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Information Exchange

**THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
NATIONAL INSTITUTE OF BUILDING SCIENCES**

agcXML

**REQUEST FOR PROPOSAL
DATA SPECIFICATION AND SCHEMA**

**VERSION 1.0
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The agcXML Project

The Associated General Contractors of America

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1 . REQUESTFORPROPOSAL

The agcXML **RequestForProposal** schema is discussed in this document as a class diagram using the Unified Modeling Language notation, UML. The document should present the overall structure of the agcXML schema and discuss its components and dependencies – particularly the interrelationship between the common layer for aecXML definitions, common agcXML definitions and the particular usage and extension for the **RequestForProposal** schema. It also shows where components from ifcXML are reused and where IFC based BIM information can be handled and mapped into agcXML.

1.1 The RequestForProposal schema

The **RequestForProposal** schema is the schema to be used for sending and receiving requests for proposals between parties involved in electronic exchange of business messages. The schema deals with the variable part of the requests for proposals, not with the layout of the documents. In scope are:

- The meta-data of the requests for proposal document (who, when, with what application)
- The sender, recipient and notified role (there is no constraint for owner, contractor, subcontractor, engineers and architect being in either of these roles)
- The project information
- The project sum
- The compensation terms
- The insurance terms
- The start date, acceptance period and completion period of the requests for proposal
- A list of attachments to the request for proposal

1.1.1 Name space considerations

The following name spaces are assigned:

- ifcXML – not part of the XML schema, will be handled by XSLT based mapping, when required
- aecXMLCOS:
 - xmlns:cos="http://www.aecXML.org/aecXML/cos"
- agcXMLCommon:
 - xmlns:agcxml="http://www.aecXML.org/agcXML/agcXMLCommon"
- Requests for Proposal:
 - xmlns:agcbnd="http://www.aecXML.org/agcXML/RequestForProposal"

1.2 The RequestForProposal root element

The root element of the xml exchange document is the **RequestForProposal** element. It is defined in the **RequestForProposal** name space, and inherits from the **DocumentTransaction** in the **agcXMLCommon** name space. All attributes and elements of **DocumentTransaction** are explained in the document “agcXML common definitions”.

The **RequestForProposal** element adds the following request for proposal specific elements:

