Developing E-Commerce Solutions using the Oracle Platform.

Samuel D. Kounov
University of Sofia and Virtech Ltd.

The MALL2000 Project

Mall for Online Business beyond the Year 2000

An EC-funded Project
Aiming to
Develop an E-Commerce B-to-B Environment
To Support SME’s in Europe
The Target of MALL2000

Europe
West-East
B-to-B
SMEs

The Role of MALL2000

WWW

to be present...
to act...

SME’s
eC education
B2B services
eC consultations
The MALL2000 Services

- Brokering (Supply & Demand Exchange)
- E-newsletter Publishing
- Marketing Surveys
- E-commerce Education and Consulting
- Management of Suppliers and Products
- Document-Centred Services

MALL2000 Users

- Visitors
  - Occasional
  - Registered
- Subscribers
  - Suppliers
  - Consumers
- Advertisers
- Providers
The Ontology-Based Approach

**Offer**

- **Service**
  - **Legal**
  - **Maintenance**
  - **Consultation**
  - **Transportation**

- **Product**
  - **Fruit**
  - **Computer Hardware**
  - **Computer Software**
  - **Cherries**
  - **Printer**
  - **Monitor**

---

Multi-linguality

Оферта за Череши

<table>
<thead>
<tr>
<th>Количество (Amount)</th>
<th>Цена на тон (Price per tone)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Тона (tons)</td>
<td>Евро (Euros)</td>
</tr>
</tbody>
</table>

Описание на оферта: Offer Description in English:

- Информирайте ме при постъпване на търсенята за предлаганата от мен стока. (Send me a notification when a match occurs.)
The MALL2000 Broker

- Supports b-to-b match making
- Supports supply/demand exchange
- Multi-lingual
- Provides automatic matching & notification
- Includes precise filtering capabilities

Based on ontologies, which structure the information space by classifying and describing the types of business offers & requests.

Management of Suppliers and Products

Supplier Frontdesk :

- Detailed supplier information
- Supplier's advertisements (e.g. banners)
- Special offers
- Product & service catalogue

Business-to-Business Search
Management of Suppliers and Products

Dear Client,

Welcome to ViTech Ltd. ViTech is a Bulgarian private company specialized in research and development of applications of the advanced communication and information technologies. Browse through our frontdesk and construct in one of the ways provided below.

Address:  
ViTech Ltd.  
6, Ivan Asparuhov Str.  
Sofia 1000, Bulgaria

Mailing Address:  
ViTech Ltd.  
P. O. Box 466, Central Post Office,  
Sofia 1000, Bulgaria

tel: (+359-2) 481-47-62, (+359-2) 489-02-77
fax: (+359-2) 961-55-41
E-mail: viotech@t-bulnet.com

Please contact with us.

Thank you for your interest.

Management of Suppliers and Products

ViTech products sorted by:

<table>
<thead>
<tr>
<th>Category</th>
<th>Size</th>
<th>Media</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Network Management</td>
<td>Category</td>
<td>Product Name</td>
<td>Price</td>
</tr>
<tr>
<td>Timbukta Pro 32</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32-bit remote control includes: Windows 95, 98 or NT editions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price:</td>
<td>50 MB</td>
<td>$93.95</td>
<td></td>
</tr>
<tr>
<td>Release:</td>
<td>1999-11-14</td>
<td>W98/NT/9x</td>
<td></td>
</tr>
</tbody>
</table>
MALL2000 Application Model

MALL2000 will be implemented using a:

- Distributed web-based client-server application
- Build according to the 3-tier application model

The MALL2000 Architecture

Central Mall2000 server

Local Mall200 servers

Business Clients
The MALL2000 Platform

Application Code Partitioning
Implementation Strategy

1. **JWeb cartridge-based** applications for the bulk of the application logic.
2. **JServer Java stored procedures** for intensive database operations.
3. User interface presentation logic on the thin-client using HTML+CSS, JavaScript, XML, DOM, etc.

Advantages and Benefits

1. Centralized configuration and management - simplifies maintenance and redeployment
2. OAS provides load balancing, fault tolerance, scalability, monitoring, logging, sessions, etc.
3. JServer provides for better performance, higher productivity and increased scalability
Accessing Oracle DB from Java

- **The JDBC API**
  - needed for dynamic SQL operations

- **The SQLJ API**
  - ideal for static SQL operations

- **The pl2java utility**
  - provides interface to PL/SQL applications

---

XML-enabled DB interface

- Client Application
- Publish XML DTDs
- Mall2000 Database
- Generation (e.g. MS Excel, MS Access)
- Storage
- XML Broker Offer
- Batch Transport to Mall
- Processing Engine
- XML Parser
XML encoded offer

```xml
<BrokerOffer>
  <Cherries>
    <weight unit="kg">12000</weight>
    <availableFrom>1999/10/18</availableFrom>
    <fresh yes=""/>
    <cherryColor item="red"/>
  </Cherries>
</BrokerOffer>
```

XML support in Oracle8i

- **Oracle XML Parser**
  - SAX and DOM APIs supported

- **XML Support in iFS**
  - support for defining, parsing, and rendering of XML based file types

- **XML-enabled “Section Searching" in Context**
Welcome To
Mall for Online Business beyond the Year 2000
INCO COPERNICUS Project No. 977041