IFRA adConnexion

XML Vocabulary

Version: 1.1

Release 2

Release date: 2003-05-13

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1. Version History

2003-05-13: IFRA adConnexion version 1.1, release 2

Updated by Ulf Wingstedt, CNet Svenska AB, Sweden, for IFRA.

Release 2 of version 1.1 corrects errors in the specification as well as improves descriptions. It will not affect the DTD.

Modifications:

1. Corrected name of standard for country codes that should be ISO 3166-1 alpha-2 in capital letters. Older versions of adConnexion have never explicitly stated if the country codes should use lower or upper case letters. However, the examples have used lower case while the ISO standard require upper case. The adConnexion specification is now updated to follow the standard.
2. Added diagrams of important parts of the structure.
3. Corrections of misspelled words and other typo's.

2002-11-08: IFRA adConnexion version 1.1

Updated by Ulf Wingstedt, CNet Svenska AB, Sweden, for IFRA.

The release version include a few minor corrections and one addition of permitted values to a value set.

Modifications:

1. The **transmissionChannel** attribute accepts additional values HTTPS and SOCKETS.
2. The attributes for the **ArtworkData** element are made optional in case of XML content.

2002-10-04: Release Candidate for IFRA adConnexion version 1.1

Updated by Ulf Wingstedt, CNet Svenska AB, Sweden, for IFRA.

Version 1.1 is a minor update that corrects a few errors and unclear definitions. It is based on input and feedback from developers who have worked on the implementation of import/export functionality in ad booking systems.

Modifications:

3. The namespace definition has been changed to use IFRA's domain address www.ifra.com instead of the Swedish Newspaper Publishers' Association (TU). It is also declared as a fixed value in the DTD. In addition, the version number has been updated to 1.1.
4. A section has been added that provides a set of guidelines on how the adConnexion DTD should be used.
5. A need for being able to handle several **Advertiser** elements in case of so-called shared orders has been identified. The specification has been updated to allow this.

6. The **previousAdInsertion** attribute in the **Update** element is no longer mandatory. All transactions that refer to a previous booking will use the **AdInsertion/@referenceID** as default. If the **previousAdInsertion** is used, it will override the **referenceID**.

7. The semantics of the different types of Transactions have been elaborated.

8. The content model for the **ArtworkData** element has been changed to ANY in order to allow in-line ad data as XML mark-up.

9. The definition of **Payer** attribute **customDesign** has been corrected.

10. Further descriptions added. The overview and general XML parts have been updated.

2001-06-14: First version, IFRA adConnexion 1.0

First international translation by Iocore Solutions Oy, Finland.

2. Introduction

This document describes an electronic way of implementing a newspaper's advertising processes, including quotation, order, confirmation etc. The document shows how the IFRA adConnexion XML message can be used to interchange information between different parties involved in ad ordering transactions.

This document together with the DTD gives a complete specification of IFRA adConnexion version 1.1. It will replace all earlier versions that are no longer valid and, thus, should not be used.

Reading instructions

This document is together with the DTD the formal specification of the adConnexion vocabulary. Additional information such as example data is available at the adConnexion web site hosted by IFRA (http://www.ifra.com).

New and significantly updated areas in this version are marked using blue text and a left change bar, like this paragraph.

The document is divided into three different parts:

1. Description of the supported ad order process (chapter 3)
2. Introduction to XML (chapter 4)
3. The IFRA adConnexion overview and message definition (chapters 5-6)

3. Ad Order Processes

The data flows included in the XML message between different parties in ad order processes can be described as follows:

Advertiser						1.Quotation inquiry 3.Order 4.Changes
	Ad agency					
		Media agency	1.Quotation inquiry 3.Order 4.Changes			1.Quotation inquiry 3.Order 4.Changes
		2. Quotation 5. Confirmation	**Space seller**			1.Quotation inquiry 3.Order 4.Changes
				Reprohouse		
					Courier	
2. Quotation 5. Confirmation 6. Pre-invoice		2. Quotation 5. Confirmation 6. Pre-invoice	2. Quotation 5. Confirmation 6. Pre-invoice			**Newspaper**

Figure 1: IFRA adConnexion, supported processes

1. Quotation inquiry

The possible actors of quotation inquiry (advertiser, media agency or space selling company) ask the newspaper or the space selling company for a quotation for the ad.

2. Quotation

The recipient of the quotation inquiry (space selling company) sends a quotation to the media agency.

3. Order

Buyers of ad space send ad orders to newspapers or to space selling companies. Ad orders are sent in spite of the binding ad space reservation.

4. Changes

An ad order or an ad space reservation may be changed within the specified time limits or it can be completely cancelled.

5. Confirmation

When the order is accepted, an order confirmation is transmitted to the sender of the order.

6. Pre-invoice

Pre-invoice itemizes the invoice according to the media agency's ad orders so that the media agency is immediately able to start invoicing. The actual invoice will be sent later. Pre-invoice makes it possible for the media agencies to allocate ad invoices to their customers' accounts.

4. XML (eXtensible Markup Language)

Extensible Markup Language (XML) is a markup language for documents containing structured information. A markup language is a method to specify structures in a document. The XML specification defines a standard way to add markup to documents.

XML is also a language for describing other languages (a meta-language) which lets the user design his or her own markup. A predefined markup language like HTML (HyperText Markup Language) defines a way to describe information in one specific class of documents: XML, in turn lets the user describe his or her own customized markup languages for different documents or purposes.

XML is defined as an application profile of SGML which means that XML documents are conforming SGML documents. SGML is the Standard Generalized Markup Language defined by ISO 8879. SGML has been the standard, vendor-independent way to maintain repositories of structured documentation for more than a decade.

XML document structure

XML describes a document's structure and meaning. It does not describe the formatting of the elements e. g. on the page. Formatting can be added to documents using stylesheets, but the document itself only contains tags that describe the contents of the document, not the appearance of the document.