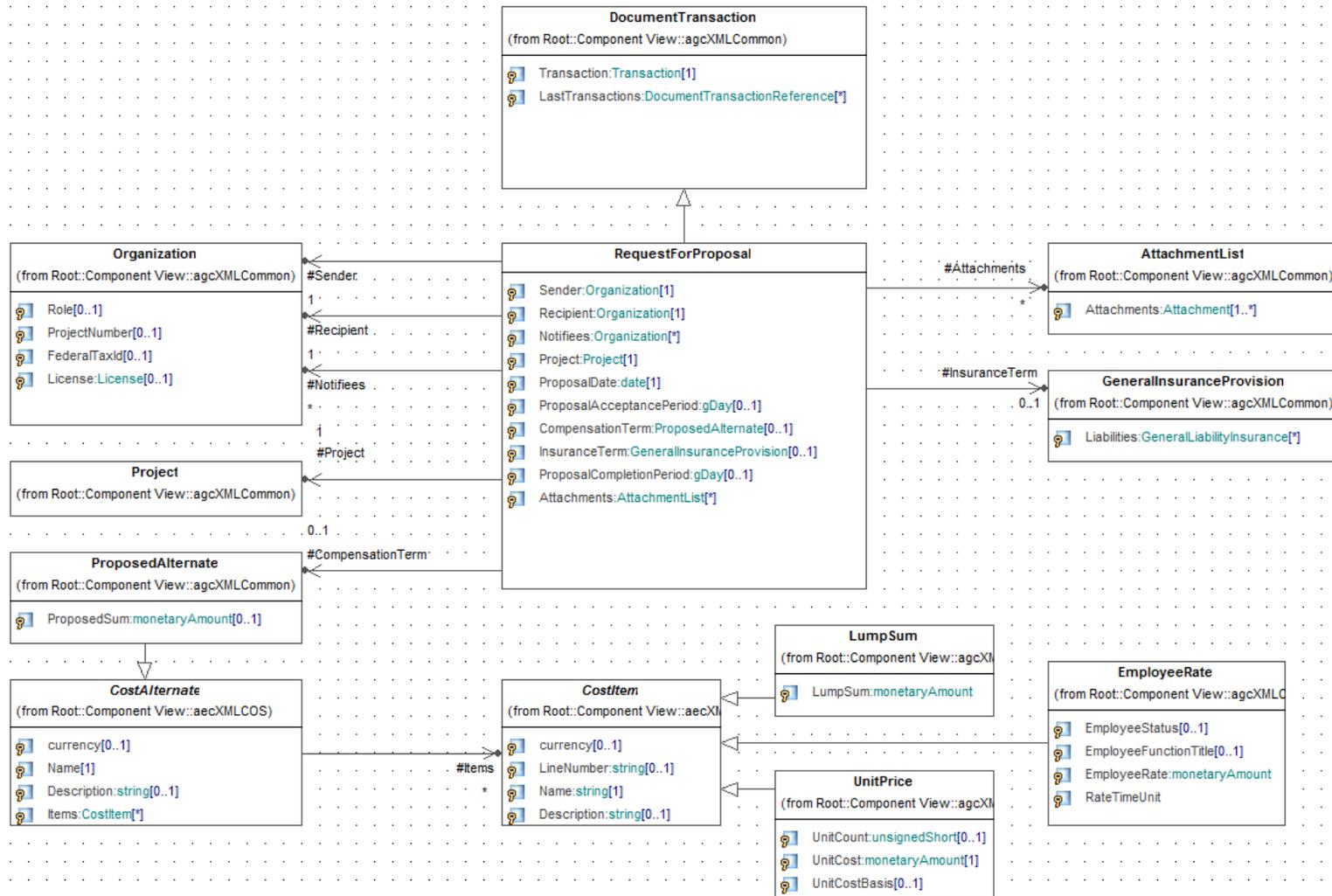


Figure 1: the root element *RequestForProposal* in *RequestForProposal* name space

1.2.1 Basic document information

The **RequestForProposal** carries (if fully instantiated) the following information:

- Request for proposal name, number and transaction date
- The governing form (i.e. the template for the request for proposal document)
- The information about the parties involved in the the request for proposal
 - The sender information, being:
 - Any (architect, engineer, contractor, subcontractor, construction manager, etc.)
 - The recipient information, being:
 - Any (architect, engineer, contractor, subcontractor, construction manager, etc.)
 - The notifiee information, being zero, one or many of:
 - Any (architect, engineer, contractor, subcontractor, construction manager, etc.)
- The project information (name, date, address and reference number)
- The compensation, billing, payment terms (optional)
 - Lump sum or unit cost based
 - Billing and payment terms
- The insurance terms (optional)
 - the insurance types and liability limits
- The request for proposal date and optionally acceptance and completion date

1.2.2 Governing form

The exchange of the **RequestForProposals** is based on the standard forms published by AGC (or potentially also other standard forms). The element **GoverningForm** is defined at **Document**.

It identifies the underlying and governing form, which currently may be any one of the following:

- AIA Document G601-1994 Request for Proposal – Land Survey
- AIA Document G602-1993 Request for Proposal – Geotechnical Services

1.3 The parties involved in the RequestForProposal

The request for proposal is established between a sender and a recipient of the the request for proposal. In addition, others can be notified. Sender and recipient can also be the signatories of the the request for proposal.

Information about organization and person information of the parties is provided in the document “agcXML common definitions” section “Person and organization”.

1.3.1 The sender information

The client for the **RequestForProposal** is presented by any **Organization**. It is accessible as **Sender**. Any specialization of **Organization** within the **agcXMLCommon** namespace can be used.

