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FpML Simple Interest Rate Swap

Company A → Fixed interest
5% in USD → Company B

Company B → 6m USD LIBOR
+ 0.04% spread → Company A

On a 20,000,000 USD notional.
For 10 years semi-annual payments.

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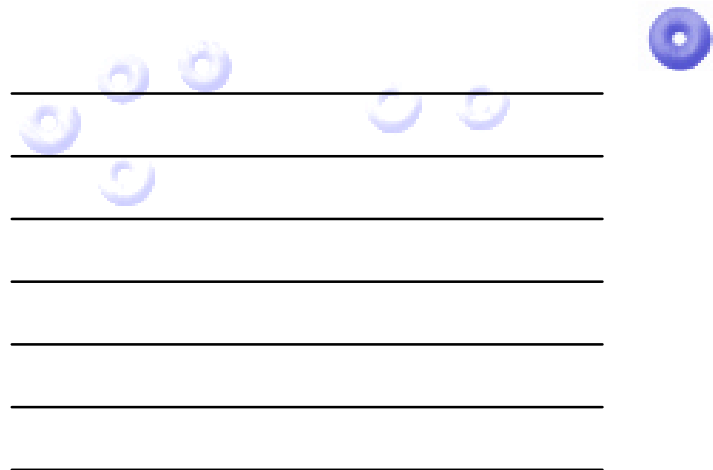
FpML—Client View

Company A ↔ trade ↔ Company B

sign confirm

Data in confirm

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FpML Why is this interesting?

- Currently labor-intensive manual process
- High transactional friction
- Leverage electronic processing:
 - C2B, B2B
 - inside B, inside C
 - new kind of services

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FpML

Who is working on FpML?

- Driven by financial industry.
- Initially collaboration between J.P.Morgan and PriceWaterhouseCoopers.
- Shift to open process, broad support by market participants, vendors, and software companies.

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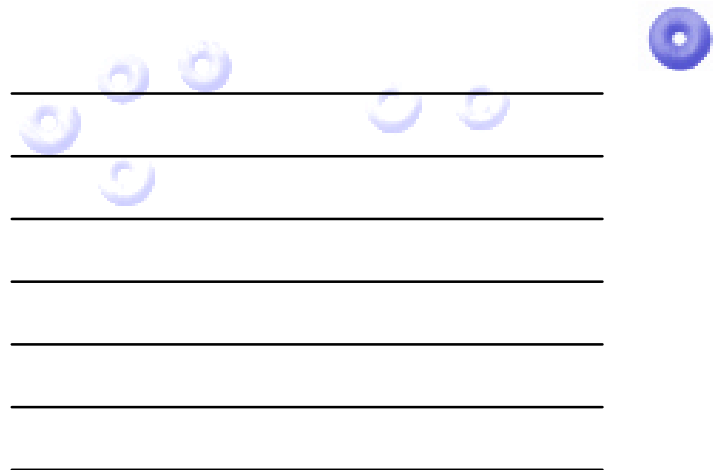
FpML

What is the current status?

- Initial working draft published:
www.FpML.org
- Next steps: get organizational structure and process in place
- Initiate working groups
- Initiate prototypical implementations

Get Involved!

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FpML

Why am I here?

- Talk about the “XML-How”...
 - Present some of the issues
 - Communicate tradeoffs that were made
 - Solicit feedback
- Spark YOUR interest!

Get Involved!

