

klopotek. eBUSINESS

WEB AGENTS

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WEB AGENTS

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eBUSINESS

Web Agents



e-business with Klopotek

Web Agents

“One out of 10 Companies Finds its Supply Chain Deplorable” (Forrester Research, Spring 2001)

Know the feeling? You order a book from a well presented web site, which you want to give as a present at the weekend. Three days later, having received no reply you call the hotline and learn from the friendly person on the phone that the e-mails were only just downloaded. The person is kind enough to take the pile of printed e-mails, sort out your order, log-on to the electronic ordering system just to ascertain that the title that you require is already sold out. E-commerce?

Worlds Apart

Many publishers use sophisticated back-office software to support their business transactions electronically. Books and journals are accompanied throughout all planning, production and distribution processes. Customer and business partner addresses are efficiently managed, purchase orders are recorded and invoiced and the whole distribution process is organized.

Numerous publishers also maintain a sophisticated online shop. Here books and journals are also electronically managed. Again there are customer and business addresses, catalogs and content are offered, orders accepted and turnover generated.

In contrast to back-office software, the web shop offers a consumer front end; customers can search for products and place orders. The expectation related with the web – supply of speedy and reliable information, quick and reliable processing of orders – is hard to live up to because the web shop is often lacking efficient back-office software. Experts see this as the main stumbling block for the development of successful e-business.

"Only the Enterprises that Master the Challenges of the Supply Chain will become Successful e-Businesses " (E-Business, 07, 2001)

Web Agents link the back-office and web shop worlds. They connect the powerful Klopotek Publishing Solution to the internet and make it possible to implement new business models at web compatible speed.

Our Version of the New Economy is Simple

All new business models are handled by the Klopotek Publishing Software in exactly the same way as print and new media products. There is only one point where data is collected, managed and processed, regardless of its origin. Invoicing, statistics, reporting and export are redundancy-free, comprehensive and consistent. Regardless of where the order originated from, whether it was phoned in or placed via the internet, it is uniformly processed in an integrated system. Customer identification and an order number are sufficient, the rest is handled by the Klopotek software: product identification, determination of sales terms, order creation and the complete processing from invoicing, shipment, statistics and information supply to the financial accounting and external systems.

Web Agents

Forget about Complicated Web Shop Projects

Klopotek Web Agents are a perfect match for the Klopotek Publishing Solution. They thus facilitate the integration of different IT systems. With Web Agents you can just as easily integrate your existing web shop to the Klopotek system, as a newly built, powerful web shop. The individual corporate identity design and Web workflows are not affected by the Web Agents.

Web Agents offer the complete functionality that the Web application requires; connects you online directly to the Klopotek databases and makes available real-time data. The moment that the customer places the order on the Web site, the order is itself executed. Verifications are made immediately, the customer receives an instant reply, all data displayed is up-to-date. The data is immediately available in the back office. Interfaces that convert and exchange data are superfluous. It could not be simpler or faster.

Customer Self Care a Reality!

Web Agents provide your internet site with all the information the customer wants to have: Is my order registered? Has the product been shipped? Where will it be delivered? Answer these questions on the web site and relieve your back-office.

Your Products are Your Capital

It is of utmost importance that product data is available for all types of distribution and marketing activities. Product information for the web site, online and print catalogs, and all kinds of online bookshops. These are just a few examples of how centrally held information on products and journals can easily be processed further with the assistance of Web Agents. XML exports make it possible – simple and open for future developments.

Web Agent Technology

Web Agents implement an open API interface in Java. That is what makes integration into existing and new internet applications so easy. The data exchange between your web application and Web Agents uses XML.

The Web Agents themselves can be used as an integral part of a very high-performance web application that is based on Java Servlets. Our white papers on system architecture provide specific technical information.

Let's talk about what we can do for the success of your e-business

eBUSINESS

WEB AGENTS

Base Functionality

Klopotek disposes of a Java Base with different parts. It has been used for developing

- Interface APIs (Web Agents)
- Asynchronous "Batch" procedure
catalog export, title registrations, etc.
- Web applications
EDUCOM, SFG, VLB, ALBIS, WEB Agent Administration
- SOAP services
FUZZY! Post, FUZZY! Tel, FUZZY! Double, credit card processing.

The following is an overview of the "Web Agents" service scope.

INTERNATIONAL ADDRESS POOL

Web Agent Address Pool

Web Agent addresses the following web application needs:

- Integration of and Klopotek Publishing Solution in a central and integrated data pool
- Direct linkage of Web shops, content management systems, content sales
- User management and access authorization in Web applications
- Retrieval, editing and systemization of addresses from the Web with targeted marketing

Type of interface:

- Corresponding to the data model of the International Address Pool IAP within MEX
- Writing data which specific for a to MEX
- Supplying business partner data from MEX

Description of functions

- Creating new business partners, contacts and address data, as well as their communication data, classifications and standard usage information (e.g. delivery address)
- As a standard, the identification of a particular business partner is determined by the user authentication. Additional options for identifying business partners may be defined and implemented in the course of a project.
- Modification of a business partner, related contacts and address data, as well as the communication data, classifications and standard usage information.
- Access to order data belonging to a particular business partner (see Web Agents Book/Journal Order)
- Authentication with user IDs, passwords: the standard authentication maps a user (after having successfully logged on to the Web application) to the corresponding business partner within MEX. Therefore, a standard log-on with user ID/password administration – tuned to the Klopotek address pool – is available. External data and algorithms can be used and implemented in the course of a project.