1.3.2 The recipient information

The recipient for the **RequestForProposal** is presented by any **Organization**. It is accessible as **Recipient**. Any specialization of **Organization** within the **agcXMLCommon** namespace can be used.

1.3.3 The notifyee information

Other parties may be notified with the **RequestForProposal**. It can be any **Organization**. It is accessible as **Notifyee**. The notifyee information is optional, and can include zero, one or many notifyees. Any specialization of **Organization** within the **agcXMLCommon** namespace can be used.

1.3.4 Choice of roles for sender, recipient and notifyee

The information about the organizations and their representatives is shown below; it includes any organization (represented by subtypes of **Organization**), e.g. owner, contractor, subcontractor, construction manager, engineer or architect. The information is independent of whether the organization is the sender, recipient or notifyee in this transaction.

1.4 The project information of the RequestForProposal

The **ProjectInformation** is provided by **Project**. Information about **Project** is provided in the document "agcXML common definitions". The minimum information provided is **Project.Name**, **.Description**, **.ProjectId**, **.ContractDate**, and **Address**.

Information about **Project** is provided in the document "agcXML common definitions", section "Project".

1.5 The CompensationTerm information

The **RequestForProposal** may have compensation terms as a cost alternate. It is provided using the **ProposedAlternate** element from the **agcXMLCommon** name space.

It can either be provided as a single **ProposedSum**, or as an itemized list of **CostItem**'s. Depending on whether it is provided as a stipulated lump sum, or based on a daily/hourly rate, or based on unit costs the requested compensation is provided by the **LumpSum** element, the **UnitPrice** element or the **EmployeeRate** element. Each defines the terms by a **LineNumber**, a name (or short description) and a **Description** (the long description). The actual rate or sum by **LumpSum**, **UnitCost** or **EmployeeRate** and the currency is given by the **currency** attribute.

Information about **LumpSum**, **UnitCost** or **EmployeeRate** is provided in the document "agcXML common definitions", section "Cost items".

1.6 The InsuranceTerm information

The **RequestForProposal** may have insurance terms. It is given by **GeneralInsuranceProvision** defined in the **agcXMLCommon** name space. It provides the list of **GeneralInsuranceProvision**.

Information about **GeneralInsuranceProvision** is provided in the document "agcXML common definitions", section "Insurance".

1.7 The proposal date and period

The three elements **ProposalDate**, **ProposalAcceptancePeriod** and **ProposalCompletionPeriod** can be specified to transport the date of the proposal, the maximum time until acceptance and the maximum period until completion.

1.8 The attachments

Additionally any transaction of request for proposal can include **Attachments** as a list of **Attachment**.

Information about **Attachment** is provided in the document “agcXML common definitions”, section “Document references”.

2. XML SCHEMA

The XML schema definitions are defined in different name spaces following the agcXML technical framework.

- The most general definitions are included in the [aecXMLCOS](#) name space; some of those definitions are taken from other standards, such as [ifcXML](#) for general elements and ISO-IEC_82045-5 for document metadata.
- Definitions that are common to AGC document exchanges within the scope of [agcXML](#) are included in the [agcXMLCommon](#) name space.
- Definitions that are specific to the exchange of requests for proposal are included in the [RequestForProposal](#) name space.

2.1 aecXMLCOS name space

The XML schema definitions of the aecXMLCOS schema are provided in the document “agcXML common definitions”, section “aecXML schema”.

2.2 agcXMLCommon name space

The XML schema definitions of the agcXMLCommon schema are provided in the document “agcXML common definitions”, section “agcXMLCommon schema”.

