

## STOCK PURCHASE/STOCK OPTION INTERFACE

The objective of this project is the definition of an interface to enable the exchange of employee stock purchase plan (ESPP) and stock option data between an employer and a third-party stock plan administrator or broker.

### PROJECT SCOPE

The scope of the project is to define an interface to exchange ESPP and stock option data between an employer and an administrator/broker. To attract and retain employees, many employers reward their employees with stock options and offer employees the opportunity to purchase stock through an ESPP. A third-party administrator or broker usually handles the administration of the programs and the exercise or selling of stock. Data required by an administrator/broker from an employer to administer a stock option and ESPP programs typically includes:

- Employee account information
- Information about the plan (e.g., vesting info)
- Transaction data (e.g., exercise or purchase instructions)

In return, the employer needs information from the bank about the exercising and selling of stock options.

### ***Business Processes Supported***

Typically, an employer administers all employee data with a standard software package or proprietary software. This requires the keeping of all employee data. When the decision has been made that some or all employees should also be rewarded with stocks, the question of the plan administration needs to be addressed. Some employers outsource the administration and all related processes completely, while others keep some stock options data in their own software system and require a bank or broker to do the brokerage for them. Both scenarios involve communication with the administrator or broker that can be automated.

### ***Business Case Rationale – ROI Examples***

Employers that offer stock option and stock purchase plans for employees increasingly are interested in building electronic interfaces between their HR systems and the systems of companies that administer those programs and/or broker the stock issued under those programs. Such electronic interfaces help eliminate paperwork, improve service for employees, better ensure accuracy (versus manual means such as fax or phone), and ensure that employees have access to up-to-date information about what can be an extremely important part of employee compensation. Because there are no standard interfaces to enable communications between HR systems and those of stock plan administrators/brokers, costly custom interfaces currently must be developed for each pairing of employer and administrator/broker.

From the perspective of an administrator/broker, a standard interface for stock option and purchase plans will reduce the costs of acquiring new employer accounts. Standard interfaces also will reduce the time it takes to set up new clients with direct interfaces.

For employers, standard interfaces also will help reduce integration costs. In addition, standard interfaces will help provide better service levels to employees. For example, a standard interface between an employer and stock plan administrator/broker will make it easier for an employer to affordably deploy related web services through an employee HR portal. For instance, a web service might allow an employee to access current information from the administrator/broker system as well as to execute transactions, such as exercising stock options or purchasing employer stock.



**Relationship to Other HR-XML Projects**

The stock option bank interface project would complement some of the projects already initiated by the HR-XML workgroups, e.g. activities in the benefits arena. The project does not overlap with any known existing project.

**Relationship to Other Standards Body Initiatives**

There are no known relationships to other standards body initiatives. In developing the proposal, representatives from the Financial Information eXchange (FIX) Protocol (<http://www.fixprotocol.org>) and the Interactive Financial eXchange (IFX) Forum (<http://www.ifxforum.org/ifxforum.org/index.cfm>) were consulted. The proposal also was circulated to the Interoperability Summit list, which includes representatives from OASIS, OMG, OAG, ACORD, ISO, and ebXML.

**PROJECT DELIVERABLES**

**Schemas**

Schemas should be developed to send data from the company to the bank / broker and to retrieve data from the bank / broker.

**Possible Reference Implementations**

SAP AG is currently working on the development of an interface between SAPAG and their broker. The interface designed for that case could be used as an example and might be used as a basis for interface discussions.

**Proposed Schedule**

<b>HR-XML Project Status Template</b>	<b>Target Date</b>	<b>Actual Date</b>
<b>1. Project Proposal</b>		
a. Define Scope/Objective	2002/02/26	2002/02/26
b. Identify Domain Issues	2002/02/26	2002/02/26
c. Supply Business Case/ROI	2002/02/26	2002/02/26
d. Describe Major Components	2002/02/26	2002/02/26
e. Formalize/Refine Design Requirements	2002/03/15	
f. Develop Schedule/Project Plan	2002/02/26	2002/02/26
g. Identify 3 Sponsors	2002/01/30	2002/01/30
h. Identify 10 Participants	2002/02/26	2002/02/26
i. Assign Workgroup Roles	2002/02/26	2002/02/26
j. Present to BSC	2002/02/28	
k. BSC Approval	2002/03/06	
<b>2. Modeling</b> Different types of projects require different levels effort and types of modeling. For example, CPOs, and business/life events require a different sort of modeling than a project intended to deliver a schema(s) to enable specific business processes. Process-oriented projects generally would require one or more activity diagrams.	2002/03/15	
<b>3. Specification Development</b>		

