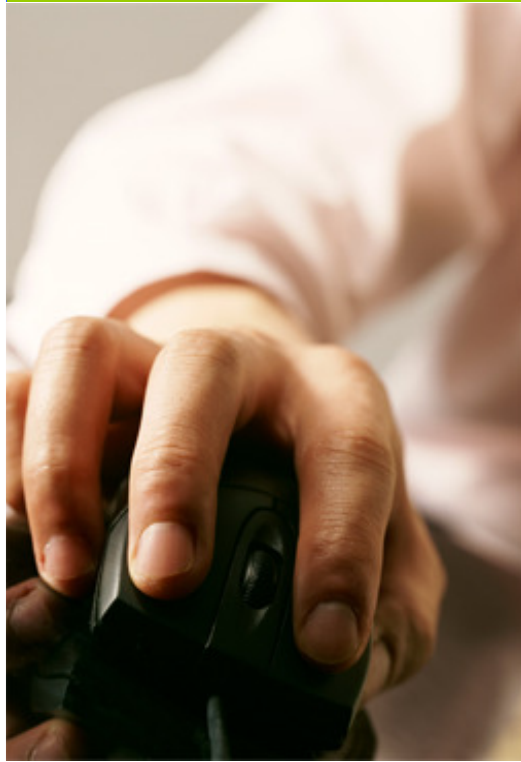


SOFTWARE DEVELOPMENT



DATA MANAGEMENT



CONTACT CENTER



# MBS-NL

**mega business software**



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## About Us

### Our Mission

MBS-NL exists to support the expanding European business world with custom software, software development services, data processing, and call center. Melding proven methodology and presence with proven technology and resources, MBS-NL offers a unique set of advantages compared to other outsource vendors:

- ❑ Instant and reliable communication
- ❑ Continual and immediate onsite representation
- ❑ Robust and transparent business process
- ❑ Superior technology and quality
- ❑ Full responsibility for process documentation and training
- ❑ Broadest range of business services from one provider
- ❑ Rapid ramp-up and variable-load response
- ❑ Flexible pricing structure and costs that are the envy of the industry

### Our Concept

- ❑ A superior management team that drives the project to customer's satisfaction
- ❑ Working arrangements with, and partial ownership of, a variety of vendors, to provide a wide suite of services and sufficient resources to accommodate fluctuating demands
- ❑ Total responsibility for documentation, training and communication.

### Our Services

The core essence of our business is custom software development service, programming custom multi-platform software for clients. Our particular approach to working with our clients and to managing software development process helps us deliver powerful, reliable software that accurately meets the customer's expectations. With no compromise on quality we help the clients save 50% to 60% costs on their IT projects.

We also offer high-quality, cost-effective data management services ideally suited to high volume data entry applications such as database compilations, claim and file processing, electronic publication, etc. You can enjoy a variety of our data-entry services like word processing, typing, data recognizing and conversion, adjudication, and electronic data processing.

Our third service area is our Contact Center. Contact centers understand the importance of good customer service to the success of their operations. Personal communication and collaboration with the clients, understanding of

their desires and thoughts is important part of success and development. To transfer a huge amount of information, to communicate with the customers, answer all their questions, help them; to provide effective feedback are not easy tasks. You have to be ALWAYS pleasant, cheerful, happy, open-minded, kind and polite! Our contact-center representatives will help you to achieve success and return from your investment.

### Quality Levels

Targeted at best servicing the customer, we pay serious attention to our business process. The established methodology ensures fine quality of our services:

- ❑ At least 95% bug-free for general-purpose software development (up to 99.5% in performance-critical applications)
- ❑ A standard 99.5% quality rate for the data management services (and up to 99.8% data quality)

Our subsidiaries are certified to the following standards:

ISO 9001:2000. The DSTU ISO certificate number is UA 2.041.652 (The Quality Management System Concerning the Delivery of Services as to Software Development); code dkpp 72.20.

