

FpML ISDA 2021 Definitions Implementation Q&A

September 29, 2021

I. What is FpML doing to address the 2021 Definitions?

We created a new list of FpML floating rate indexes and associated reference metadata based on the 2021 FRO matrix

FpML Set-Of-Schemes with basic metadata (~10) fields is available on FpML website in the FpML Coding Schemes section at:

<https://www.fpml.org/coding-scheme/> & <https://www.fpml.org/spec/coding-scheme/index.html>

FpML Set-Of-Schemes, with value-added metadata (~40) fields, including various calculation, is available on ISDA website at ISDA Bookstore:

<https://www.isda.org/book/enhanced-fpml-coding-scheme-catalog-version-2-0/>

We enhanced the FpML schema (the current new version is FpML 5-12) to support

- New cash settlement provisions
- Modular daily calculated rates (compounded and averaged)
- Capturing information about fallback rates and fallback resets

Versions 5-12 is available on the FpML website in the Specifications section at:

<https://www.fpml.org/spec/fpml-5-12-4-rec-1/>

We created over 25 new examples to support the transition

- Examples of the new features
- Additional examples of existing features (such as OIS swaps) that are becoming more widely used as a result of the transition

Working on outreach activities including this document, presentations, web pages, and webinars

II. Will legacy versions of FpML be supported by ISDA?

FpML 4.2, 4.3 and 5.5 are enhanced to support the 5.12 features as an aid to transition.

- Normally older versions of FpML aren't updated to add new features

- Because of the large market transition and as a transition aid, ISDA provides updated versions of some older FpML versions.
- Versions 4.2, 4.3, and 5.5 are updated by ISDA to include the new 2021 features and available on the FpML website in the Specifications section at:
 - <https://www.fpml.org/spec/fpml-4-2-14-rec-3/>
 - <https://www.fpml.org/spec/fpml-4-3-13-rec-2/>
 - <https://www.fpml.org/spec/fpml-5-5-12-rec-4/>
- ISDA supports platforms such as MarkitWire and DTCC in using these versions, and will support questions from end users about the new features, but not about the specifics of the implementation by the platforms.
- ISDA provided instructions on how to add these features to other legacy versions of FpML -> [Guidelines - 2021 ISDA Changes to incorporate into FpML 4-x-5-x.pdf](#)
- Users of legacy versions of FpML are encouraged to migrate to version 5.12 because further updates to FpML will not be supported in legacy versions. This legacy version update is a one-time aid to transition to the ISDA 2021 Definitions

III. Do I need to update to a new version of FpML?

Not all users of FpML will need to update immediately.

For cleared swaps, existing FpML may be adequate.

For bilateral (noncleared) swaps, only certain trade types (such as those requiring new cash settlement provisions or modular calculated rates) would require an update.

Firms should discuss the needed version with their infrastructure providers.

IV. Can we support the new FROs in the legacy FpML without any changes?

The basic FpML structure does not need to be changed to support the new FROs. To comply strictly with the FpML “coding scheme” list that specifies which codes are referenced by an instance document, small changes may be required to the floatingRateIndexScheme attribute value.

The reference to the default floating-rate-index coding scheme (FRO list) is implemented inside the FpML schema.

- FpML 4.5 and later versions reference the canonical version (versionless) floating-rate-index coding scheme and therefore the latest updates to the FRO list will be available to you automatically.
- FpML 4.2; 4.3; 4.4; references the versioned floating-rate-index coding scheme as a default, e.g., <http://www.fpml.org/coding-scheme/floating-rate-index-1-0>. To includes all, including latest, ISDA/FpML FRO codes, properly you should overwrite the versioned default coding scheme with canonical version (versionless) coding scheme in the instance document, e.g.

```
<floatingRateCalculation>
<floatingRateIndex floatingRateIndexScheme="http://www.fpml.org/coding-scheme/floating-
rate-index">GBP-SONIA Compounded Index</floatingRateIndex>
...
<floatingRateCalculation>
```

However, some implementations may not require that be specified because they handle it automatically or may require an implementation-specific coding scheme URI value. Consult your counterparty or service provider to see how they are handling that. Not all users of FpML will need to update immediately

V. Do you envision any issues, if to support the FRO name changes, we plan to leverage our existing FpML schema version(s)?

As described in the previous answer, if you are using versions prior to 4.5, you may need to update the coding scheme URI in your message. Otherwise, there should be no issue. You may have issues if you want to take advantage of new features, such as the new cash settlement provisions.

VI. Are these new enhancements to the floating rate calculation backwards compatible with the earlier versions?

The new 5-12 features, that support the new 2021 features, are implemented in the backwards compatible way to the earlier 5.x versions. However, to know if your version is compatible with the latest FpML version, you need to look at your version's online errata page, where the non-backwards compatible fixes are listed.