a. Schema design	2002/05/15	
b. Data dictionary/glossary file	2002/05/31	
c. Documentation in standard template	2002/05/31	
d. Workgroup Signoff	2002/05/31	
<b>4. Review</b>		
a. TSC	2002/06/14	
b. CPO	2002/06/14	
c. Member review	2002/07/01	
d. Incorporation of changes/corrections	2002/07/08	
<b>5. Membership Vote</b>		
a. Approved Status	2002/07/15	
b. Deployed for Download	2002/08/01	

## SPONSORING MEMBERS AND PARTICIPANTS

### ***Sponsors Member Organizations:***

SAP  
Oracle  
Watson Wyatt Worldwide  
PeopleSoft

### ***Workgroup Roles:***

Project Leader:

Daniela Goerke, SAP

Co-Leader:

Brad Reynolds

Secretary Recorder:

Bill Kerr, Oracle

Schema Editors/Implementers:

Andreas Bold, SAP

Naveen Agarwal, eTrade

Athavan Andavar, eProsper

Modelors:

Nancy Mesereau, Transcentive

Steve Shwartz, Transcentive

Domain Experts:

Nancy Mesereau, Transcentive

Michelle Chung, Oracle

Denise Wollenberg, Oracle

Danilea Goerke, SAP

Mike Santomassimo, Smith Barney

Martin Blaschek at Commerzbank

CPO Liason:

Andreas Bold, SAP

### ***Participant List***

1. Chris Addison, Fidelity Investments
2. Naveen Agarwal, eTrade
3. Athavan Andavar, eProsper

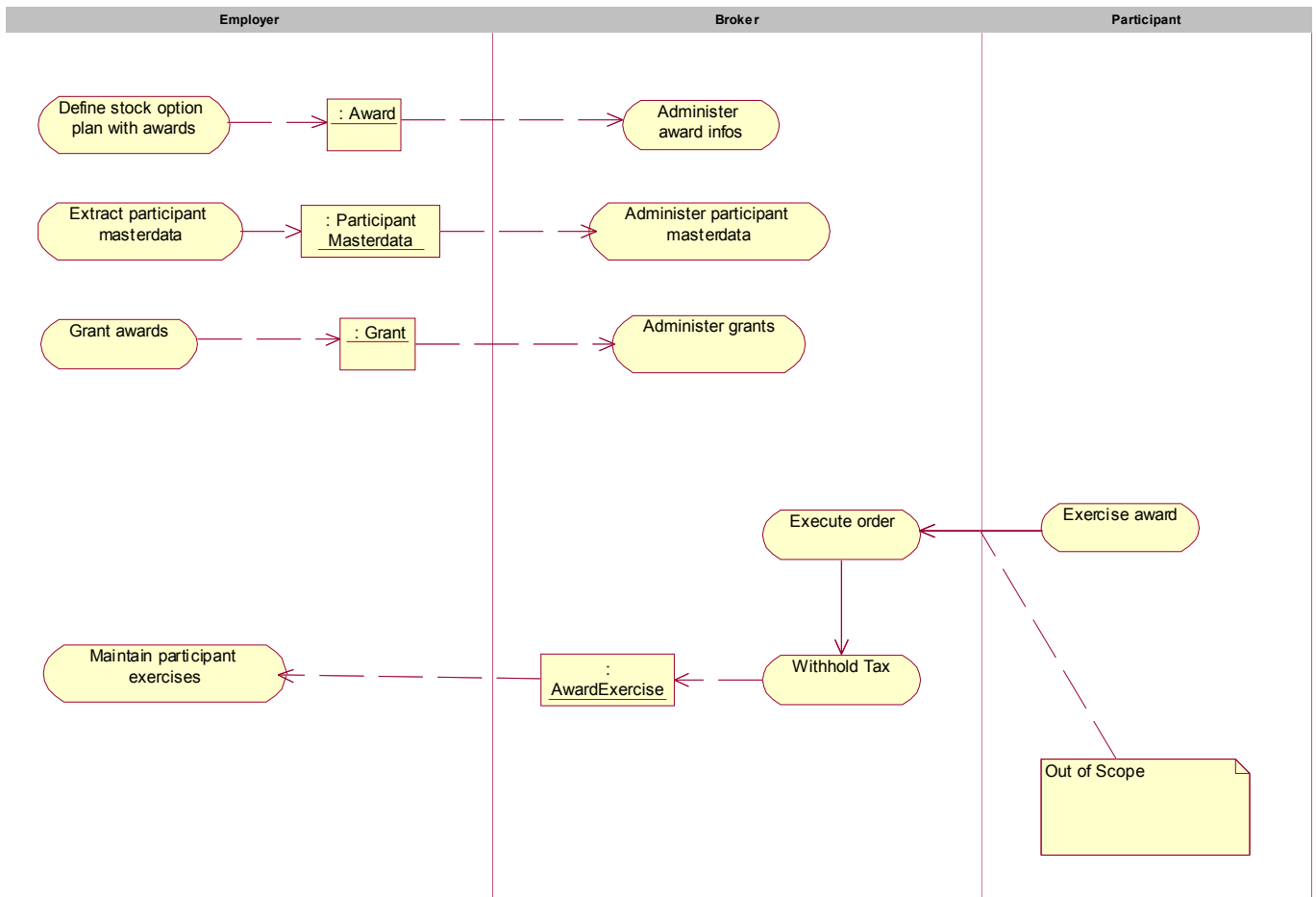


4. Andreas Bold, SAP
5. Michelle Chung, Oracle
6. Victoria Diaz, Computershare
7. Peter M. Dickstein, eprosper.com
8. Daniela Goerke, SAP
9. Bill Kerr, Oracle
10. Nancy Mesereau, Transcentive
11. Katherine Parker, Fidelity Investments
12. Brad Reynolds, Watson Wyatt Worldwide
13. Mike Santomassimo, Smith Barney
14. Denise Wollenberg, Oracle
15. Martin Blaschek, Commerzbank