2.3 agcXML RequestForProposal name space

```
<? xml version="1.0" encoding="UTF-8"?>
<!-- Mit XMLSpy v2009 (http://www.altova.com) von Thomas Liebich (AEC3 Deutschland GmbH) bearbeitet -->
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" xmlns:cos="http://www.aecXML.org/aecXML/cos"
xmlns:agcxml="http://www.aecXML.org/agcXML/agcXMLCommon"
xmlns:agcrfp="http://www.aecXML.org/agcXML/RequestForProposal"
targetNamespace="http://www.aecXML.org/agcXML/RequestForProposal" elementFormDefault="qualified"
attributeFormDefault="unqualified">
  <xs:import namespace="http://www.aecXML.org/aecXML/cos" schemaLocation="aecXMLCOS.xsd"/>
  <xs:import namespace="http://www.aecXML.org/agcXML/agcXMLCommon"
    schemaLocation="agcXMLCommon.xsd"/>
  <!--request for proposal diagram-->
  <xs:element name="RequestForProposal" type="agcrfp:RequestForProposal"
    substitutionGroup="agcxml:DocumentTransaction" nillable="false">
    <xs:annotation>
      <xs:documentation>Root element for the XML exchange document for AGC requests for
        proposal</xs:documentation>
    </xs:annotation>
  </xs:element>
  <xs:complexType name="RequestForProposal">
    <xs:complexContent>
      <xs:extension base="agcxml:DocumentTransaction">
        <xs:sequence>
          <xs:element name="Sender">
            <xs:complexType>
              <xs:choice>
                <xs:element ref="agcxml:Organization"/>
              </xs:choice>
            </xs:complexType>
          </xs:element>
          <xs:element name="Recipient">
            <xs:complexType>
              <xs:choice>
                <xs:element ref="agcxml:Organization"/>
              </xs:choice>
            </xs:complexType>
          </xs:element>
          <xs:element name="Notiffee" minOccurs="0">
            <xs:complexType>

```

```
        <xs:choice maxOccurs="unbounded">
          <xs:element ref="agcxml:Organization"/>
        </xs:choice>
      </xs:complexType>
    </xs:element>
    <xs:element name="Project" type="agcxml:Project"/>
    <xs:element name="ProposalDate" type="xs:date"/>
    <xs:element name="ProposalAcceptancePeriod" type="xs:date" minOccurs="0"/>
    <xs:element name="ProposalCompletionPeriod" type="xs:date" minOccurs="0"/>
    <xs:element name="CompensationTerm" type="agcxml:ProposedAlternate" minOccurs="0"/>
    <xs:element name="InsuranceTerm" type="agcxml:GeneralInsuranceProvision"
      minOccurs="0"/>
    <xs:element name="Attachments" type="agcxml:AttachmentList" minOccurs="0"/>
  </xs:sequence>
</xs:extension>
</xs:complexContent>
</xs:schema>
```

A . ASSIGNMENT TO COMPARATIVE ANALYSIS

The following table shows each agcXML element reference (defined as a path from root element **RequestForProposal** in **RequestForProposal** name space) assigned to the corresponding data field obtained from the comparative analysis of the existing transaction media for request for proposal transactions (the commonly accepted standard contract forms published by the AIA, AGC, and EJCDC, and others). The table is NOT intended to represent the entire content of the schema or the actual cardinality of each element in the schema. The full comparative analysis is published separately and can be obtained from AGC.