VII. How do you migrate from legacy FpML versions to 5.12?

For 5.x, most or all existing confirmation and clearing messages will work unchanged in 5.12

For 4.x, most Interest Rate Swap messages will require only the following changes to validate within 5.12

- o The root element will need to be changed to an FpML 5.0 dataDocument.
- o The partyId element will need to have an attribute added, if not already present, to describe the type of party identifier used.

An implementation may also require some changes in how code lists are described (such as the floatingRateIndexScheme mentioned above), but if so, this is implementation specific. We expect platforms will offer solutions to make this as painless as possible.

VIII. Where do I find schema, and can I review the new features online?

The new FpML 5-12 schema can found online for review or download at <https://www.fpml.org/spec/fpml-5-12-4-rec-1/>

- ➔ Data Dictionary: to review schema online (in your browser)
 - In the top-right window, pick the .xsd file you want to look at. To support 2021 ISDA Defs and RFR, the following files were updated:
 - fpml-ird-5-12.xsd, fpml-shared-5-12.xsd and fpml-enum-5-12.xsd. Click on each of them in the top-right window.
 - Ex: if you pick fpml-ird-5-12.xsd, you will see that the right bottom window is populated with the types and elements from that schema file.
 - In the bottom – right window, scroll to the type (model) you want to review.
 - Ex: Let's say, you want to know what new cash settlement provisions were added to support 2021 ISDA Defs. Scroll to the OptionalEarlyTermination. Click on it and you see the central middle window is populated with its diagram and information. The diagram is interactive. The second from the bottom element is cashSettlement, click on it. You just expand that element and look into CashSettlement type (model) and it shows you the legacy and new provisions.
 - You can continue exploring the details of the model.
 - The new features can be seen in the "CashSettlement" area of the fpml-ird.xsd, and in the FloatingRateCalculation type of fpml-shared.xsd, specifically in the "calculationParameters" and "fallbackRate" elements, and elements inside those. These features are demonstrated in IRD examples #38-#51 and #56.

- ➔ Schema and Examples.ZIP: for download and review on your computer. Note, to review FpML schema and examples, you would need an XML editor, e.g. Oxygen, XMLSpy

IX. Where do I find examples with the new features, and can I review them online?

New IRD examples can found online for review or download at <https://www.fpml.org/spec/fpml-5-12-4-rec-1/>

- ➔ Online Documentation -> section 21. Schema and Examples -> Description of Examples -> section 2. Interest Rate Derivatives Examples (last): for online (in your browser) review. Look for IRD examples #38-#51 and #56.
- ➔ Schema and Examples.ZIP: for download and review on your computer. Note, to review FpML schema and examples, you would need an XML editor, e.g. Oxygen, XMLSpy

X. Are below representations of the EONIA rate in the swap trade the same?

(a.) Using default conventions from the ISDA FRO matrix
`<floatingRateIndex>EUR-EONIA-Average</floatingRateIndex>`

(b.) Using modular approach
`<floatingRateIndex>EUR-EONIA</floatingRateIndex>`
`<calculationParameters>`
`<calculationMethod>Averaging</calculationMethod>`
`...`
`</calculationParameters>`

They are similar/equivalent in value, but they aren't the same. A confirmation match will result in a failure if parties to the trade represent it differently. And depending on the other parameters in the calculationParameters section, they might result in different results (e.g., daily cap).

However, in general, there is not much difference between (a) and (b). The main difference is that (a) picks up the default conventions from the ISDA FRO matrix, where is (b) you need to specify them. Approach (b) also lets you specify daily caps and floors, where (a) does not. In practice it seems very unlikely you would ever use approach (b) where there is an equivalent ISDA OIS FRO defined on the same index.

XI. In 2021 ISDA Matrix, only EONIA has "EUR-EONIA Average" index, but there is no defined Average index for SONIA, SOFR, or ESTR.

Can I use the modular approach for SONIA, SOFR, ESTR, to create similar to "EUR-EONIA-Average" rates, e.g.

```
<floatingRateIndex>GBP-SONIA</floatingRateIndex>
<calculationParameters>
  <calculationMethod>Averaging</calculationMethod>
  ...
</calculationParameters>
```

Or

do we need to wait for the average indexes to be created by ISDA to be able to trade Swap based on Averaged SONIA, SOFR, ESTR?

No, you do not need to wait for ISDA to create the average indexes. Otherwise, we wouldn't need this calculationParameters block. And, yes, you can create custom Average indices for SONIA, SOFR, ESTR, etc. using the modular approach. That is the whole point of the structure. The main purpose of the modular calculated rates is to fill in the gaps for FROs missing from the ISDA set that the users want to trade.