Each XML document has both a logical and a physical structure. Physically, the document is composed of information units called entities. An entity may refer to other entities to cause their inclusion in the document. A document begins in a "root" or document entity. Logically, the document is composed of declarations, elements, comments, character references, and processing instructions, all of which are indicated in the document by explicit markup. The logical and physical structures must nest properly.

Elements

Elements are the most common form of markup. Delimited by angle brackets, most elements identify the nature of the content they surround. Elements begin with a start-tag, <element>, and end with an end-tag, </element>. Some elements may be empty in which case they have no content.

Example	Description
<Elementname>elementvalue</Elementname>	element 'Elementname' with value 'elementvalue'
<Elementname></Elementname>	empty element 'Elementname'
<Elementname/>	empty element 'Elementname'

An XML document contains one or more elements, which in turn can contain zero or more child elements. There is exactly one element, called the root, or document element, no part of which appears in the content of any other element. For all other elements, if the start-tag is in the content of another element, the end-tag is in the content of the same element (elements nest properly within each other).

Element type declarations identify the names of elements and the nature of their content. A typical element type declaration in DTD (Document Type Definition) is like the following:

```
<!ELEMENT Example (child1+, child2, child3?, child4*)>
```

This declaration identifies the element named Example. Its content model follows the element name. The content model defines what an element may contain. In this case, an Example element must contain child1 and child2 and may contain child3 and child4. The commas between element names indicate that they must appear in that given order. The plus (+) after child1 indicates that it may be repeated more than once but must occur at least once. The question mark (?) after child3 indicates that it is optional (it may occur zero times or exactly once). A name with no punctuation, such as child2, must occur exactly once. A '*' character after child4 means, that the element can appear zero or more times.

Attributes

Attributes are name-value pairs that occur only within start-tags and empty-element tags after the element name. For example,

```
<Elementname attributename="attributevalue">
```

is an 'Elementname' element with the attribute 'attributename' having the value 'attributevalue'. In XML, all attribute values must be quoted.

Attributes are used to associate name-value pairs with elements. The purpose of the attribute-list declarations is to specify the name, data type, and default value of each attribute associated with a given element type.

In an attribute declaration, #REQUIRED means that the attribute must always be provided, #IMPLIED that no default value is mandatory. The #FIXED keyword states that the attribute must always have the default value.

DTD

A Document Type Definition (DTD) provides a list of the elements, tags, attributes, and entities contained in the document and their relationship to each other. DTDs specify a set of rules for the

structure of a document. DTDs may be included in the file that contains the document they describe or they may be linked to from an external URL.

A validating parser reads a DTD and checks the validity of an XML document. An XML document is valid if it has an associated document type declaration and if the document complies with the constraints expressed in it.

XML Schema

XML Schemas are in many cases more expressive than DTDs. XML Schemas are an XML language for describing and constraining the content of XML documents. XML Schema is a Recommendation from the W3C (http://www.w3.org).

The purpose of an XML Schema is to define and describe a class of XML documents by using schema constructs to constrain and document the meaning, usage and relationships of their constituent parts: data types, elements and their content, attributes and their values. In schemas, a constraint defines what can appear in any given context. There are basically two kinds of constraints: content model constraints describe the order and sequence of elements and datatype constraints describe valid units of data.

Namespaces

The aim of using namespaces is to guarantee uniqueness for the names of element types, attributes, etc., for example when:

- a document contains markup defined in multiple schemas, which may have been authored independently.
- the vocabularies of various languages (DTDs) are combined to reuse parts of already-written modules
- the aim is to allow search engines or other tools to operate over a range of documents that vary in many respects but use common names for common element types.

XML namespaces are based on the use of qualified names, which contain a single colon, separating the name into a namespace prefix and the local name. The prefix, which is mapped to a URI, selects a namespace. The combination of the universally-managed URI namespace and the local schema namespace produces names that are guaranteed universally unique.

5. IFRA adConnexion vocabulary

IFRA adConnexion is an XML based vocabulary for the newspaper industry. The vocabulary can be used for transmitting different electronic requests and other industry-specific data between organizations' different information systems. This electronic data interchange (EDI) occurs between given message sender and recipient. In this version of IFRA adConnexion only the interchange of different ad ordering transactions are specified, but in the future it is also possible to support other types of data flows.

The current version of the IFRA adConnexion vocabulary concentrates on the ad booking and ordering processes. It also provides possibility to specify details concerning the advertisement's production. These details can define e.g. colour and size information of the ad. In addition, every party involved in the ad booking and production processes can be defined using respective elements of the message. The vocabulary can also be used for transmitting financial information in terms of price and discount elements. This information, however, cannot be considered sufficient for invoicing purposes, but can be used for example for compiling statistics.

Each ad order message can be separated into four main areas:

1. SpaceSellers. Every booking request belongs to one or more space selling companies. There is a requirement that all information content in ad booking is common for all sellers.
2. Payment. Payment conditions that are required for expressing the price and discount of the ad and the invoicing address of the company.
3. CustomerParties. All the parties involved in newspaper advertising (ad agency, media agency, space selling company etc.)
4. ProductionDetail. Parameters that drive the production process of the ad. Publishing, placing, colours, size etc.

Using the adConnexion DTD

Guidelines for how the adConnexion DTD should be used in practice are:
1. Developers of functions for exporting adConnexion files should ensure that the exported output is valid according to the current adConnexion DTD.
2. The DOCTYPE declaration is not required to be included in adConnexion files. The importing system should decide if a run-time validation should be performed or not.
3. Especially, a Cancel transactions is not required to fulfill the requirements from the complete DTD, see the Transaction element description below.
4. If present, the DOCTYPE declaration should reference the DTD file using a relative reference naming only the DTD file as named at the IFRA adConnexion web site. The DTD reference should never point directly to the DTD at the IFRA web site eventually causing too much traffic to the site.

