Products in CDM

Here is a
detailed, structured list of all OTC derivative product types supported by CDM, broken down by asset class and including the main subtypes and variations, as inferred from the model's qualification logic (which closely follows ISDA Taxonomy v2):

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1. Interest Rate Derivatives

Swaps

- **Fixed-Float Interest Rate Swap** (vanilla IRS)
- **Fixed-Fixed Interest Rate Swap**
- **Basis Swap** (Float-Float)
- **Zero Coupon Swap** (Fixed-Float, single payment at maturity)
- **OIS Swap** (Fixed-Float, floating leg is OIS index)
- **Basis OIS Swap** (Float-Float, at least one leg is OIS)
- **Cross-Currency Swaps**
    - Fixed-Float Cross-Currency Swap
    - Basis Cross-Currency Swap
    - Fixed-Fixed Cross-Currency Swap

Inflation Swaps

- **Fixed-Float Inflation Swap** (Year-on-Year)
- **Fixed-Float Inflation Swap** (Zero Coupon)
- **Basis Inflation Swap** (YoY, Zero Coupon)

Other IR Products

- **Forward Rate Agreement (FRA)**
- **Interest Rate Cap/Floor/Collar**
- **Swap with Callable/Bermudan Right to Enter/Exit**
- **Exotic Swaps** (e.g., with exotic coupon against floating leg, not always supported)

Options

- **Swaption** (option to enter into a swap)
  - Vanilla Swaption
  - Straddle Swaption
- **Debt Option** (option to buy/sell a bond)

Forwards

- **Bond Forward** (forward on a debt instrument)

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2. Credit Derivatives

Credit Default Swaps (CDS)

- **Single Name CDS**
- **Index CDS**
- **Index Tranche CDS**
- **Loan CDS**
- **Basket CDS**
- **Nth-to-Default CDS**

Credit Options

- **Credit Default Swaption** (option on a CDS)

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3. Equity Derivatives

Equity Swaps

- **Price Return Swap** (Single Name, Index, Basket)
- **Total Return Swap** (Single Name, Index, Basket)
- **Dividend Swap** (Single Name, Index, Basket)
- **Variance Swap** (Single Name, Index, Basket)
- **Volatility Swap** (Single Name, Index, Basket)
- **Correlation Swap** (Basket)
- **Dispersion Swap** (multiple variance legs)

Equity Options

- **Vanilla Equity Option** (Single Name, Index, Basket)
- **Variance Option** (Single Name, Index)
- **Volatility Option** (Single Name, Index)
- **Correlation Option** (Basket)
- **Dividend Option** (Single Name, Index, Basket)
- **Exotic/Other Equity Options** (with non-standard features)

Equity Forwards

- **Equity Forward** (Single Name, Index, Basket)

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4. Foreign Exchange (FX) Derivatives

FX Forwards

- **FX Spot**
- **FX Forward**
- **Non-Deliverable Forward (NDF)**

FX Swaps

- **FX Swap** (simultaneous spot and forward)
- **Non-Deliverable Swap (NDS)**

FX Options

- **Vanilla FX Option** (American/European)
- **Non-Deliverable Option (NDO)**
- **Exotic FX Options** (with averaging, quanto, composite features)

FX Exotics

- **Variance Swap** (on FX rate)
- **Volatility Swap** (on FX rate)
- **Correlation Swap** (basket of FX rates)

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5. Commodity Derivatives

Commodity Swaps

- **Fixed-Float Commodity Swap**
- **Basis Commodity Swap** (Float-Float)

Commodity Forwards

- **Commodity Forward** (physical or cash settlement)
- **Commodity Spot**

Commodity Options

- **Vanilla Commodity Option** (cash or physical settlement)
- **Commodity Swaption** (option to enter a commodity swap)

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6. Other OTC Products

Securities Lending

- **Securities Lending** (with collateral, usually cash or securities)

Repurchase Agreements

- **Repo**
- **Buy/Sell Back**

Template Support

- **All products modeled as `ContractualProduct`** (which includes all the above OTC derivatives) **support templates** in CDM.

References

- All of the above are directly supported by the CDM model and can be found in the qualification logic in `product-qualification-func.rosetta` and related files.
- The model is designed to be composable, so new product types and exotics can often be represented by combining payout types and features.

If you want a more granular breakdown (e.g., all possible features/variations for each swap or option type, or a mapping to FpML/ISDA taxonomy codes), let me know!

Great question! Here's where the **definitions and logic for all these OTC derivative product types** live in your workspace:

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1. Core Product Type Definitions

- **Location:**
  - `rosetta-source/src/main/rosetta/`
    - `product-qualification-func.rosetta` ← **Main logic for product type qualification**
    - `product-asset-type.rosetta` ← Asset and payout type definitions
    - `product-common-settlement-type.rosetta` ← Settlement and payout types

        - `product-template-type.rosetta` ← Template and composable product features
        - `product-desc.rosetta` ← High-level product concepts and documentation
- **What's inside:**
    - The **qualification functions** (e.g., `Qualify_InterestRate_IRSwap_FixedFloat`, `Qualify_CreditDefaultSwap_SingleName`, etc.)
    - **Payout types** (InterestRatePayout, CreditDefaultPayout, OptionPayout, PerformancePayout, etc.)
    - **Product structure** and **template support** logic

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2. Enumerations and Taxonomy

- **Location:**
    - `rosetta-source/src/main/rosetta/`
        - `margin-schedule-enum.rosetta` ← Asset class and product class enums
        - `product-template-enum.rosetta` ← Option types, exercise styles, etc.
- **What's inside:**
    - Enumerations for asset classes, product classes, option types, etc.
    - Used by the qualification functions to classify products

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3. Documentation and Snippets

- **Location:**
    - `docs/product-model.md`
    - `docs/code-snippets/Product.snippet`
    - `website/versioned_docs/version-*/product-model.md`
    - `website/versioned_docs/version-*/code-snippets/ContractualProduct.snippet`
- **What's inside:**
    - Human-readable documentation and code snippets explaining the product model, templates, and supported types

4. Example Data and Test Files

- **Location:**
  - `rosetta-source/src/main/resources/cdm-sample-files/`
  - `examples/src/main/java/org/finos/cdm/example/`
  - `tests/src/test/java/com/regnosys/`
- **What's inside:**
  - Example XML files and Java code showing real product instances and how the model is used in practice

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How to Explore

- **For the actual logic and all supported types:**
  - **Start with:**
    - `rosetta-source/src/main/rosetta/product-qualification-func.rosetta`
    - `rosetta-source/src/main/rosetta/product-asset-type.rosetta`
    - `rosetta-source/src/main/rosetta/product-common-settlement-type.rosetta`
    - `rosetta-source/src/main/rosetta/product-template-type.rosetta`
- **For enums and taxonomy:**
  - `rosetta-source/src/main/rosetta/margin-schedule-enum.rosetta`
  - `rosetta-source/src/main/rosetta/product-template-enum.rosetta`
- **For documentation:**
  - `docs/product-model.md`
  - `website/versioned_docs/version-*/product-model.md`

If you want a direct code pointer for a specific product type (e.g., "where is the logic for OIS swaps?"), just ask!