Notes on the implementation

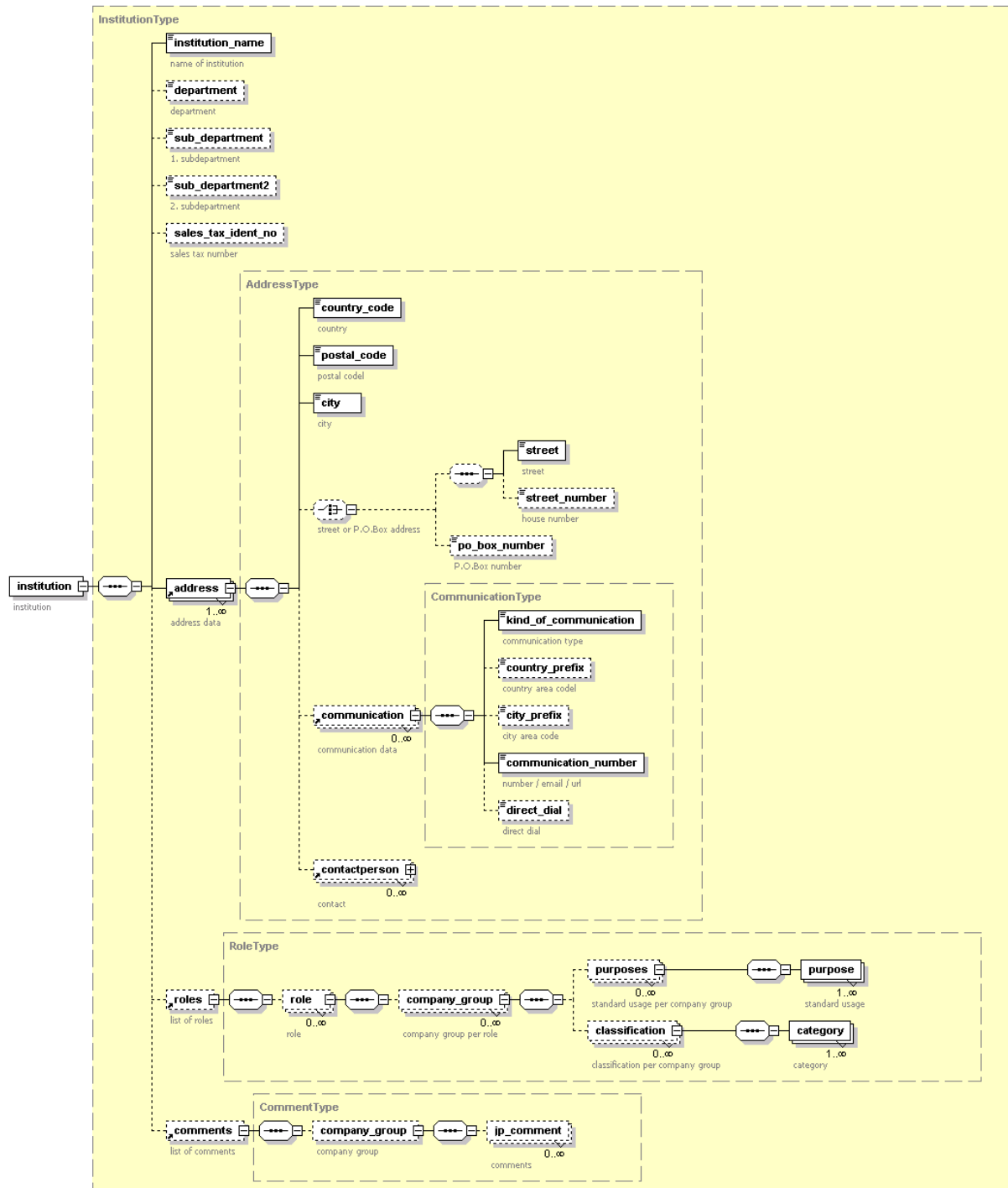
- The API is XML based. This means, that a "Business Partner" object is implemented as an XML document, which is manipulated via DOM based methods and written back into the relational data model.

Prerequisite:

- Java servlet engine with MEX database access

Web Agent Address Pool

Business Partner Schema:

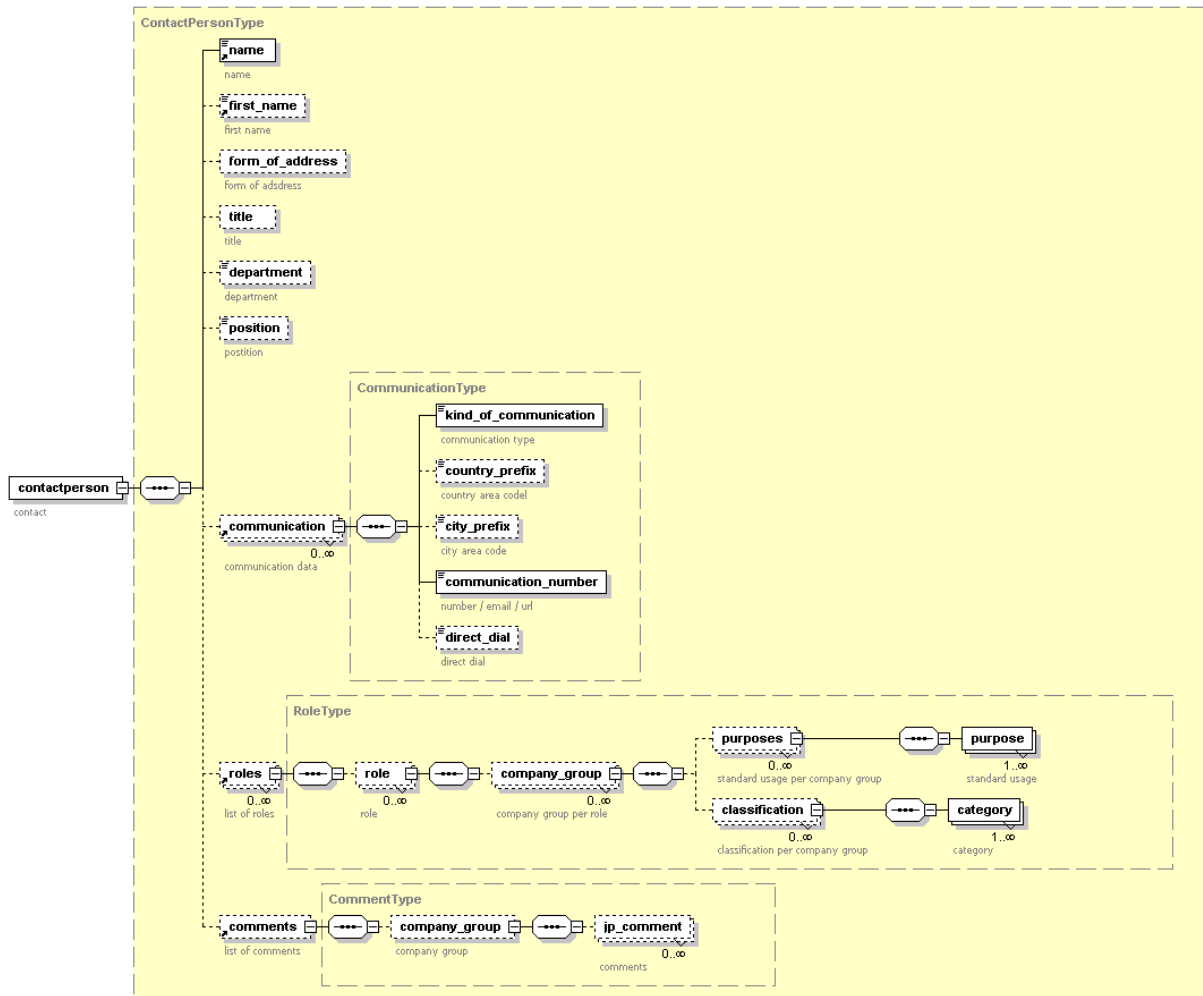


Generated with XMLSpy Schema Editor www.xmlspy.com

Institution

Web Agent Address Pool

Business Partner Schema:

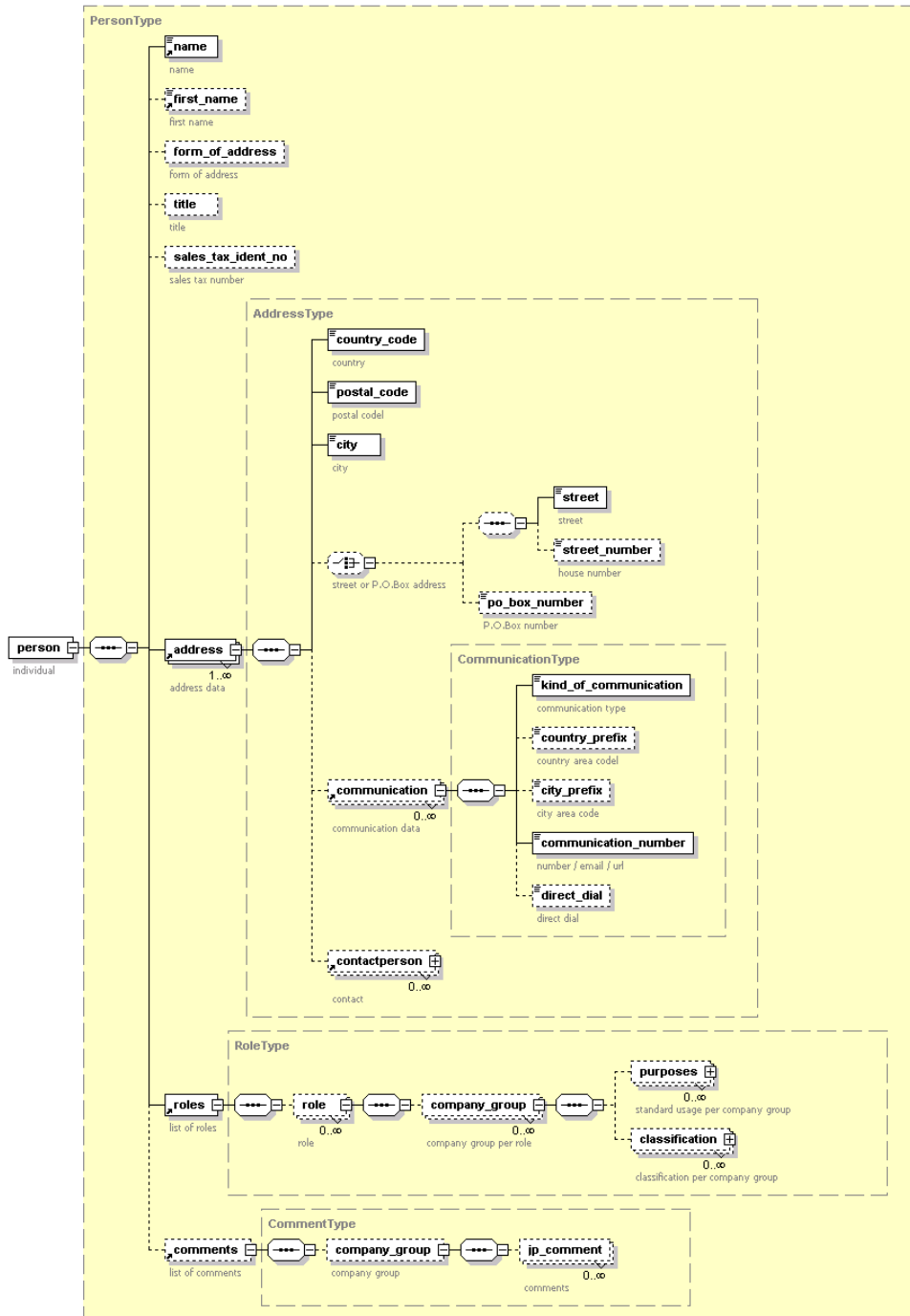


Generated with XMLSpy Schema Editor www.xmlspy.com

Contact person

Web Agent Address Pool

Business Partner Schema:



Generated with XMLSpy Schema Editor www.xmlspy.com

Person

BOOK SALES AND DISTRIBUTION**JOURNAL SALES AND DISTRIBUTION****Web Agent Customer Pool****Web Agent addresses the following web application needs:**

- Integration of wWeb and Klopotek Publishing Solution in a central and integrated data pool
- Direct linkage of wWeb shops, content management systems, content sales
- 'Customer Self Care'; complete processing of customer business in the Web

Type of interface:

- Corresponding to the data model of the Klopotek Customer Pool within MEX
- Writing customer related data to MEX
- Supplying customer related data from MEX

Description of functions:

- Creating customers.
- This means that the role "customer" is assigned to an existing business partner. The business partner is being created as a customer in the customer pool using the terms from the Klopotek standard customer pool tables (no individual terms differing from the standard terms).
- Creating customers' credit card details
- Identification of a customer (via business partner or customer ID)
- Modification of address information for a customer (see Web Agent Address Pool, which is dealing with business partner details)
- Modification of standard usage information (main address, invoice address, delivery address)
- Modification of customers' credit card details
- Access to customer data. Data supplied in XML.
- Whether a transaction should be created in the distribution system when creating a new customer can be defined via the configuration

Notes on the implementation

- The API is XML based. This means, that a "Customer" object is implemented as an XML document, which is manipulated via DOM based methods and written back into the relational data model.

Prerequisite for the implementation:

- Java servlet engine with MEX database access

BOOK SALES AND DISTRIBUTION

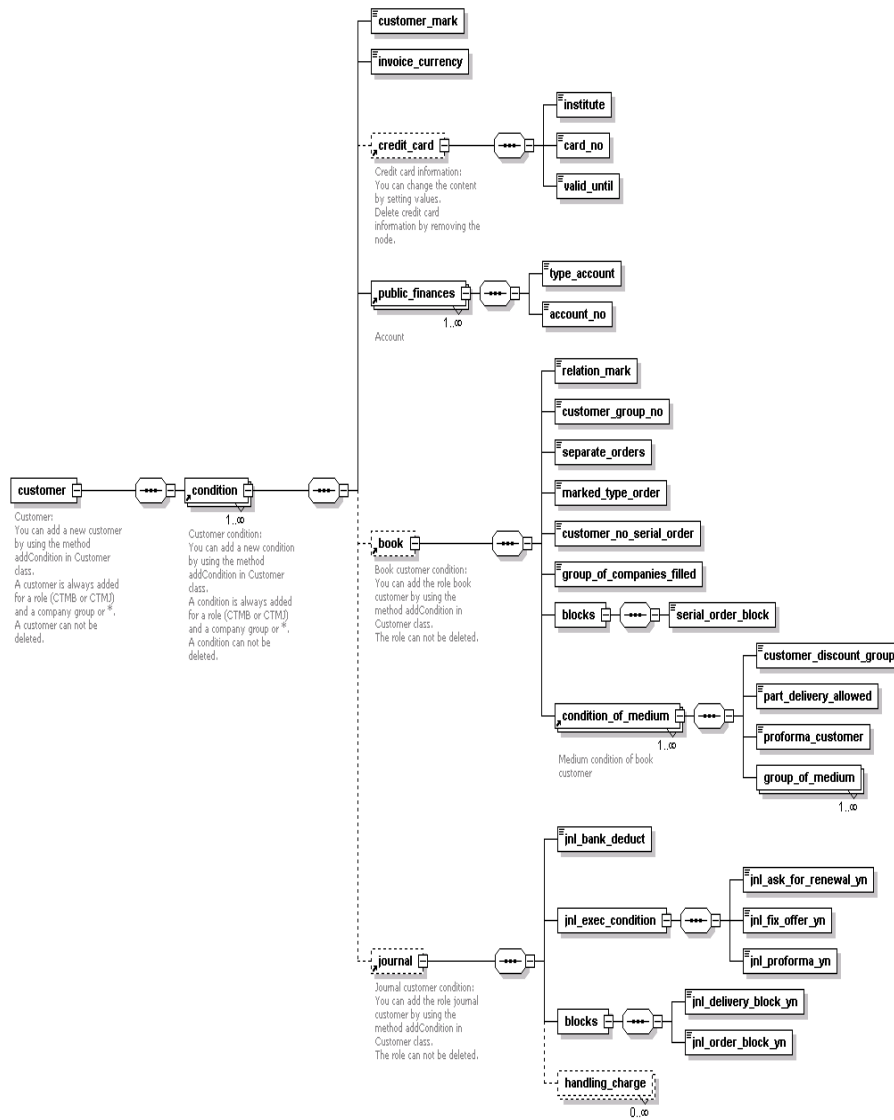
BSD

JOURNAL SALES AND DISTRIBUTION

JSD

Web Agent Customer Pool

Customer schema:



Generated with XMLSpy Schema Editor www.xmlspy.com

BOOK SALES AND DISTRIBUTION

Web Agent Book Orders

Web Agent addresses the following web application needs:

- Integration of web and Klopotek Publishing Solution in a central and integrated data pool
- Customer and order overview data. Layout can be customized using XSL.
- Direct linkage of web shops, content management systems, content sales
- 'Customer Self Care' with customer related book order data in the Web
- Follow-up of active orders in the web

Type of interface:

- Corresponding to the book orders data model of the Klopotek Book Sales and Distribution (BSD) within MEX
- Writing book order data to MEX
- Supplying book order data from MEX

Description of functions

Creating new orders within MEX

- Creating single orders and standing orders
- Assignment of customers from the customer pool
- Assignment of order-specific delivery addresses
- Undoing a new creation

Making order details from MEX available for the web application:

- Searching orders by various criteria
- List of orders for a particular customer. Data is supplied in XML.
- Viewing line details of a particular order on request. Data is supplied in XML.
- Individual not invoiced lines or the total not invoiced order can be cancelled or deleted

Details on data elements:

Creating new orders:

- Customer number on the order level
- Product numbers (ISBN with/without control, order number, EAN code) in combination with the group of company of the product
- Order quantity

Web Agent Book Orders

- Order reference (both on the level of the order or on the line level)
- Delivery address
- Credit card data related to an order

List of Orders / Order Details

- Same as the data elements mentioned above
- Invoice number, delivery note number, shipping unit number (for details see scheme definition)

Functional extensions planned:

- Modifications to existing orders, e.g. cancellation of standing orders, periodic orders or quantity modifications

Notes on the implementation

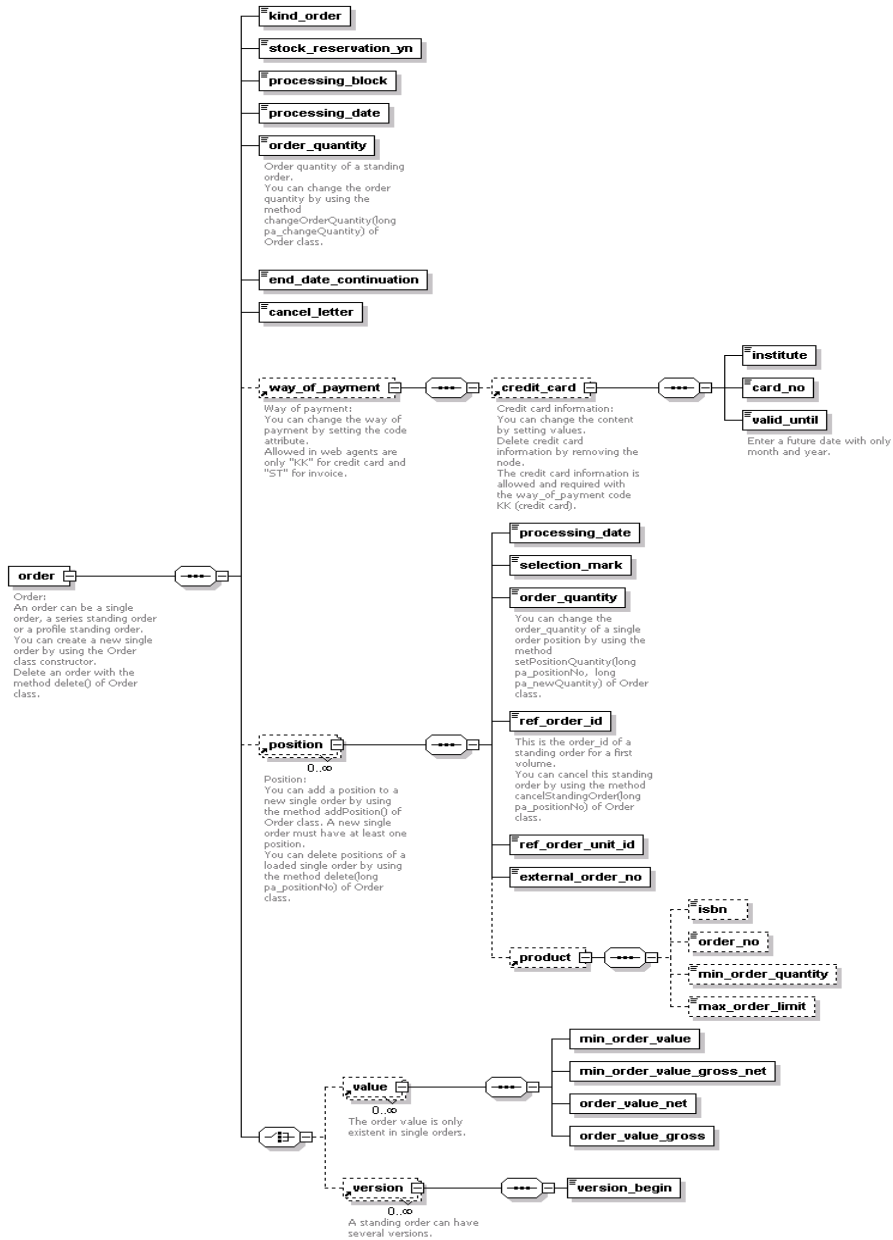
- The API is XML based. This means, that a "Book Order" object is implemented as an XML document, which is manipulated via DOM based methods and written back into the relational data model.