Naming of Elements and Attributes

Naming principles used for elements and attributes of adConnexion XML vocabulary are described below:

- Element: Initial letter with capital. In cases where the element name consists of many words, each word starts with a capital letter (e. g. SpaceSellers).
- Attribute: Initial letter with small letter. In cases where the attribute name consists of many words, the first word starts with a lower case and the following words with a capital letter (e. g. mediaType).

Exception: Abbreviations are written in capital letters. e.g. VATNo.

Note: XML is a case-sensitive language, so the naming rules and the usage of upper and lower case must be strictly carried out.

Structural Overview

This section gives a brief overview of the adConnexion XML structure using hierarchical diagrams. For detailed information, please se the following section "Element Definitions".
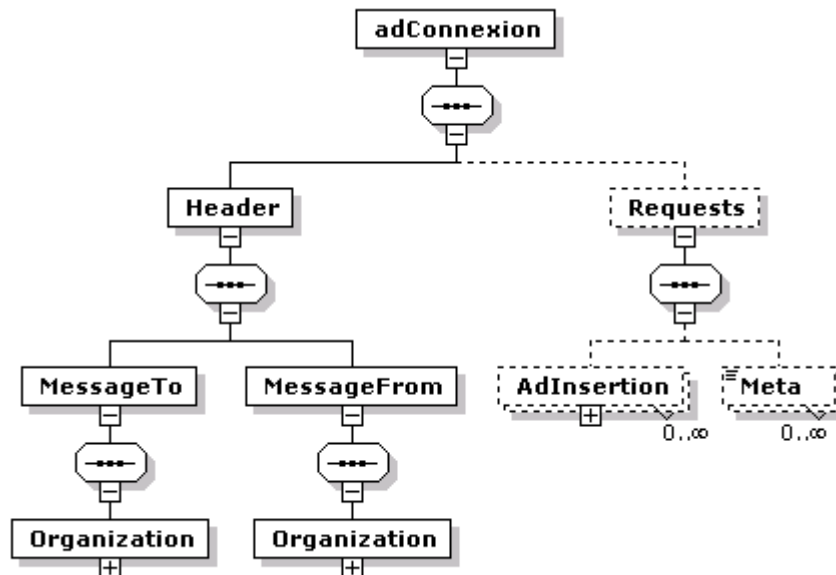

*Figure 1. The adConnexion envelope consists of an **Header** and a **Request** of a set of **AdInsertion** elements. **Meta** information can be added to a Request.*
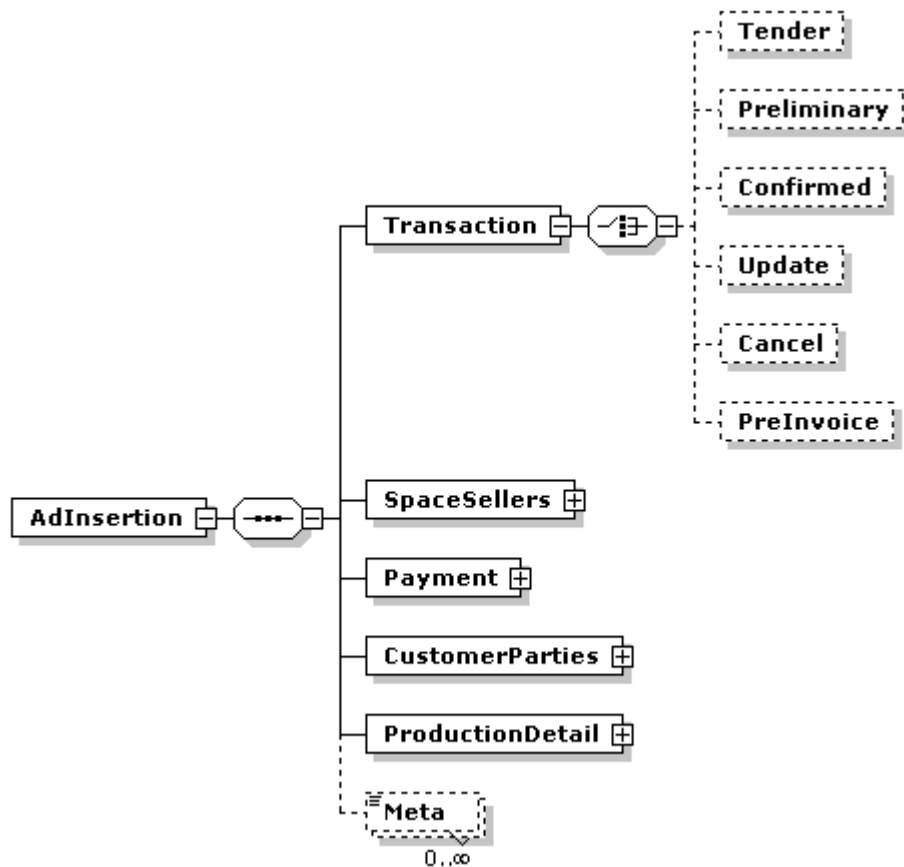
Figure 2. The AdInsertion holds all information regarding ad insertion transactions. The Transaction element specify if the booking is confirmed, an update to a previous booking etc. The SpaceSellers element defines the organizations selling ad space in the transaction. The Payment element specifies prices including discounts and payers. The CustomerParties element defines a set of organizations that are customers or their agents. The ProductionDetail element defines information about the production of the ad, such as placement and colors. An optional Meta element can be used for additional application specific information in connection with the transaction.

6. Element Definitions

<adConnexion>

Element name: adc:adConnexion

Element Parent(s): (top level element)

An adConnexion message can be seen as an envelope, in which the information part is instructions for message transmission (sender and recipient), and the other part describes the content of the message (ad order data).

adc:adConnexion is a top-element of the message. Within that element is a namespace declaration **adc** for adConnexion. This namespace has a reference to a URL address: http://www.ifra.com/adconnexion/#v.1.1.