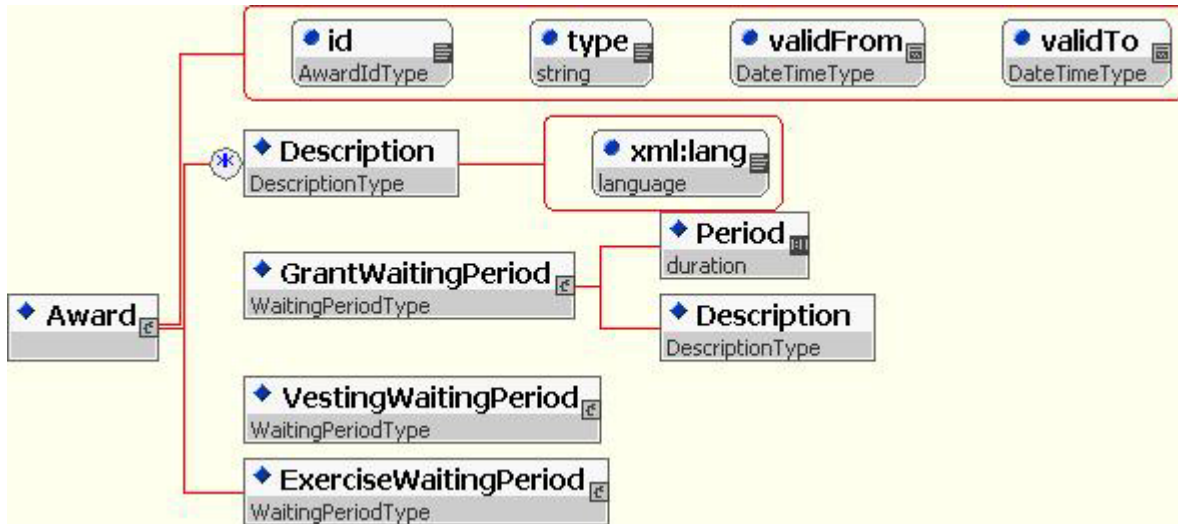
## **STRAWMAN SCHEMA/PROCESS MODELS**

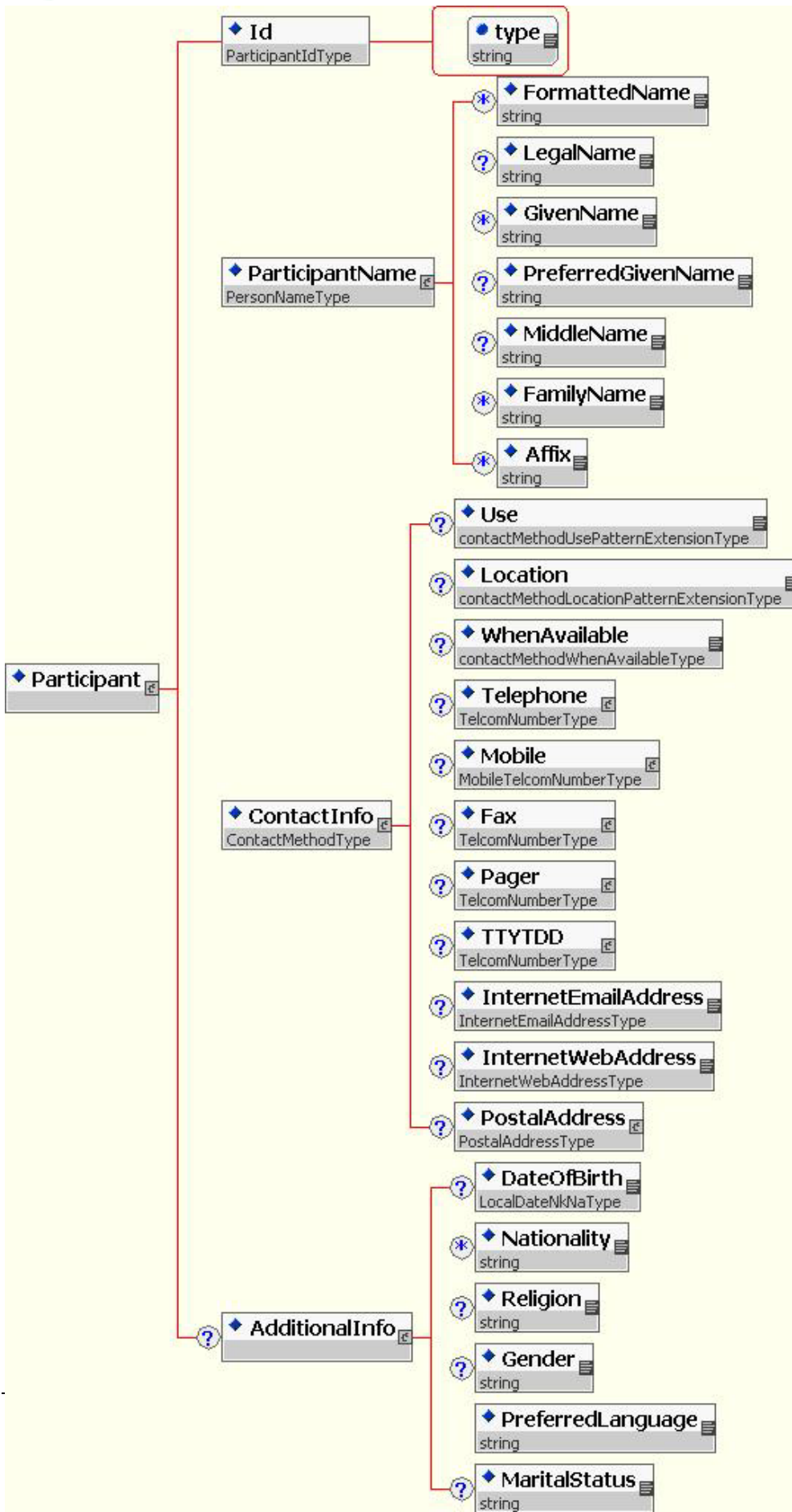
Andrea Bold, SAP, has contributed a “Strawman” schema for the transfer of stock option information. The schema does not currently consider ESPP information, but the workgroup intends to support ESPP programs as well. Initial work also has been done on modeling the process flows between an employer and a stock option administrator / broker. Assuming the approval of the project, the workgroup’s next steps would be to do the corresponding modeling of the business processes supporting ESPP program administration. The strawman schemas and models appear below.