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Main Issues

- Objects
 - [Goals](#)
 - [Our Choices](#)
 - [FpML Examples](#)
 - [Alternatives](#)
- Composition
 - [Goals](#)
 - [Our Choices](#)
 - [Envelope](#)
 - [Alternatives](#)
- Validation
 - [Goals](#)
 - [Our Choices](#)
 - [Alternatives](#)
- References
 - [Goals](#)
 - [Our Choices](#)
 - [FpML Examples](#)
 - [Alternatives](#)

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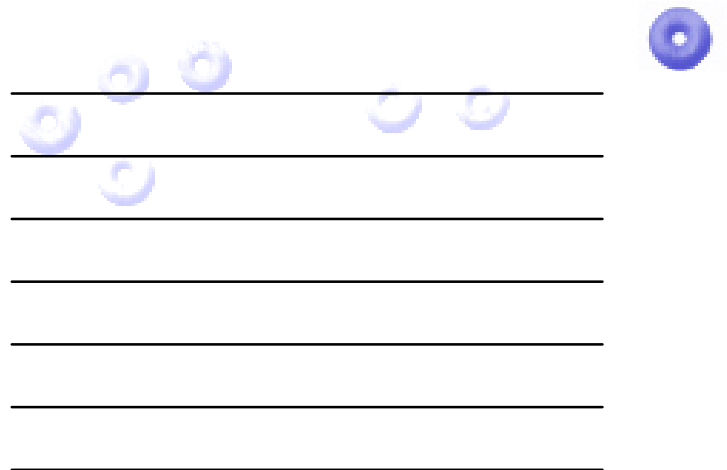


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Objects—Goals

- Organize data with an object oriented point of view.
- Follow instance of a class/instance variables paradigm.
- “Interface-based” types of instance variables.

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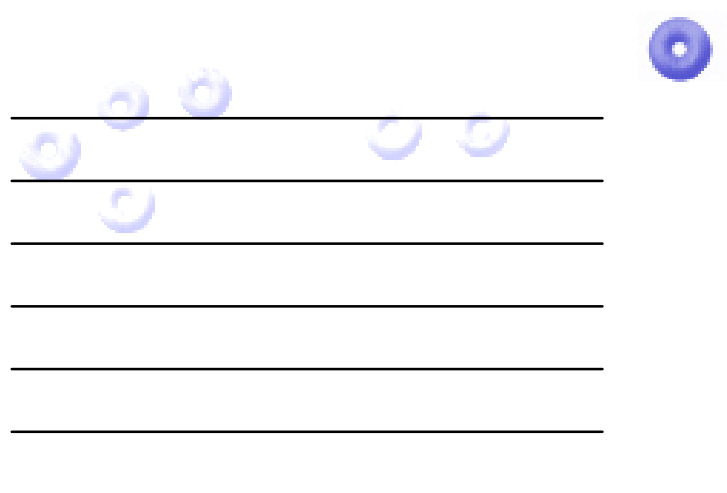
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Objects—Our choices

- Strict naming conventions to tell object and its state apart.
- Use of namespaces to keep classes apart (mostly).
- No reliance on positional information, except in named and anonymous collections.

Feels Good

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...fragment out of fixed stream

```

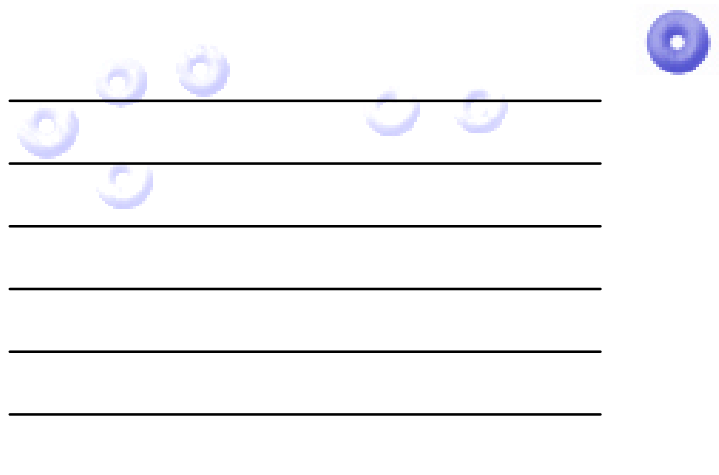
<isfi:initialPrincipalPayment>
  <p:Payment xmlns:p="urn:fpmml-Payme
    <p:paymentDate>
      <d:AdjustableDate>
        <d:date>1999-06-
  <d:businessDayConvention>ModifiedF
  <d:adjustmentsReference>primaryBus
    </d:AdjustableDate>
  </p:paymentDate>
  <p:paymentAmount>
    <m:Money>
      <m:ccy>USD</m:ccy>
      <m:amount>100000
    </m:Money>
  </p:paymentAmount>
  </p:Payment>
</isfi:initialPrincipalPayment>
  