agcXML Comparative Analysis		
Data Field Description/Content	Cardinality	agcXML Schema Definition
Request for Proposal Information		
Request for Proposal Date	[1]	ProposalDate
Request for Proposal Acceptance Period (days)	[1]	ProposalAcceptancePeriod
Proposed Time Period to Complete Work of Proposal	[1]	ProposalCompletionPeriod
Distribution to (check all that apply)		
Owner	[0..1]	Notiffee (if included in list of Notiffee)
Architect	[0..1]	Notiffee (if included in list of Notiffee)
Contractor	[0..1]	Notiffee (if included in list of Notiffee)
Construction Manager	[0..1]	Notiffee (if included in list of Notiffee)
Design-Builder	[0..1]	Notiffee (if included in list of Notiffee)
Engineer	[0..*]	Notiffee (if included in list of Notiffee)
Surveyor	[0..1]	Notiffee (if included in list of Notiffee)
Geotechnical Engineer	[0..1]	Notiffee (if included in list of Notiffee)
Other	[0..1]	Notiffee (if included in list of Notiffee)
Proposal Description	[1]	Description
Proposal Recipient/Requestor Information		
Recipient Company Name	[1]	Recipient:{Organization}.Name
Recipient Project Number	[1]	Recipient:{Organization}.ProjectNumber
Recipient Address 1	[1]	Recipient:{Organization}.PostalAddress.AddressLine1
Recipient Address 2	[1]	Recipient:{Organization}.PostalAddress.AddressLine2
Recipient City	[1]	Recipient:{Organization}.PostalAddress.Town
Recipient State	[1]	Recipient:{Organization}.PostalAddress.Region
Recipient Country	[1]	Recipient:{Organization}.PostalAddress.Country
Recipient Country Postal Code	[1]	Recipient:{Organization}.PostalAddress.PostalCode
Recipient Company Phone	[1]	Recipient:{Organization}.TelecomAddress.Telephone
Recipient Company Fax	[1]	Recipient:{Organization}.TelecomAddress.Facsimile
Recipient Representative Last Name	[1]	Recipient:{Organization}.Representative.FamilyName

Recipient Representative First Name	[1]	Recipient:{Organization}.Representative.GivenName
Recipient Representative Title	[1]	Recipient:{Organization}.Representative.RepresentativeTitle
Recipient Representative Phone	[1]	Recipient:{Organization}.Representative.TelecomAddress.Telephone
Recipient Representative Fax	[1]	Recipient:{Organization}.Representative.TelecomAddress.Facsimile
Recipient Representative e-mail Address	[1]	Recipient:{Organization}.Representative.TelecomAddress.Email
Recipient Representative Signature	[1]	Recipient:{Organization}.Representative.Signature.SignatoryName <<actual signature not exchanged - see discussion about electronic signature>>
Recipient Representative Signature Date	[1]	Recipient:{Organization}.Representative.Signature.SignatureDate <<actual signature not exchanged - see discussion about electronic signature>>

Proposal Submitter Information

Submitter Company Name	[1]	Sender:{Organization}.Name
Submitter Project Number	[1]	Sender:{Organization}.ProjectNumber
Submitter Address 1	[1]	Sender:{Organization}.PostalAddress.AddressLine1
Submitter Address 2	[1]	Sender:{Organization}.PostalAddress.AddressLine2
Submitter City	[1]	Sender:{Organization}.PostalAddress.Town
Submitter State	[1]	Sender:{Organization}.PostalAddress.Region
Submitter Country	[1]	Sender:{Organization}.PostalAddress.Country
Submitter Postal Code	[1]	Sender:{Organization}.PostalAddress.PostalCode
Submitter Company Phone	[1]	Sender:{Organization}.TelecomAddress.Telephone
Submitter Company Fax	[1]	Sender:{Organization}.TelecomAddress.Facsimile
Submitter Representative Last Name	[1]	Sender:{Organization}.Representative.FamilyName
Submitter Representative First Name	[1]	Sender:{Organization}.Representative.GivenName
Submitter Representative Title	[1]	Sender:{Organization}.Representative.RepresentativeTitle
Submitter Representative Phone	[1]	Sender:{Organization}.Representative.TelecomAddress.Telephone
Submitter Representative Fax	[1]	Sender:{Organization}.Representative.TelecomAddress.Facsimile
Submitter Representative e-mail Address	[1]	Sender:{Organization}.Representative.TelecomAddress.Email
Submitter Representative Signature	[1]	Sender:{Organization}.Representative.Signature.SignatoryName <<actual signature not exchanged - see discussion about electronic signature>>
Submitter Representative Signature Date	[1]	Sender:{Organization}.Representative.Signature.SignatureDate <<actual signature not exchanged - see discussion about electronic signature>>