In addition to a namespace declaration, **adc:adConnexion** has two mandatory attributes:

id, which is a unique identifier for the message, and

version, which specifies the version number for valid adConnexion message

For creating a unique identifier for the message, it is proposed to use ISO 3166-1 alpha-2, capital letters in front of the sender's organization number plus sender's internal identification number.

For example: SE55650944551239

Every message starts with a mandatory **Header** element, followed by the message content. In this version, one type of content, "**Requests**", is specified.

<AdInsertion>

Element name: adc:AdInsertion

Element Parent(s): adc:Requests

Every ad ordering transaction is expressed as an **AdInsertion** element. Different types of requests (offers, advance bookings, orders, updates, cancellations) are distinguished from each other by using the **Transaction** sub element. The elements **Transaction**, **SpaceSellers**, **Payment**, **CustomerParties** and **ProductionDetail** are mandatory and should appear once.

AdInsertion's optional **Meta** sub-element can be used to add any non-standard information to the message. A **name** attribute in the **Meta** tag should be used to describe this information.

AdInsertion has the following attributes:

1. **referenceID**: A mandatory reference identifier, which should be unique within the message. Moreover, during a sequence of transactions regarding the same booking (updates, cancellations etc) this identifier is envisaged to be stable and unchanged. This property will be used by ad booking systems to keep track of which order to change. The referenceID can, however, also be overridden by the **previousAdInsertion** attribute on the transactions, see **Transaction** for more information.
1. **adHeading**: Text header
2. **mediaType**: Type of advertisement's media. Following types are specified: print, web
3. **linkingID**: reference number of a page consisting of multiple ads connected together ("space share" ads).

<AdMediator>

Element name: adc:AdMediator
Element Parent(s): adc:CustomerParties

Additional customer parties involved in the ad ordering processes between the advertiser and the newspaper are expressed in the element **AdMediator**.

For further details, see **CustomerParties**

<Advertiser>

Element name: adc:Advertiser
Element Parent(s): adc:CustomerParties

The **Advertiser** element identifies an advertiser.

For further details, see **CustomerParties**

<Artwork>

Element name: adc:Artwork
Element Parent(s): adc:ProductionDetail

The **Artwork** element is used for specifying a reference to the original artwork using one or more sub elements **Rendition**. Each Rendition is an alternative physical representation of the ad, e.g. an EPS and a PDF version.

Rendition has the following attributes:

1. **name**: name of the rendition (mandatory).

2. **type**: type of artwork (mandatory). The type may be digital or analog {digital |analog}. For more detailed information, use the attribute **mimeType** described below.

3. **referenceID**: reference number e. g. order number for artwork.

4. **description**: free text about the artwork.

5. **mimeType**: MIME type code for digital artwork

6. **transmissionMethod**: describes whether the artwork will be retrieved (Push) or delivered (Pull). {Push | Pull}

7. **transmissionChannel**: describes the channel for artwork transmission. The value set includes: {Courier|Mail|FTP|HTTP|HTTPS|SMTP|SOCKETS}

8. **address**: address (e. g. URL) where the original artwork can be retrieved or delivered using the specified method and channel.

Rendition has one optional sub-element **ArtworkData**. This element can be used for integrating the artwork into the XML file. The content of the **ArtworkData** element can be an XML stream containing e. g. classified ads with meta data and pictures.

ArtworkData has the following optional attributes:

1. **encoding**: defines the used encoding of the artwork, normally Base64 (optional).

2. **length**: defines the size of the artwork (optional).

The attributes are optional in the case of XML content, but are expected to be present when content of the **ArtworkData** element consists of a text encoded image etc.

<ArtworkData>

Element name: adc:ArtworkData

Element Parent(s): adc:Rendition

See **Artwork**.

<Cancel>

Element name: adc:Cancel

Element Parent(s): adc:Transaction

The **Cancel** element specifies if the **AdInsertion** refers to a cancelled booking.

See **Transaction.**

\<Colours\>

Element name: adc:Colours
Element Parent(s): adc:ProductionDetail

The **Colours** element defines the colour usage for the advertisement. The element is a mandatory sub element of **ProductionDetail**.

Colours has a mandatory attribute **colourType**, which should contain one of the following values:

0: black and white
1: 1-colour
2: 2-colour
3: 4-colour
s: spot colour

In cases where the value of **colourType** is <u>not</u> 0 or 3 (black & white or 4-colour), it is required to define colours for 1-colour and 2-colour ads. For these purposes, attributes **colourCode1** and **colourCode2** should be used. These attributes should have values according to the respective code list specified in **colourCodeList** attribute. Recommended values for colourCode1 and colourCode2 are C, M, Y. It is possible to define other colour code lists e.g. for national, international or mutually defined practices.

Free text description of the colour information can be given as content of the **Colour** element. See **ProductionDetail**.

\<Company\>

Element name: adc:Company
Element Parent(s): adc:Contact

The **Company** element is a sub element of **Contact**. The element and its attributes define the company or possible machine readable code for identification of the company. **Company** has three sub elements: **NetAddress**, **Phone** and **MailAddress** for defining a company's contact addresses and phone numbers.

Company has the following optional attributes:
1. **name**: Name of the company.
2. **companyCode**: Company code according to existing code lists defined in the **codeList** attribute
3. **codeList**: A commonly approved name for the code list, which is used with the **companyCode** attribute.

See **Contact**.

<Confirmed>

Element name: adc:Confirmed

Element Parent(s): adc:Transaction

The **Confirmed** element specifies if the **AdInsertion** refers to a confirmed booking.

See **Transaction.**

<Contact>

Element name: adc:Contact

Element Parent(s): adc:Organization

The **Contact** element contains contact information about the organization and its staff. **Contact** is used as a sub element of **Organization**, which appears in different contexts in the adConnexion structure. Depending on the case, different rules for appearances of **Contact**'s sub elements can be defined. The common model is open and does not limit the occurrences of elements, but e. g. use within the **Payer** element requires complete address structure to be used.

