5 Appendix 5 – Legal Entities Fields

- ExchangeCode
  - Legal Entity
  - Role
- LegalEntity
  - Attribute
    - Attribute.ACCOUNTING
    - Attribute.ALLOCATE_TO_CHILDREN_ONLY
    - Attribute.ANNEX_VER
    - Attribute.BAFI
    - Attribute.CEDEL
    - Attribute.CLS
    - Attribute.CREDITDOC(Y/N)
    - Attribute.DestinationBook
    - Attribute.EBA_TIME
    - Attribute.EBS
    - Attribute.EUROCLEAR
    - Attribute.FASB
    - Attribute.FUND ID
    - Attribute.FUND LONG NAME
    - Attribute.FXConnect
    - Attribute.FX_MARGIN
    - Attribute.Hypothetical Book
    - Attribute.ID_BB_ULTIMATE_PARENT_CO_NAME
    - Attribute.INDUSTRY
    - Attribute.INTERNAL
    - Attribute.INTERNATIONAL
    - Attribute.INTEX
    - Attribute.ISDA
    - Attribute.NRTAX
    - Attribute.OptionF_CustomerId
    - Attribute.OptionF_DateOfBirth
    - Attribute.OptionF_NationalId
    - Attribute.OptionF_PartyId
    - Attribute.OptionF_PlaceOfBirth
    - Attribute.RESIDENT
    - Attribute.REUTERS
    - Attribute.RIB
    - Attribute.SICOVAM

Attribute.STP
Attribute.STP(Y/N)
Attribute.Siren
Attribute.SpotDays
Attribute.TAX
Comment
Country
External Ref
Financial
Full Name
Holidays
ID
Inactive Date
Parent
Parent Short Name
Roles
Short Name
Status
User

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9.6 Appendix 6 – Cash Flow and Compliance Test Fields

Actual

Definition

Pass/Fail

Sub Type

Test Name

Threshold

Type

9.7 Appendix 7 – Collateral Detail Fields

CollateralDetail

- ARM: Gross Margin/Spread
- ARM: Index
- ARM: Life Cap
- ARM: Life Floor
- ARM: Payment Cap
- ARM: Payment Floor
- ARM: Payment Reset Period
- ARM: Rate Formula
- ARM: Rate Reset Period
- Amort Type
- Appraisal Value
- Appraisal Value As Of
- Asset Age
- Asset Doc
- Asset Name
- Asset Purpose
- Asset Subtype
- Asset Type
- Balloon
- Borrower
- CPR 12M
- CPR 1M
- CPR 3M
- CPR 6M
- CPR Life
- CUSIP
- Cashflow Stratification
- City
- Collateral Name
- Country
- Coupon
- Cumulative Loss Amount
- Cumulative Loss%
- Current Amort Term
- Current Balance
- Current Factor
- Current LTV

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Current WAC
Current WAM
Current WAS
DSCR
DSCR As Of
Day Count
Debt Service
Debt Service As Of
Default Flag
Delinq 30+
Delinq 60+
Delinq 90+
Delinq Bankruptcies
Delinq Foreclosures
Delinq Reo
Delinquency Status
Emerging Market
Fico
Fitch Industry Code
Fix or Float
Funded Status
Gross Coupon
Group Number
Hi-Res Bond Type
ISIN
Insurer
Intex Deal Type
Is Balloon
Issue Date
Issuer
Item Number
Lein Position
Loan Type
LoanXID
MSA
Maturity Date
Modification Code
Moody's Industry Code
NOI
NOI As Of
Net Coupon

Num Of Assets
Occupancy
Orig LTV
Orig Term
Original Balance
Original IO
Originator
PIK
PSA 12M
PSA 1M
PSA 3M
PSA 6M
PSA Life
Paid-through Date
Pay Frequency
Property Code
Property Type Stratification
RATING: Moody Region
Region
Rem Term
Remaining IO
S&P Industry Code
Servicer
Source
Sponsor
State
State Stratification
Street Address
Structured Finance Security
Synthetic
Tenant 1
Tenant 2
Tenant 3
Tier 1
Tier 2
Underwritten Appr Value
Underwritten Appr Value As Of
Underwritten NOI
Underwritten NOI As Of
Unique Name
Zip Code

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CollateralGroup

Group Name