```

Objects

FpML

Examples

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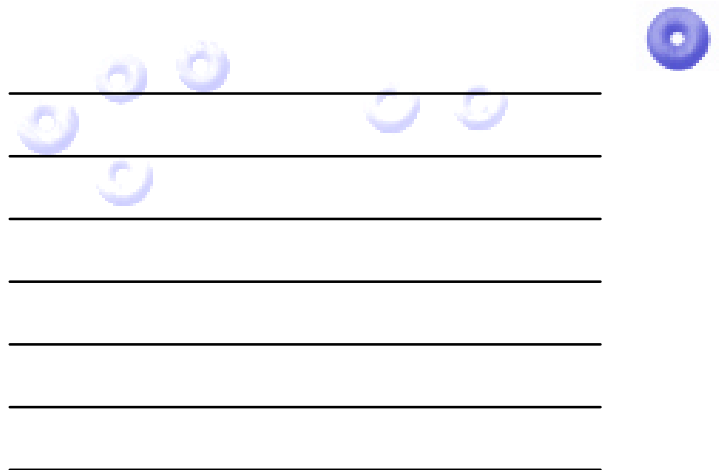


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Objects—Alternatives

- Don't use namespaces, instead prefix or change name on case by case basis.
- Merge instance variables up into their owner, and have meta-information that denotes the current class.

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Composition—Goals

- Maximize reuse of components.
- Processing service based flexibility.
- Utilize structure and be explicit as possible.
- Allow for proprietary and public extensions.

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Composition—Our Choices

- Fine grained components, used everywhere (e.g. Money, Rate, AdjustableDate).
- Coarse grained components inside Trade, to express “bigger” concepts (e.g. TradeID, Party, Product). Needs More Work
- Trade as data envelope. Feels Good

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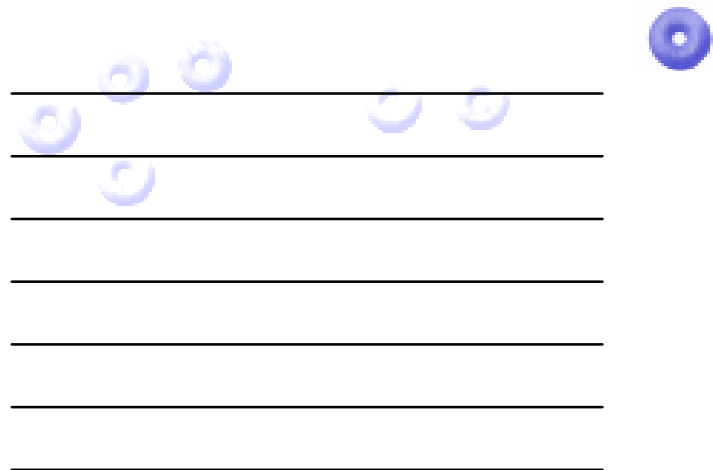
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Composition—Envelope

Data Envelope (Some Trade)

The diagram shows a large rectangular box labeled "Data Envelope (Some Trade)" containing four smaller boxes labeled "Data A", "Data B", "Data C", and "Data D". Below this box are two starburst shapes labeled "Service X" and "Service Y". Arrows point from "Data A" and "Data B" to "Service X", and from "Data C" and "Data D" to "Service Y".

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Composition—Alternatives

- One big component per product or trade.
- Coarse components that are enriched over time.
- Flat structure for representing parameters of product.