<ContactPerson>

Element name: adc:ContactPerson

Element Parent(s): adc:Contact

The **ContactPerson** element is a sub element of **Contact**. It is used to specify the name of the organization's contact person. The element has two optional attributes:

1. **name**: Contact person's name
2. **role**: Contact person's role

See **Contact** for further information.

<CustomerParties>

Element name: adc:CustomerParties

Element Parent(s): adc:AdInsertion
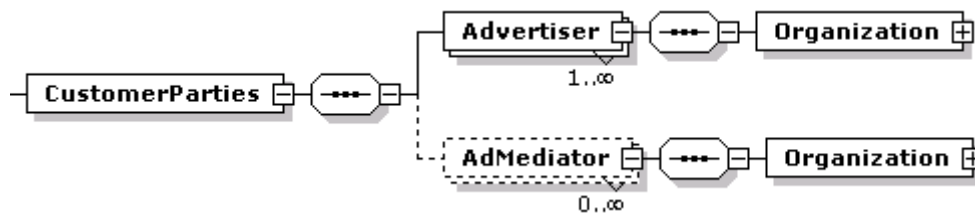
The **CustomerParties** element identifies the customer parties involved in the ordering process including artwork production etc. **CustomerParties** must contain at least one party that is the **Advertiser**. Other parties (e.g. ad agency, media agency, space selling company) are defined in the **AdMediator** element which is optional and appears zero or more times in the message.

Both **Advertiser** and **AdMediator** elements can have the following optional attributes:

1. **proofRequired**: Specifies whether the customer needs a proof.
2. **sampleRequired**: Specifies whether the customer needs a sample of the ad.
3. **internalReference**: An internal reference that the advertiser may use.

Furthermore, the **AdMediator** element can be specified using the **type** attribute:

1. **type**: Identifies the type of **AdMediator**: { (ADSPACESELLINGCOMPANY | GROUPBUY | ADAGENCY | MEDIAAGENCY | REPROHOUSE | ADPRODUCTIONCOMPANY}

<Discount>

Element name: adc:Discount

Element Parent(s): adc:TotalPrice, adc:PartPrice

The **Discount** element provides details on the allowance or charge. See **Payment** for further details.

<Edition>

Element name: adc:Edition

Element Parent(s): adc:Publication

The **Edition** element identifies the edition of the publication. See **Placement** for further details.

<Format>

Element name: adc:Format

Element Parent(s):adc:Size

The **Format** element is used for instructions about the physical size of the ad. See **Size** for further information.

<Header>

Element name: adc:Header
Element Parent(s): adc:adConnexion

The **Header** element includes two mandatory attributes:

1. **sendingTime**: Local sending time according to sending system.
   Format: yyyymmdd hhmmss+hhmm e. g. 20010912 183230+0200. Please note the single space separating the day from the hour.
2. **sendingSystemSignature**: Expresses a signature for the system that generates the adConnexion message.

Header consists of two mandatory elements **MessageTo** (message recipient) and **MessageFrom** (message sender). Both these elements include mandatory appearances of the **Organization** element, which specifies the organization's identifiers and address or contact information.

Note that the use of **Organization** element within **Header** element does not extend the requirements set for **Organization** element's mandatory parts elsewhere in the message.

<InsertionDate>

Element name: adc:InsertionDate
Element Parent(s): adc:InsertionDateList

The **InsertionDate** element specifies the publication dates or the start and end date intervals within which each ad should be published. See **Scheduling** for further information.

<InsertionDateList>

Element name: adc:InsertionDateList
Element Parent(s): adc:Scheduling

The **InsertionDateList** element expresses how many times the ad is repeated in total. See **Scheduling** for further information.

<MailAddress>

Element name: adc:MailAddress
Element Parent(s): adc:Company, adc:ContactPerson

The **MailAddress** element is used under the **Company** and **ContactPerson** elements for specifying the company's mailing addresses.

MailAddress has the following optional attributes:

1. **COAddress**: CO-address or first address line
2. **streetMBox**: Street address or PO box (second address line)
3. **zipCode**: Postal code
4. **city**: City
5. **countryCode**: Machine-readable country code according to ISO 3166-1 alpha-2, capital letters.

\<MessageFrom>

Element name: adc:MessageFrom

Element Parent(s): adc:Header

See **Header.**

\<MessageTo>

Element name: adc:MessageTo

Element Parent(s): adc:Header

See **Header.**

\<Meta>

Element name: adc:Meta

Element Parent(s): adc:AdInsertion, adc:Requests

See **AdInsertion** or **Requests.**

\<Module>

Element name: adc:Module

Element Parent(s):adc:Size

The **Module** element is used for instructions about the physical size of the ad. See **Size** for further information.

\<NetAddress>

Element name: adc:NetAddress

Element Parent(s): adc:Company, adc:ContactPerson

The **NetAddress** element includes attributes to specify a party's Internet address (email , URL and ICQ address).
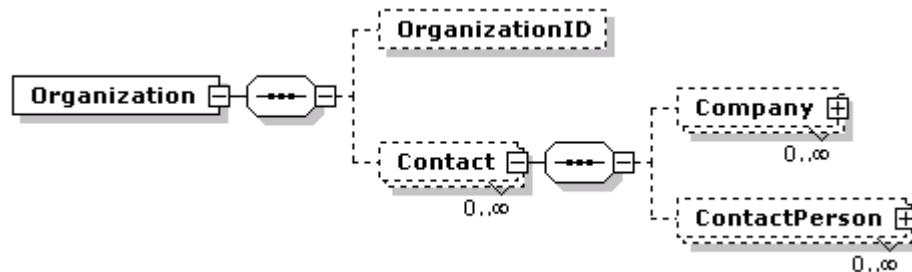
NetAddress has the following optional attributes:

1. **eMail**: e-mail address
2. **URL**: URL (Universal Resource Locator) address.
3. **ICQ**: ICQ address

<Organization>

Element name: adc:Organization

Element Parent(s): adc:MessageTo, adc:MessageFrom, adc:Advertiser, adc:AdMediator, adc:Payer

The **Organization** element defines a company or an organization by using its sub elements **OrganizationID** and **Contact**. The sub elements are not mandatory in the common model, but they may be in certain contexts. See e.g. the **Payer** element expressing the invoice recipient, where **OrganizationID** must appear.