In fact, the existence of ISDA defined Average or OIS FROs is not relevant for a calculated rate based directly on the underlying FRO.

XII. Conventional vs. Modular rate calculation

(a.) If we want, for example, a Compounding SOFR OIS trade with default convention which is 2 days payment delay should we use USD-SOFR-OIS Compound?

(b.) But, if we want to parametrize the swap to non-standard convention, for example, to Compounding SOFR OIS trade with 3 days payment delay should we then use:

```
<floatingRateIndex>USD-SOFR</floatingRateIndex>
<calculationParameters>
  <calculationMethod>Compounding</calculationMethod>
  ...
</calculationParameters>?
```

Yes, for the Compounding SOFR OIS trade with default convention, you should use USD-SOFR-OIS Compound.

The change in the paymentDelay does not affect the calculation of the rate itself, just the timing of the payment. So, for this case you can still use USD-SOFR-OIS Compound. You only need to use a modular calculated rate when you want to define a rate which will/may have a different value than the OIS rates, such as a daily cap or a lockout, lookback, or observation period shift.

XIII. Can we use, e.g., USD-SOFR with <calculationParameters> below to specify the convention we want to trade:

- (a.) <paymentDaysOffset>
- (b.) <observationShift>
- (c.) <lockout>
- (d.) <lookback>?

Yes. The main purpose of the modular calculated rates is to create custom rates that users want to trade. However, for #(a.), paymentDaysOffset, you do not need to specify a modular calculated rate, because the existence of a payment lag does not affect the calculation of the rate, but merely the timing of the payment. While this may slightly affect the value of the trade, it will not affect the amount of any settlement. For the other cases the calculationParameters block will allow you to specify conventions that affect the value of the rate reset.

XIV. Could the <calculationParameters> (<paymentDaysOffset>, <observationShift>, <lockout> <lookback>) be used to change default convention while using ISDA standardized indices, for example, “USD-SOFR-OIS-Compound” index?

The <calculationParameters> should not be used to change the default convention like, “USD-SOFR-OIS-Compound”, with one exception: the Compounded Index calculation method in the calculation parameters

can be used to specify an observation shift, for example (see also FpML example: ird-ex56-compound-index-obs-period-shift.xml):

```
<floatingRateIndex>GBP-SONIA Compounded Index</floatingRateIndex>
<calculationParameters>
  <calculationMethod>CompoundedIndex</calculationMethod>
  <applicableBusinessDays>
    <businessCenters>
      <businessCenter>GBLO</businessCenter>
    </businessCenters>
  </applicableBusinessDays>
  <observationShift>
    <offsetDays>5</offsetDays>
    <observationPeriodDates>Standard</observationPeriodDates>
    <additionalBusinessDays>
      <businessCenters>
        <businessCenter>GBLO</businessCenter>
      </businessCenters>
    </additionalBusinessDays>
  </observationShift>
  <observationCapRate>0.02</observationCapRate>
</calculationParameters>
```

Instead, the calculationParameters is primarily designed to define new bespoke rate definitions based directly on overnight rates such as USD-SOFR, not on FROs with embedded calculations such as USD-SOFR-OIS Compound.

XV. Could the resetDates be used to parametrize trade into non-standard convention?

The resetDates should not be used to change the way OIS rates are calculated. For instance, instead of using rateCutoff in the resetDates structure to define a lockout period for an OIS rate, you should define a modular calculated rate with an explicit lockout feature.

XVI. Question on the use of a single 'effectiveDate' element within the fallbackRate section for Swaps.

The use of the 'effectiveDate' element within the fallbackRate section for Swaps, which is the first option in the choice highlighted below. (Xpath:

//InterestRateStream/calculationPeriodAmount/calculation/floatingRateCalculation/fallbackRate/effectiveDate)

Given there is a choice between providing only the effective date or to further define the fallback rate by providing the floatingRateIndex etc., if the first option in the choice is selected such that only the effective date is provided:

1. Why/in which scenario would someone do this'?
2. How do you know for sure which index is to be used as the fallback in the floating rate calculation?
 - a. Should the fallback be identified by referencing the ISDA 2021 Floating Rate Matrix?
 - b. It seems to me that some FROs don't have a single specified fallback rate, so I don't see how you would know for certain which one to use if only the effective date was provided.

The fallback effective date is provided to specify when to switch over to the fallback index. The fallback index to use can be supplied in the other elements in the fallback index structure, if you want to be sure that the recipient can tell what fallback index to use. Otherwise, the message recipient would need to consult the ISDA definitions in the FRO matrix to see what fallback index is applicable (for risk/valuation purposes) or the Bloomberg page (for settlement).

If an FRO doesn't have a fallback index specified in the FRO matrix, then filling in an effective date for a fallback index is undefined.