HIPAA. We are knowledgeable in the US HIPAA Act, which enables us to develop systems dealing with confidential information.

Other Standards. We make use of latest project development and documentation technologies based on such standards as ESA (European Space Agency), SSADM (Structured System Analysis and Design Method), IDEF (Integrated Computer Manufacturing Definition), RUP (Rational Unified Process).

We are equally ready to adopt our customers' methodology and integrate into their process, or to work out a custom model of interaction aimed at improving the quality of our services.

### Geographical Location

MBS-NL is headquartered in Leiden, NL; and our Research and Development Center is based in Kharkov, Ukraine.



## Our Services

### Software Development

MBS-NL provides customized software solutions, web development, client-server applications using all major up-to-date technologies. We have experience in developing enterprise-level systems, web enabled applications and multi-tier database applications, as well as stand alone desktop solutions.

- ☐ Product Development and Programming
- ☐ IT Consulting
- ☐ IT Research
- ☐ Software Re-Factoring
- ☐ QA and Testing

### Data Management

MBS-NL provides a broad range of Data Management services, including On-line Data Entry, Forms/Invoice/Claims Processing, OCR Clean up, Web Research, Mailing List Compilation, Data Conversion, Data Base Update, and Image Keying including double- and triple-re-key and the insertion of searchable tags.

- ☐ Data Entry, Extraction and Verification
- ☐ Forms / Invoice / Claims Processing
- ☐ Document Adjudication
- ☐ Data Conversion



### Contact Center

We offer a full array of inbound and outbound contact center services, including traditional live agent inbound support, email/chat-room, Interactive Voice Response (IVR), and outbound business-to-business programs. Whether your requirement is order placement, inquiry and assistance, or problem resolution, our contact center professionals will provide your customers the efficient and pleasant experience they expect and deserve.

- ☐ Research, polls and questionnaires
- ☐ Initial communication
- ☐ Expense management
- ☐ Issue resolution
- ☐ Customer care hotlines





## Software Development

MBS-NL provides customized software solutions, web development, client-server applications using all major up-to-date technologies. We have experience in developing enterprise-level systems, web enabled applications and multi-tier database applications, as well as stand alone desktop solutions.

### Product Development and Custom Programming

We have a solid experience in development of custom solutions. Thoroughly analyzing your business needs, industry and product requirements, we deliver tailored cost-competitive, scalable and robust solutions.

A team of top class professionals offers you proven expertise to ensure the quality and reliability of the products we develop for you. We emphasize meeting the unique business needs of our customers.

If your company doesn't specialize in software production but needs software designed or needs the functionality of existing software (e. g. cross-platform development work) extended, we can help you to focus on your core business. Our software development capabilities meet the needs of clients across many different industries (see Portfolio for details).

We also leverage the IT resources of software companies that need to lower costs of software production. MBS-NL can manage your product from conception to production, from in-depth technical assessments to full software development and implementation. We can as well take over the design of your own project from any stage.

#### Our custom software development services include:

- ☐ Project analysis
- ☐ Design and system architecture
- ☐ Programming
- ☐ Quality assurance
- ☐ Ongoing support

#### We have significant experience in the following industries:

- ☐ Enterprise control systems
- ☐ Banking and finance applications
- ☐ Billing and expense management solutions
- ☐ CRMs and ERPs
- ☐ Document management and data management systems
- ☐ Web services and solutions

#### Benefits of working with us:

- ☐ Reduced service costs as compared with onsite development companies  
We provide a man-hour efforts estimation
- ☐ Free to negotiate and choose appropriate skills to meet your project requirements  
Lets you focus on your core business needs and project goals
- ☐ Full control over the project run, capability to manage it dynamically  
Transparent development workflow
- ☐ Regular task reporting  
Seamless communication with any team member
- ☐ Flexibility to synchronize working shifts with business hours in your company

Modern communication technologies to regularly keep in touch

- ☐ Back-transferred intellectual capital, tangible results

Regular deliverables, high-quality services

- ☐ Privacy and confidentiality

Protection of intellectual property rights and business relationship, if necessary. A Non-Disclosure Agreement (NDA) is signed as part of our standard business practice.