Organization is used as a sub element for many elements in the adConnexion definition. See the respective element descriptions for further information about how the use of **Organization** element varies from case to case.

<OrganizationID>

Element name: adc:OrganizationID

Element Parent(s): adc:Organization

The element defines the information structure required for identification of the company or organization. In addition to its sub elements, **OrganizationID** has the following attributes:

1. **countryCode:** Machine readable country code for the country where the organization is registered. The code should be provided according to the ISO 3166-1 alpha-2, capital letters.
2. **VATNo**: Value added tax number for the organisation.
3. **officeCode**: Identifies an office within a company
4. **partyID**: Alternative way of identifying the party using e.g. mutually defined company coding.

None of the attributes mentioned above are mandatory in the definition's common model. Exceptions concerning the mandatory use of **VATNo** and **CountryCode** occur e. g. in cases where the organization acts as recipient of an invoice.

See **Organization.**

<PartPrice>

Element name: adc:PartPrice
Element Parent(s): adc:Payer

The **PartPrice** element is meant for specifying prices for a single ad insertion.
See **Payment**.

<Payer>

Element name: adc:Payer
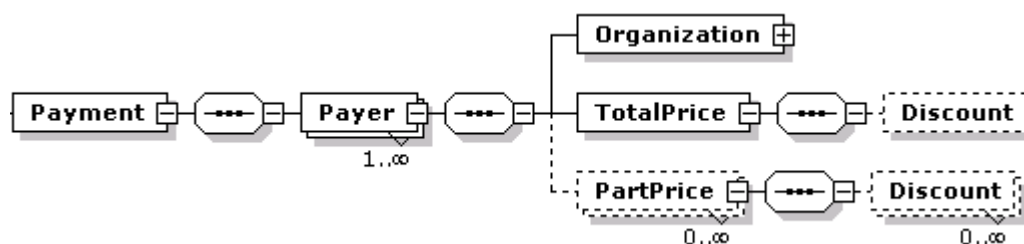*Element Parent(s): adc:Payment*

The **Payer** element defines the payer of the ad. The element appears as a part of the payment conditions defined within the **Payment** element.

See **Payment** for further details.

<Payment>

Element name: adc:Payment
Element Parent(s): adc:AdInsertion

The **Payment** element is a group element for all data required for specifying payment conditions for the advertisement.

Payment can have one attribute:

1.   **currency**: defines the currency for each price information in the message. Value coding of the attribute is made following international currency coding standards.

It is also possible to share the payment between a group of customers. For this purpose there are optional attributes **shareColour** and **shareSpace** within the **Payment**'s sub element **Payer**:

1. **shareColour**: Percentage of the price based on colour
2. **shareSpace**: Percentage of the price based on ad space.

In cases where there is only one payer for the advertisement, percentage values of **shareColour** and **shareSpace** must be set to 100. When several payers are present, the total sum of the percentage shares must be 100.

The **Payer** element has one optional attribute:

1. **payerReferenceNo**: The payer's internal reference number

For each **Payer** element, the sub element **TotalPrice** should appear. The element can/must have the following attributes in order to specify the price for the ad.

1. **totalGrossPrice**: Total gross price <u>before</u> discounts (mandatory)
2. **grossPriceType**: Type of gross price, agreed or catalog price {agreed | catalog}.
3. **totalNetPrice**: Total net price <u>after</u> discounts (mandatory)
4. **unitPrice**: Price per unit.
5. **black**: Price for black and white ad.
6. **colourSupplement**: Price for colour supplement
7. **customDesign**: Price for services performed by the space seller

For each **Payer** element, one or more **PartPrice** sub elements can appear. The element is meant for specifying prices for a specific ad insertion in case of more than one insertion (see **Scheduling**). If the **PartPrice** element is used, the sum of its parts must be equal to values given in **TotalPrice** element. Also, the number of appearances must be equal to the number of ad insertions. The element can/must have the following attributes in order to specify the price for an insertion:

1. **insertionDate**: A type #IDREF (unique within a document) reference to a specific **InsertionDate** element within the **ProductionDetail/Scheduling** element (mandatory).
2. **subtotalGrossPrice**: Total gross price for the ad insertion, <u>before</u> discounts (mandatory).
3. **grossPriceType**: Type of gross price, agreed or catalog price {agreed | catalog}.
4. **subtotalNetPrice**: Total net price for the ad insertion <u>after</u> discounts (mandatory)
5. **unitPrice**: Price per unit.
6. **black**: Price for black and white ad.
7. **colourSupplement**: Price for colour supplement
8. **customDesign**: Price for services performed by the space seller

Furthermore, each **TotalPrice** or **PartPrice** can contain a **Discount** sub element. It can/must have the following attributes in order to express the advertisement's discount information:

1. **qualifier**: Defines whether the given values are of type discount or additional charge {allowance | charge}.
2. **calculationSequence**: defines the calculation sequence (running number from 1 ton N) for allowance/charge.
3. **discountCode**: Code for allowance/charge according to specified code list.
4. **discountCodeList:** Code list identifier for the used discount codes.
5. **unit**: Mandatory unit for discount, percentage share or absolute {percentage | absolute}
6. **repetition**: Discount for repeated ad.
7. **repetitionBlack**: Discount for repeated, black & white ad
8. **repetitionColour**: Discount for repeated, colour ad
9. **customDesign**: Discount on services performed by the space seller
10. **customDesignBlack**: Discount on services performed by the space seller (black & white ad)
11. **customDesignColour**: Discount on services performed by the space seller (colour)
12. **contractual**: Discount based on specific contract
13. **contractualBlack**: Discount based on specific contract (black & white ad)
14. **contractualColour**: Discount based on specific contract (colour ad)
15. **complaint**: Discount due to complaint.
16. **complaintBlack**: Discount due to complaint (black & white ad).
17. **complaintColour**: Discount due to complaint (colour ad).