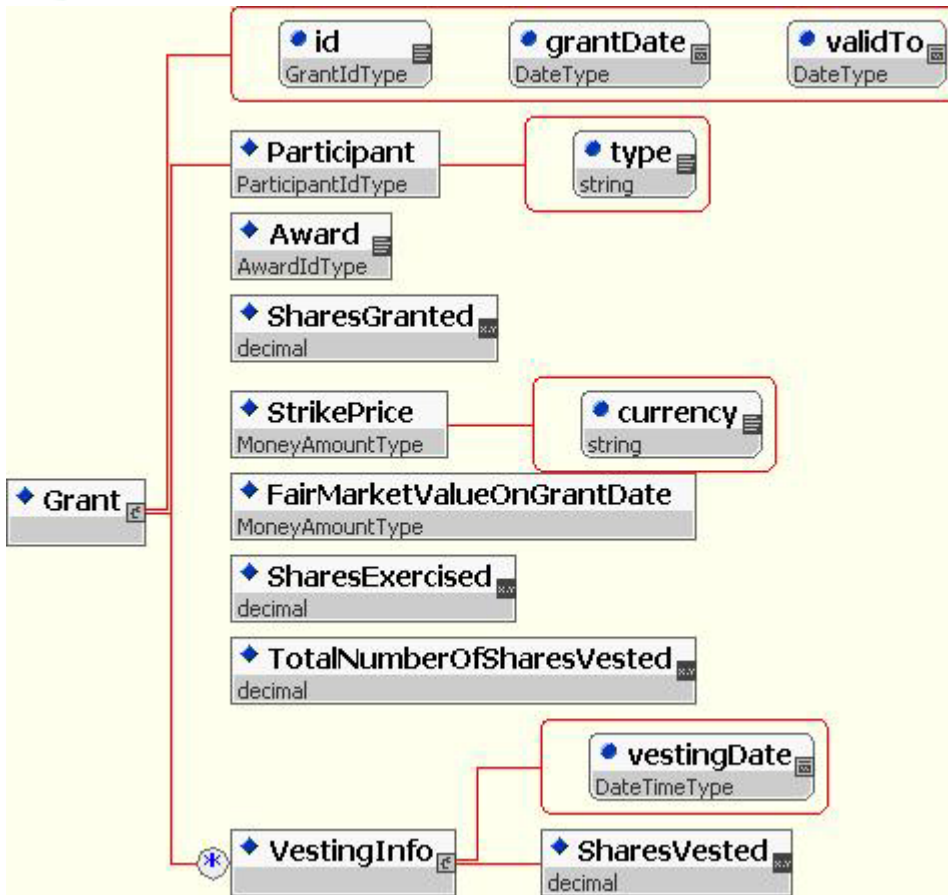
## Stock Option Process Model



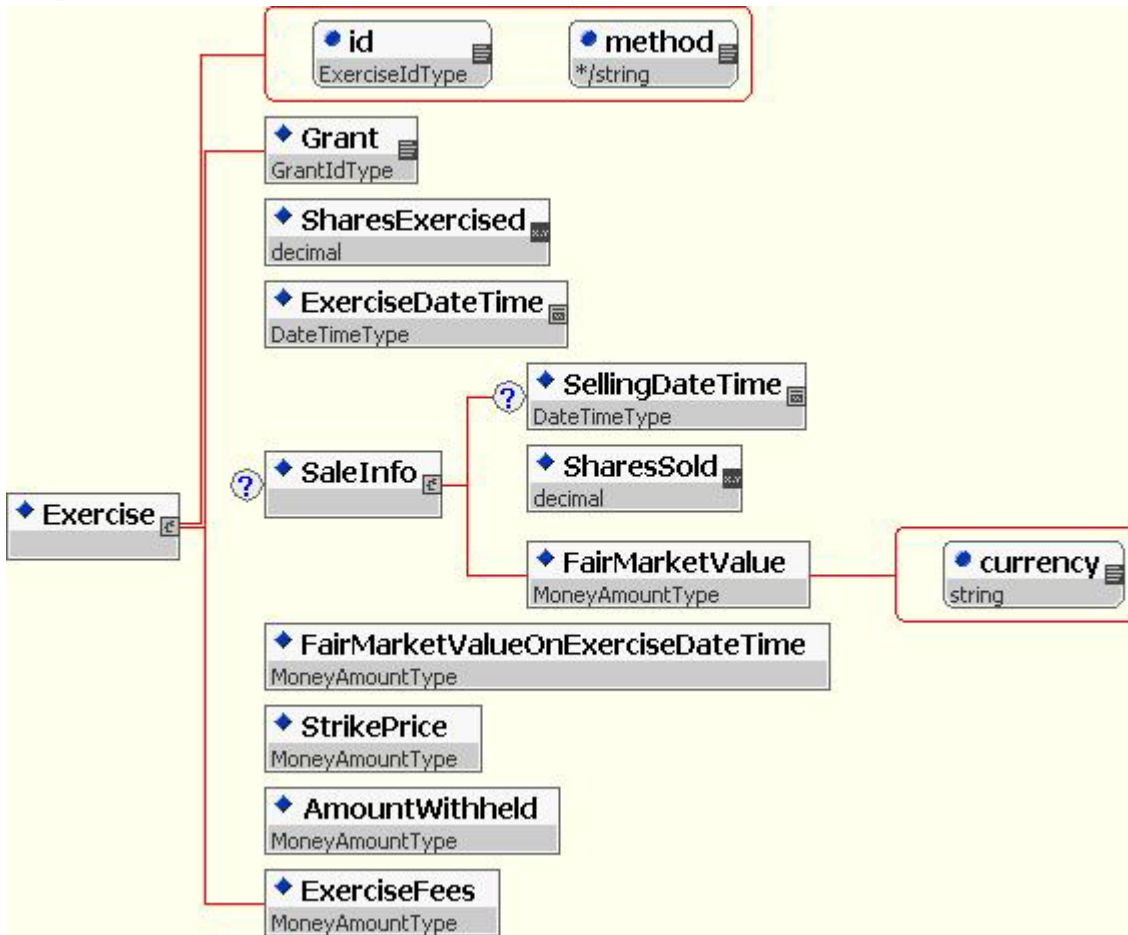
**Stock Option Strawman Schema Diagrams**