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Validation—Goals

- Validate as much as possible with standard mechanisms.
- Facilitate non-standard validation when necessary.
- Don't let current technology totally determine how FpML is structured.

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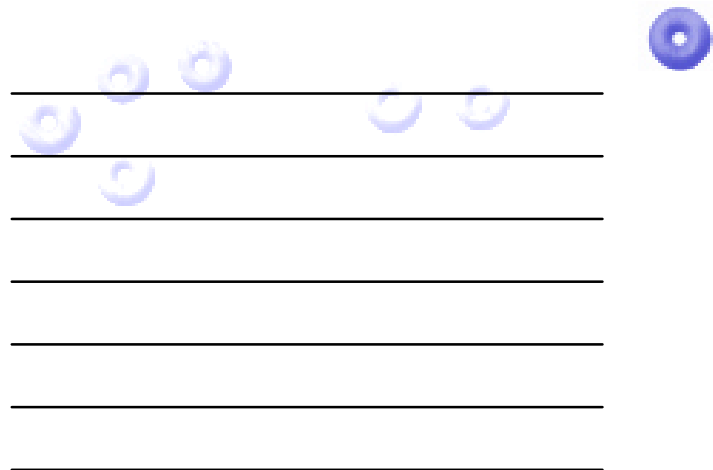
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Validation—Our Choices

- Use DTD's for now. Needs More Work
- Move to XML-Schema when stable.
- Represent addl. meta information as attributes.
- For now require application level validation for data types, referential integrity, and semantic validation.

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Validation—Alternatives

- Skip DTD, pick one of the schema proposals.
- Skip DTD, use proprietary validation tool.
- Validate once and sign.

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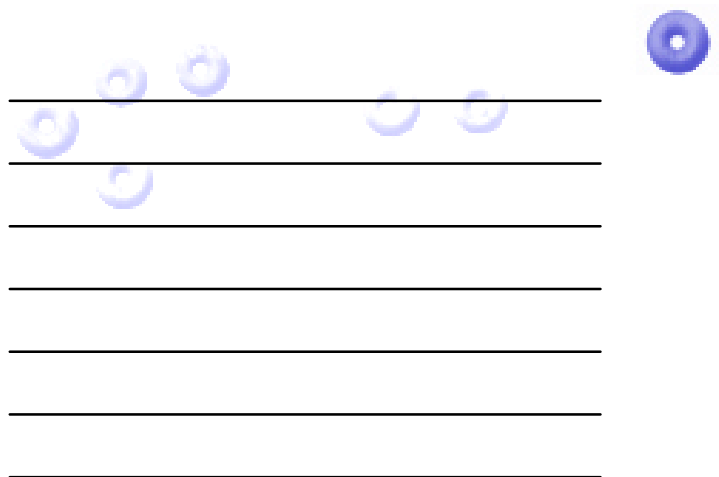


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References—Goals

- Enable use of external reference data
 - Currencies, Holiday Calendars, Business Centers
- Minimize redundancies
 - Between coarse elements
 - Inside one component
- Facilitate “thin” processing

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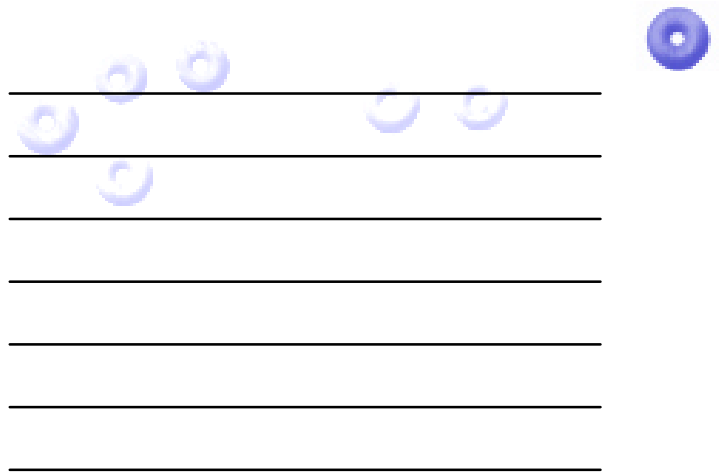


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References—Our Choices

- Name of element defined in attribute. Needs More Work
- Reference is simple name, owning element defines context.
- Naming convention for referencing element.