The Payer is identified using a mandatory occurrence of the **Organization** element. Use of **Organization** element requires that attributes **countryCode** and **VATNo** are given. Furthermore, it is recommended that the complete invoicing address is described in the **Contact** element.

<Phone>

Element name: adc:Phone
Element Parent(s): adc:Company, adc:ContactPerson

The **Phone** element is used as a sub element for **Company** and **ContactPerson** for specifying telephone or fax numbers.

Phone has the following optional attributes:

1. **type**: Type of telephone, possible values are *voice* or *fax.*
2. **countryCode**: Country's dial code
3. **areaCode**: Area's dial code

4. **subscriberNo**: Subscriber's number

<Placement>

Element name: adc:Placement

Element Parent(s): adc:ProductionDetail

The **Placement** element describes placing instructions for the ad and it is presented as a mandatory part of the **ProductionDetail** element. **Placement** has three optional attributes:

1. **placementCode:** Defines a placement code according to commonly approved code systems.
2. **placementCodeList:** A code list identifier for the respective placement code.
3. **natureOfPlacement**: Expresses whether the placement in question is a request or definite {request | definite}.

Placement has also a sub element **Requirements** where free text may be used to define the placement of the ad or other additional requirements in detail.

Placement has a sub element called **Publication**. A mandatory attribute of **Publication** is **publicationName** that is the destination of the ad. It is also possible to use publication codes within a **publicationCode** attribute. These codes can be defined in specific code system, which is identified using the attribute **publicationCodeList**.

More detailed information about the publication can be defined using sub elements **Edition** and **Product**.

<PreInvoice>

Element name: adc:PreInvoice

Element Parent(s): adc:Transaction

A pre-invoice type of transaction. See **Transaction** for more information.

<Preliminary>

Element name: adc:Preliminary

Element Parent(s): adc:Transaction

The **Preliminary** element expresses that the **AdInsertion** in question is an advance booking.

See **Transaction.**

<PreviousInsertion>

Element name: adc:PreviousInsertion

Element Parent(s): adc:ProductionDetail

This element describes the reference numbers needed in case of a repeated ad. **PreviousInsertion** has two optional attributes:

1. **previousReferenceID**: The sender's previous referenceID for the ad.
2. **previousInsertionDate**: previous publication date of the ad.

<Product>

Element name: adc:Product
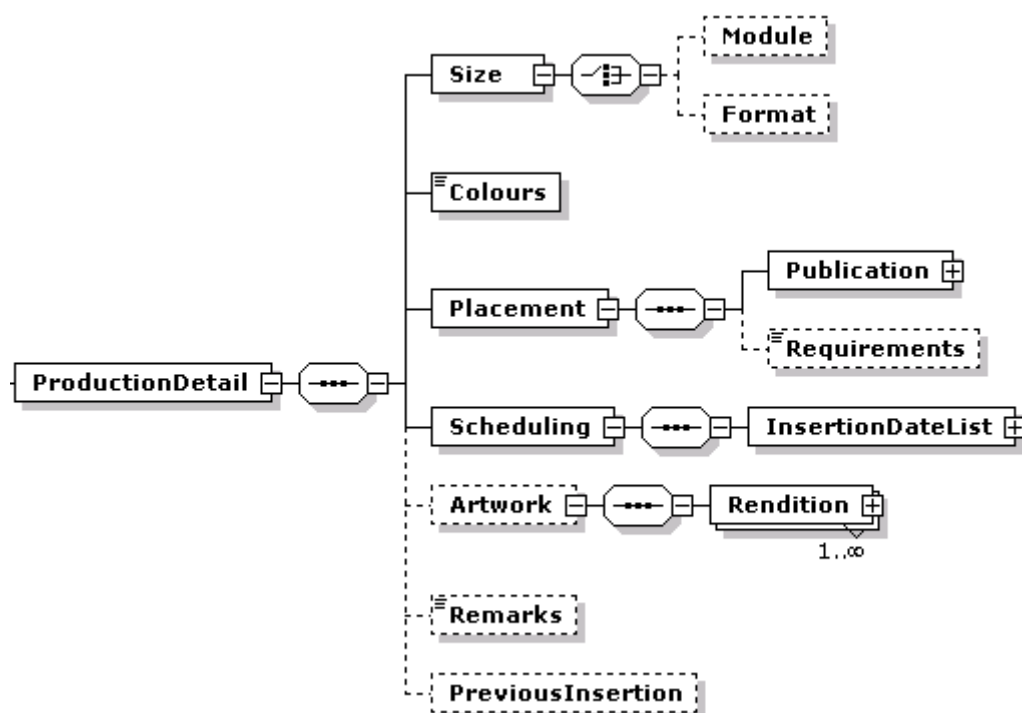
Element Parent(s): adc:Publication

The **Product** element identifies a product of the publication e. g. a supplement to a newspaper.

<ProductionDetail>

Element name: adc:ProductionDetail

Element Parent(s): adc:AdInsertion

ProductionDetail is a group element for production information related to the publication of the ad. The element includes four mandatory sub elements: **Size**, **Colours**, **Placement** and **Scheduling**. Furthermore, there is a possibility to include references to the original artwork (**Artwork**, optional), for specifying and completing the artwork information (**Remarks,** optional) and for including reference numbers needed in case of a repeated ad (**PreviousInsertion**, optional).

\<Publication\>

Element name: adc:Publication

Element Parent(s): adc:Placement

Publication with its sub elements identifies the publication, codes, code lists, edition and product of the publication

See **Placement**.

\<Remarks\>

Element name: adc:Remarks

Element Parent(s): adc:ProductionDetail

An element for free text that may be used for specifying and completing the artwork information. **Remarks** is used within the **ProductionDetail** element.