### Stock Option Strawman Schema Source

```

<?xml version="1.0" encoding="UTF-8"?>
<!--Generated by XML Authority. Conforms to w3c http://www.w3.org/2001/XMLSchema-->
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema" elementFormDefault="qualified">
  <xsd:import namespace="http://www.w3.org/XML/1998/namespace" schemaLocation="http://www.w3.org/2001/xml.xsd"/>
  <xsd:include schemaLocation="http://ns.hr-xml.org/CPO/PersonName-1_2/PersonName-1_2.xsd"/>
  <xsd:include schemaLocation="http://ns.hr-xml.org/CPO/Dating-1_1/cpoDateTimeTypes-1_1.xsd"/>
  <xsd:include schemaLocation="http://ns.hr-xml.org/CPO/ContactInfo-1_0/ContactMethod-1_0.xsd"/>
  <xsd:element name="Award">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="Description" type="DescriptionType" minOccurs="0" maxOccurs="unbounded"/>
        <xsd:element name="GrantWaitingPeriod" type="WaitingPeriodType"/>
        <xsd:element name="VestingWaitingPeriod" type="WaitingPeriodType"/>
        <xsd:element name="ExerciseWaitingPeriod" type="WaitingPeriodType"/>
      </xsd:sequence>
      <xsd:attribute name="id" type="AwardIdType" use="required"/>
      <xsd:attribute name="type" type="xsd:string" use="required"/>
      <xsd:attribute name="validFrom" type="DateTimeType" use="required"/>
      <xsd:attribute name="validTo" type="DateTimeType" use="required"/>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="Participant">
    <xsd:complexType>
      <xsd:sequence>
        <xsd:element name="Id" type="ParticipantIdType"/>
        <xsd:element name="ParticipantName" type="PersonNameType"/>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>

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<xsd:element name="ContactInfo" type="ContactMethodType"/>
<xsd:element name="AdditionalInfo" minOccurs="0">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="DateOfBirth" type="LocalDateNkNaType" minOccurs="0"/>
      <xsd:element name="Nationality" type="xsd:string" minOccurs="0" maxOccurs="unbounded"/>
      <xsd:element name="Religion" type="xsd:string" minOccurs="0"/>
      <xsd:element name="Gender" type="xsd:string" minOccurs="0"/>
      <xsd:element name="PreferredLanguage" type="xsd:string"/>
      <xsd:element name="MaritalStatus" type="xsd:string" minOccurs="0"/>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="Grant">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Participant" type="ParticipantIdType"/>
      <xsd:element name="Award" type="AwardIdType"/>
      <xsd:element name="SharesGranted" type="xsd:decimal"/>
      <xsd:element name="StrikePrice" type="MoneyAmountType"/>
      <xsd:element name="FairMarketValueOnGrantDate" type="MoneyAmountType"/>
      <xsd:element name="SharesExercised" type="xsd:decimal"/>
      <xsd:element name="TotalNumberOfSharesVested" type="xsd:decimal"/>
      <xsd:element name="VestingInfo" minOccurs="0" maxOccurs="unbounded">
        <xsd:complexType>
          <xsd:sequence>
            <xsd:element name="SharesVested" type="xsd:decimal"/>
          </xsd:sequence>
          <xsd:attribute name="vestingDate" type="DateTimeType" use="required"/>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
    <xsd:attribute name="id" type="GrantIdType" use="required"/>
    <xsd:attribute name="grantDate" type="DateType" use="required"/>
    <xsd:attribute name="validTo" type="DateType" use="required"/>
  </xsd:complexType>
</xsd:element>
<xsd:element name="Exercise">
  <xsd:complexType>
    <xsd:sequence>
      <xsd:element name="Grant" type="GrantIdType"/>
      <xsd:element name="SharesExercised" type="xsd:decimal"/>
      <xsd:element name="ExerciseDateTime" type="DateTimeType"/>
      <xsd:element name="SaleInfo" minOccurs="0">
        <xsd:complexType>
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            <xsd:element name="SellingDateTime" type="DateTimeType" minOccurs="0"/>
            <xsd:element name="SharesSold" type="xsd:decimal"/>
            <xsd:element name="FairMarketValue" type="MoneyAmountType"/>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:element>
      <xsd:element name="FairMarketValueOnExerciseDateTime" type="MoneyAmountType"/>
      <xsd:element name="StrikePrice" type="MoneyAmountType"/>
      <xsd:element name="AmountWithheld" type="MoneyAmountType"/>
      <xsd:element name="ExerciseFees" type="MoneyAmountType"/>
    </xsd:sequence>
    <xsd:attribute name="id" type="ExerciseldType" use="required"/>
    <xsd:attribute name="method" use="required">
      <xsd:simpleType>
        <xsd:restriction base="xsd:string">
          <xsd:enumeration value="ShareSettlement"/>
          <xsd:enumeration value="SellToCover"/>
        </xsd:restriction>
      </xsd:simpleType>
    </xsd:attribute>
  </xsd:complexType>
</xsd:element>

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        <xsd:enumeration value="CashSettlement"/>
    </xsd:restriction>
</xsd:simpleType>
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</xsd:complexType>
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<xsd:complexType name="MoneyAmountType">
    <xsd:simpleContent>
        <xsd:extension base="xsd:decimal">
            <xsd:attribute name="currency" type="xsd:string" use="required"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="WaitingPeriodType">
    <xsd:sequence>
        <xsd:element name="Period" type="xsd:duration"/>
        <xsd:element name="Description" type="DescriptionType"/>
    </xsd:sequence>
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<xsd:complexType name="DescriptionType">
    <xsd:simpleContent>
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            <xsd:attribute ref="xml:lang" use="required"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:complexType name="ParticipantIdType">
    <xsd:simpleContent>
        <xsd:extension base="xsd:string">
            <xsd:attribute name="type" type="xsd:string" use="required"/>
        </xsd:extension>
    </xsd:simpleContent>
</xsd:complexType>
<xsd:simpleType name="AwardIdType">
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
<xsd:simpleType name="GrantIdType">
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
<xsd:simpleType name="ExerciseldType">
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
</xsd:schema>

```