Prime Design Professional Information

Architect/Engineer Company Name	[0..1]	Sender Recipient Notiffee:{Organization}.Name
Architect/Engineer Project Number	[0..1]	Sender Recipient Notiffee:{Organization}.ProjectNumber
Architect/Engineer Address 1	[0..1]	Sender Recipient Notiffee:{Organization}.PostalAddress.AddressLine1
Architect/Engineer Address 2	[0..1]	Sender Recipient Notiffee:{Organization}.PostalAddress.AddressLine2
Architect/Engineer City	[0..1]	Sender Recipient Notiffee:{Organization}.PostalAddress.Town
Architect/Engineer State	[0..1]	Sender Recipient Notiffee:{Organization}.PostalAddress.Region

Architect/Engineer Country	[0..1]	Sender Recipient Notifier:{Organization}.PostalAddress.Country
Architect/Engineer Postal Code	[0..1]	Sender Recipient Notifier:{Organization}.PostalAddress.PostalCode
Architect/Engineer Company Phone	[0..1]	Sender Recipient Notifier:{Organization}.TelecomAddress.Telephone
Architect/Engineer Company Fax	[0..1]	Sender Recipient Notifier:{Organization}.TelecomAddress.Facsimile
Architect/Engineer Representative Last Name	[0..1]	Sender Recipient Notifier:{Organization}.Representative.FamilyName
Architect/Engineer Representative First Name	[0..1]	Sender Recipient Notifier:{Organization}.Representative.GivenName
Architect/Engineer Representative Title	[0..1]	Sender Recipient Notifier:{Organization}.Representative.RepresentativeTitle
Architect/Engineer Representative Phone	[0..1]	Sender Recipient Notifier:{Organization}.Representative.TelecomAddress.Telephone
Architect/Engineer Representative Fax	[0..1]	Sender Recipient Notifier:{Organization}.Representative.TelecomAddress.Facsimile
Architect/Engineer Representative e-mail Address	[0..1]	Sender Recipient Notifier:{Organization}.Representative.TelecomAddress.Email

Compensation, Billing, & Payment Information

Compensation Terms (choose one)

Stipulated Sum (fixed fee)		
Sum (fixed fee)	[0..1]	CompensationTerm{LumpSum}.LumpSum
Per Rate Schedule		
Rate Schedule	[0..1]	CompensationTerm{UnitPrice}.UnitCost CompensationTerm{UnitPrice}.EmployeeRate
Other	[0..1]	?
Proposed Billing Terms	[1]	CompensationTerm.Description
Proposed Payment Terms	[1]	CompensationTerm.Description

Insurance Coverage Information

For all required insurance coverage in effect, provide:

Type of coverage	[0..*]	InsuranceTerm.Liabilities[n].InsuranceType
Name of insurer	[0..*]	InsuranceTerm.Liabilities[n].InsurerName
Limit of liability	[0..*]	InsuranceTerm.Liabilities[n].LiabilityLimit
Policy expiration date	[0..*]	InsuranceTerm.Liabilities[n].ExpirationDate

Project/Property Information

Property Legal Description	[1]	Project.Description
Property Common Description		
Project Name 1 (e.g., Smith Biophysics Laboratory)	[1]	Project.Name
Project Name 2 (e.g., University of Toledo)	[1]	Project.Description
Project Reference Number	[1]	Project.ProjectId
Project Street Address 1	[1]	Project.Address.AddressLine1
Project Street Address 2	[1]	Project.Address.AddressLine2
Project City	[1]	Project.Address.Town

Project State/Province	[1]	Project.Address.Region
Project Country	[1]	Project.Address.Country
Project Postal Code	[1]	Project.Address.PostalCode

Additional Requirements

Additional Requirements	[0..*]	AttachmentList
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Attachments

Attachments by Recipient/Requestor	[0..*]	AttachmentList
Attachments by Submitter	[0..*]	AttachmentList
Other attachments	[0..*]	AttachmentList

Table 1: agcXML path information assigned to the fields of the comparative analysis for requests for proposal