\<Rendition\>

Element name: adc:Rendition

Element Parent(s): adc:Artwork

The **Rendition** element specifies the respective artwork. See **Artwork**.

\<Requests\>

Element name: adc:Requests

Element Parent(s): adc:adConnexion

The **Request** element is reserved for specifying different types of requests. In this version only **AdInsertion** is specified. **Request**'s optional **Meta** sub-element can be used to add any non-standard information to the message. A **name** attribute in the **Meta** tag should be used to describe this information. See the top element **adConnexion** with the element **AdInsertion** for further details.

\<Requirements\>

Element name: adc:Requirements

Element Parent(s): adc:Placement

The element contains free text to specify the placement of the ad in detail.

\<Scheduling\>

Element name: adc:Scheduling

Element Parent(s): adc:ProductionDetail

The **Scheduling** element expresses the scheduling instructions for publishing of the ad. These instructions contain e. g. publishing dates or date ranges and total number of times the ad is to be published. The element is a mandatory part of the **ProductionDetail** element.

Scheduling has one mandatory sub element **InsertionDateList** that expresses how many times the ad is repeated in total. The actual insertion dates are provided in the **InsertionDate** element, which can exist one or more times and that defines the publication dates or date ranges for each ad insertion.

InsertionDateList has one mandatory attribute:

1. **totalNoOfRepetitions**: Expresses the total number of times the ad is to be published.

InsertionDate has four mandatory attributes:

1. **id**: An attribute of type #ID, which requires that the value of the id attribute must be unique within the ad order message.
2. **sequenceNo**: Indicates the sequence in question. Value must be from 1 (one) to **totalNoOfRepetitions**.
3. **startInterval**: Indicates the first date when the ad may be published
4. **endInterval**: Indicates the last date when the ad may be published

For dates, the recommended format is CCYYMMDD e. g. 20010129.

<Size>

Element name: adc:Size

Element Parent(s): adc:ProductionDetail

The **Size** element is used for instructions about the physical size of the ad, i.e. the size or space occupied by the published ad. The element is a mandatory sub element of **ProductionDetail**.

Size must be given by using one of two possible systems, module or format. Value of module (e. g. 88) is indicated in the **value** attribute of sub element **Module**. Module values are expressed with the attributes:

1. **moduleCodeList**: Code list, which defines the value codes used with the attribute **moduleCode**. Mandatory.
2. **moduleCode**: A code value for the module according to code list specified in **moduleCodeList**. Mandatory.

Format (e. g. 7x80) is given using the sub element **Format**'s attributes **columns** (mandatory) and **millimeters** (mandatory).

<SpaceSellers>

Element name: adc:SpaceSellers

Element Parent(s): adc:AdInsertion

The **SpaceSellers** element is used under element **AdInsertion** to identify an organization (e.g. a newspaper) or a group of organizations that sell the requested ad space.

<Tender>

Element name: adc:Tender

Element Parent(s): adc:Transaction

The **Tender** element specifies a quotation from ad space selling company to media agency. See **Transaction** for more information.

<TotalPrice>

Element name: adc:TotalPrice

Element Parent(s): adc:Payer

The **TotalPrice** element defines the price of the ad.

See **Payment.**

<Transaction>

Element name: adc:Transaction

Element Parent(s): adc:AdInsertion

The **Transaction** element is important and identifies the type of action that is requested to be performed by the receiver and, thus, should be the result of the request. The **Transaction** element is mandatory and should exist once in a message.

The **Transaction** element contains one of the following sub elements that identifies the type of action:

1. **Tender:** The element specifies a quotation from ad space selling company to media agency.
2. **Preliminary***:* A preliminary ad order.
3. **Confirmed***:* A confirmed ad order.
4. **Update***:* An update may refer to a quotation, preliminary ad space reservation or confirmed ad order.
5. **Cancel***:* Cancellation of a previous booking. Cancellation must be based on a earlier delivered offer, advance booking or other booking. A **Cancel** transaction must only be used to cancel a complete offer or booking. For other types of changes, use the **Update** transaction.
6. **PreInvoice***:* itemizes the invoice according to the media agency's ad orders so that the media agency is immediately able to start invoicing. The actual invoice will be sent later.

Referring to other ad insertions

For transactions that refer to and/or require a previous booking transaction, such as **Cancel** and **Update** but possibly also **Preliminary**, **Confirmed** and **PreInvoice**, a reference to the previous booking request has to be provided. This reference can be given using one of two models:

1. By adding an attribute **previousAdInsertion** to the transaction element that refer to the **AdInsertion/@referenceID** that should be affected by the transaction, or
2. By using the current **AdInsertion/@referenceID** value as default and not specifying the **previousAdInsertion** attribute.

Using this scheme, a provider of booking requests can keep a stable AdInsertion/@referenceID during a sequence of transactions where the explicit reference using the previousAdInsertion attribute can be left out.

Requirements on Data Completeness

Partial updates are not supported. All types of transactions, with the exception of **Cancel**, should carry a complete set of data according to the full adConnexion DTD. For instance, when using **Update**, the

complete data set has to be present in the adConnexion structure even though the update applies to a single element or attribute.

In the case of a **Cancel** transaction, the only element structure that is required to be processed by the receiver is the **AdInsertion/Transaction/Cancel** part. The rest of the structure is not required to be neither present or processed. Note that if the full data set is omitted from the **Cancel** request, it cannot be successfully validated using the full adConnexion DTD (rather than relaxing the DTD, we choose to keep it strict in order to provide useful validation support for transactions requiring the complete data set.

\<Update\>

Element name: adc:Update
Element Parent(s): adc:Transaction

The **Update** element expresses that an **AdInsertion** is a changed ad order. **Update** may refer to a quotation, preliminary ad space reservation or confirmed ad order. References to these are informed using **previousAdInsertion** attribute.