Prerequisite for the implementation:

- Java servlet engine with MEX database access

Web Agent Book Orders

Book Order Schema:



Generated with XMLSpy Schema Editor www.xmlspy.com

JOURNAL SALES AND DISTRIBUTION

Web Agent Journal Orders

Web Agent addresses the following web application needs:

- Integration of web and Klopotek Publishing Solution in a central and integrated data pool
- Direct linkage of Web shops, content management systems, content sales
- 'Customer Self Care' with online customer related subscription data
- Checking subscription information in the context of content sales in the web

Type of interface:

- Corresponding to the journals subscription data model of the Klopotek Journal Sales and Distribution (JSD) within MEX
- Writing journal subscription data to MEX
- Supplying journal subscription data from MEX

Description of functions:

Creating new subscriptions within MEX:

- The Web Agent supports new "Pending Subscriptions", i.e. subscriptions that have not yet been invoiced, but can be searched and displayed in MEX.
- Subscription types are Annual order, Period-Related Order, or Single Order

Making subscription data from JSD available for the Web Application:

- A list of a particular customer's subscriptions can be requested as XML.
- The selection criteria are predefined, and include all active subscriptions for a previously identified customer and all those that were active up to six months before that.
- Checking whether the customer has an active subscription for a publication.

Functional extensions can be added as required in particular projects:

- Modifications to existing orders: e.g. cancellation of standing orders, periodic orders or quantity modifications
- Renewal or cancellation of a subscription
- Restriction of the subscription search by additional criteria

Notes on the implementation

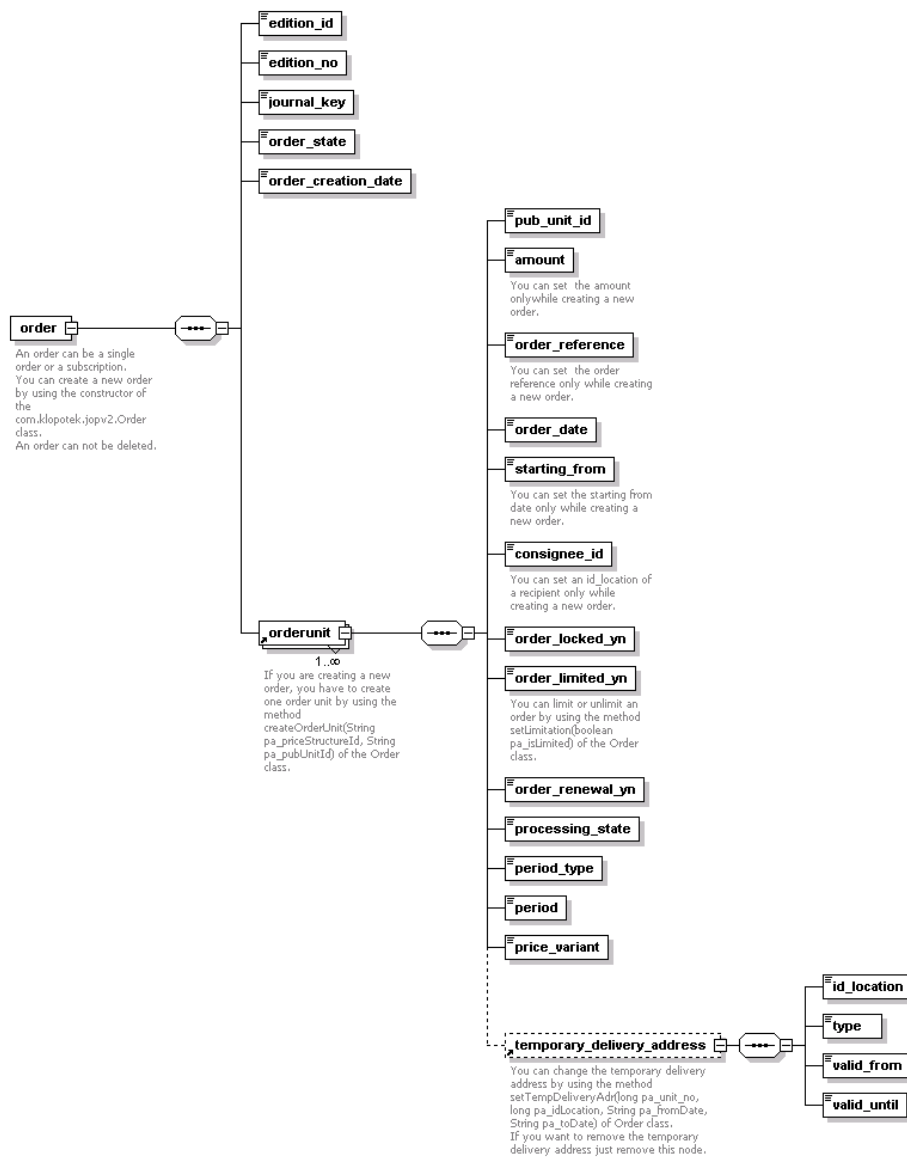
- The API is XML based. This means, that a "Journal Order" object is implemented as an XML document, which is manipulated via DOM based methods and written back into the relational data model.