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References

FpML Examples

```

<fpml:Trade>
  <fpml:tradeIDs>
    <tid:TradeIDs xmlns:tid="urn:fpml-Trade" >
      <tid:TradeID>
        <tid:partyReference>ABC Trust</tid:partyReference>
        <tid:transactionReferenceNumber>23</tid:transactionReferenceNumber>
      </tid:TradeID>
      ...
    </tid:TradeIDs>
  </fpml:tradeIDs>
  <fpml:partyInformation>
    <pty:PartyInformation xmlns:pty="urn:fpml-Party" >
      ...
      <pty:tradeParties>
        <pty:Party name="ABC Trust">
          ...
        </pty:Party>
      </pty:tradeParties>
    </pty:PartyInformation>
  </fpml:partyInformation>
</fpml:Trade>
  
```

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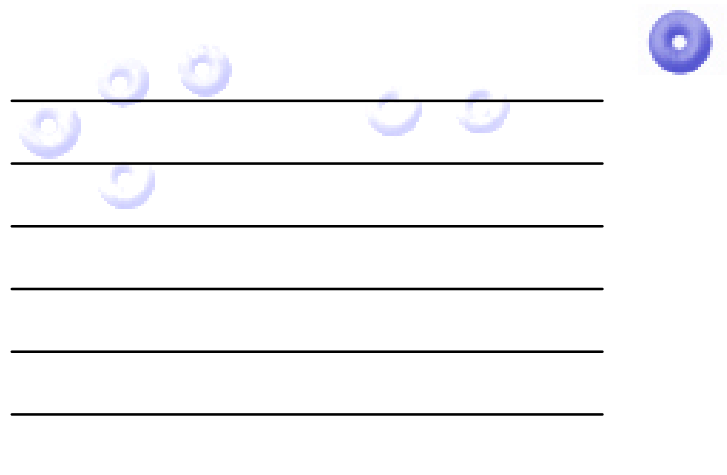
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References—Alternatives

- ID, IDRef
- XPointer
- Binding Declarations
- XPath

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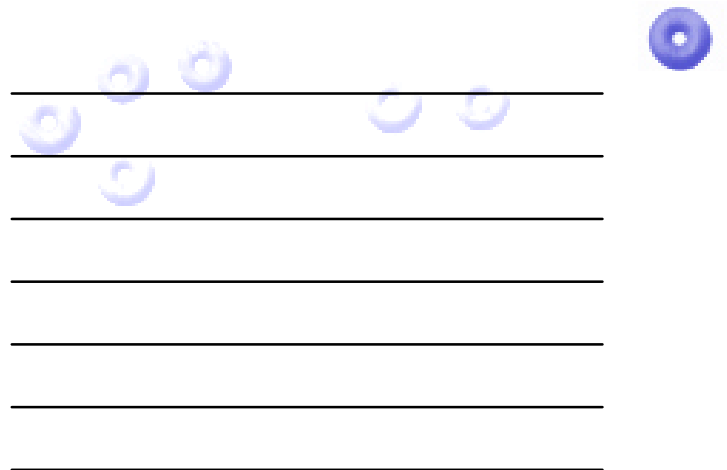
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Summary

- Briefly described FpML (what, why, who)
- Elaborated on XML-issues (Objects, Composition, Validation, References)
- Transition from document centric use of XML to data centric use is part of XML-evolution, and it's not easy...

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For More Info ...

- Check out www.FpML.org
- Contact:

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