Prerequisite for the implementation:

- Java servlet engine with MEX database access

Web Agent Journal Orders

Journal Order Schema:



PRODUCT PLANNING AND MANAGEMENT**BOOK SALES AND DISTRIBUTION****Web Agent XML Product Pool****Web Agent addresses the following web and backoffice application needs:**

- Selection and provision of Product Pool data for distribution and marketing
- Production of internet pages displaying products
- Provision of Product Pool data for publisher's internet shops and internet bookshops, also available in ONIX International format
- Provision of data for the production of catalogues, promotion material, or individual interfaces
- Flexible transformation, sorting, filtering, grouping, layout processing, formatting (e.g. directly to HTML or TXT) using XML and XSL

Type of interface:

- Supplies product related data from the Klopotek Product Pool (corresponding to PPM)
- Delivers data as an export in XML structure (documentation of the schema definition separately available)
- Runs in combination with PPM (Catalogue Export), or as part of individual interface batches

Description of functions:

Individual product selection and catalogue functionality within the PPM dialogue software:

- Definition of individual product selections within PPM
- Result list manipulation and export configuration within PPM
- Search profile management within PPM
- Direct XML export from PPM (for decentralized processing), or additional stylesheet conversion as an option within the standard functionality of PPM

Batch functionality for regular/automatic exports:

- Flexible batch descriptions
 - Definition of search criteria as SQL queries
 - Definition of export parameters
 - Definition of individual interface data
- Scheduling/automation with e.g. Q32 or Win-at
- Individual serialization and transformations

Web Agent XML Product Pool

Data element details

- Product and serial data related to distribution, marketing and catalogue production are exported in a granular XML data structure.
- Along with bibliographic data the export includes details on originators, prices, texts, classifications, print runs, schedules, linked objects, and more. A description of this interface is separately available and will be updated according to enhancements of the export.

Notes on the implementation:

- Suitable MEX version 6.0 – 6.5: the API is method based.
- Suitable MEX version 6.7 and higher: the API is XML based

Prerequisite for the implementation:

- Java VM and MEX database access

Product Pool Schema:

- Is available as an separate document

JOURNAL SALES AND DISTRIBUTION

Web Agent XML Publication Pool

Web Agent addresses the following web and backoffice application needs:

- Selection and provision of Publication Pool (JSD) data for distribution and marketing
- Production of internet pages displaying journals
- Provision of Journal Pool data for publisher's internet shops
- Provision of data for the production of catalogues, promotion material, or individual interfaces
- Flexible transformation, sorting, filtering, grouping, layout processing, formatting (e.g. directly to HTML or TXT) using XML and XSL

Description of functions:

Batch functionality for regular/automatic exports:

- Flexible batch descriptions
 - Definition of search criteria as SQL queries
 - Definition of export parameters
 - Definition of individual interface data
- Scheduling/automation with e.g. Q32 or Win-at
- Individual serialization and transformation
- Also see XML-Export-Service

Notes on the implementation:

- The API is XML based
- Suitable MEX version 6.7 and higher

Prerequisite for the implementation:

- Java VM and MEX database access

Journal Pool Schema:

- Is available as a separate document

Optional Workflow Functionality

Within the framework of the Klopotek Web Agents a bundle of Java objects are available as an option.

By implementing these objects it is possible to create new workflow transactions with their sub objects as well as reminders within MEX.

A detailed specification is necessary to use and implement the Workflow Java objects. The specification needs to state details on the required transaction type with which the transaction is to be created.

Notes on the implementation

- The API is XML based. This means, that a Workflow" object is implemented as an XML document, which is manipulated via DOM based methods and written back into the relational data model.

Prerequisite for the implementation:

- Java servlet engine with MEX database access

Journal Pool Schema:

- Is available as a separate document

XML-Export Service

XML, the eXtensible markup language, has not only become the web standard, it is also firmly established in the Klopotek publishing software as a building block for data preparation and web services.

You modify information on products, publications, issues and contributions centrally in MEX? You want to export information from the relational MEX database in XML format on a regular basis? You want to supply this XML data to one or more consumers?

The XML Export Service is a configurable procedure that makes the XML data of defined publication types from MEX available for further processing to any number of consumers through periodic output (can be used with version 6.11 and higher).

Use and benefits:

- modular and expandable platform for providing data from the Klopotek data model in XML format for any number of consumers
- optional just-in-time data supply or periodic output of data
- activatable notification
- easy to define additional consumers
- enhanced performance compared to dedicated export procedures as a result of using a common shadow XML document basis

Description of the XML Export Service options

1. Creation of XML documents from the Klopotek data model

The XML Export Service has been designed as a service or procedural framework that is not specifically geared towards export of a publication type from Klopotek (such as the XML catalog export). Instead, which of the following named object publication types of the Klopotek publishing software (the XML structure is defined as a schema definition by Klopotek) are to be produced as XML documents is communicated to the Export Service by the configuration:

- products from the product pool (starting with the edition taking into account the version and the relevant reprint)
- product contributions
- journal publications from the publication pool
- issues from the publication pool
- publication contributions
- business partner data

The configuration of each of these K&P publications represents a plug-in for the Export Service that

XML-Export Service

the respective data interface dynamically implements on the basis of Java classes in the XML Export Service. Limitation of the XML documents to be produced with the help of an SQL statement as a supplementary configuration of the plug-in for the various publication types.

2. Storage and update of XML data

All publications of a configured publication type are monitored for changes with the help of standard logging options in Oracle (Oracle 9i: Materialized Views). Once a change has been registered, a database creates a job that is modified by the Export Service asynchronously, i.e. the Export Service produces an XML document that is stored in a database table.

The result is a permanently updated shadow XML document basis that occupies its own data space in the Klopotek data model. The shadow XML document basis is the data source for XML Export Service consumers.

In addition to the actual export publications, there are also, however, publications that are part of other publications: for example, a business partner who is linked as the editor to a product from PPM. As long as the monitoring of changes to business partner data is communicated to the Export Service through the configuration of a plug-in, when business partner data is modified, the Export Service automatically determines the publications that this business partner references and updates the shadow XML accordingly (for example, for a product).

3. Export of data for consumers

- Just-in-time option

Consumers are stored in the XML Export Service as configurations for the output of data. "Just-in-time" consumers and/or "non-just-in-time" consumers can be configured. As long as the Export Service registers a change to a Klopotek publication, it does not just initiate the corresponding plug-in to generate the XML data, but also generates a just-in-time export job for the respective data document.

- Single XML (outputting a single item)

When preparing data for just-in-time consumers, an XML document (single item) is always output per Klopotek publication (e.g. a product). For non-just-in-time consumers, it is also possible to specify that several publications of the same type are to be merged together and output in a single XML document. Currently, the output destination is always the file system (other destinations can be added upon request: e.g. FTP).

- Differential mode

An option may also be activated with which only information on new, modified or deleted data of a publication is exported ("Differential mode"). A defined notation displays which type of change (new/modified/deleted) is transferred on the data elements or containers.

- Notification

E-mail notification including log information is optionally available for non-just-in-time consumers (this option is available when there is no single item output activated for this consumer).

- Selection

Limitation of the XML documents to be exported with the help of an SQL statement as a supplementary configuration of the plug-in.

XML-Export Service

4. Use of an export controller for control

Using the export controller:

- a job can be issued for consumers that are not to be supplied just-in-time. The scheduler controls individually whether this job is carried out again or at a specific time (for example, Q32 or WinAt).
- an initialization can be started for a specific consumer (differential mode) or a data space of the Export Service.
- stop the output of data for a consumer to can be temporarily stopped and then resumed.

Sample application

You want to supply your website with the permanently updated XML data of the XML product pool export and with the main data of journal publications. At the same time, you need the XML product data on a weekly basis for further processing in a new publication service.

Solution with the XML Export Service:

Step 1: You configure the Export Service in such a way that a permanently updated shadow XML document basis for products and journal publications is created. The production of the product or publication XMLs thus occurs independently of the data recipients, i.e. all consumers that now have to be set up read the current and pre-produced XML documents from the database instead of creating individual XML documents.

Step 2: You configure your data recipient as a consumer of this XML basis:

1. Just-in-time export of product items for the website 2. Just-in-time export of journal publications for the website 3. Collected export of product pool data once a week for the new publications service. You are notified via e-mail.

Step 3: You define the retrieval, selection of relevant products and the type of further processing in the further processing environment for the three exported XML data sources.

Outlook

Optionally, additional publications can be integrated by us upon request in a short time from the Web Agents area, for example, for the export of product or publication orders or customer pool data.

Prerequisite for the implementation

- Java JRE 1.4 with access to the MEX database
- Oracle 9i or Oracle 8i Enterprise Edition, i.e. a customer who uses PPM 6.11 must fulfill one of the two prerequisites. It is also required for the database to be adjusted to the MSWIN-1252 character set when using Oracle 8i EE.

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