- ☐ Long-term collaboration due to the customer's:

Additional project-related requirements, including product updates, enhancements, new versions

- ☐ Need for resources for different projects

Scalable or downsized team infrastructure, depending on the project requirements.

#### Our skills include:

**Platforms.** IBM PC, RISC 6000, AS/400, IBM 370 - 390, EC9000

**Operating Systems.** Windows XP/2000, Windows NT, Windows 9x, UNIX (Linux, AIX, SCO, BSD), OS/2, OS/400

**Middleware.** SOAP, Microsoft.NET, J2EE, J2ME, Corba

**Internet Technologies.** ASP.NET, ASP, PHP, Cold Fusion, Macromedia Flash, JavaScript, JSP/Servlets

**XML.** XML, XSLT, Xpath/Xquery, XMLRPC

**DBMS.** Oracle, MS SQL, MySQL, Sybase, DB2, FoxPro, Paradox, MS Access

**Application Servers.** BEA WebLogic, IBM WebSphere, Borland Enterprise Server, Jboss, Tomcat

**Languages.** C/C++, C#, Visual Basic, VB.NET, Java, Perl, Assembler, COBOL, RPG, PL/1, Fortran, Pascal/Object Pascal

**IDEs/Compilers.** MS Visual Studio, Eclipse IDE, Borland Jbuilder, C++ Builder, Borland Delphi

Our team has advanced experience with enterprise-level frameworks like .NET and J2EE. We have been responsible for complex projects with multi-tier architecture, and up to 10,000+ hours in size.





### IT Research

Companies depend on business research and analysis to support planning and decision-making in many areas. The quality and integrity of business research is clearly important - otherwise errant planning and decision-making can derail development, operating efficiency and performance efforts.

As a cutting-edge information technology industry analysis center, we believe that technology touches the work and lives of every member of a business organization from the CEO to the summer intern. The result? All parties hold a vested interest in understanding the measurable and potential impact of IT on their organization.

Our work reflects this fundamental belief. We analyze the fast-paced evolution of the IT industry with a methodology that follows three essential steps:

- ❑ **Investigate** - Compare and contrast new products and strategies with previous offerings
- ❑ **Interpret** - Conceptualize their place against competing solutions and within the broader market
- ❑ **Inform** - Communicate our findings to customers and other interested parties

### IT Consulting

Our consultants listen carefully to your needs so that they understand not only the technical issues but also your business context. Their advice is detailed and precise, and combines the disciplined approach, careful analysis, and real-life successful experience.

The variety of our high quality IT consulting services are targeted at solving project management, business analysis, system analysis, strategic planning, and other IT issues. Our skilled professional consultants deliver objective recommendations and tailored solutions to meet your business needs.

MBS-NL has wide-ranging experience across various industries and utilizes a wide variety of technologies. We also have a good understanding of industry trends and practices along with hands-on experience in addressing specific management and technical problems.

We provide consulting support for all aspects of software development. Distributed systems design, object oriented programming, and performance issues are just a few of the many areas where we can help solve your problems.

With a balanced view of strategy, people, process and technology, we work with companies to understand their unique business needs, and to develop and implement practical business strategies and technology solutions.

In addition to providing advice, we implement, deploy, and administer IT systems on businesses' behalf.

Applying highly effective technologies, we work with clients including IT vendors, their partners and customers, and other market influencers. We deliver our analyses through a variety of publications and services including a weekly newsletter, reports on strategic market and product trends, and direct consulting engagements.

Our analysts focus their attention on business information technologies, including server, storage, and networking solutions. MBS-NL emphasizes understanding product and technology evolution and interpreting the effects these changes will have on business organizations and the greater IT marketplace.

We deliver industry analysis publications including a weekly newsletter, timely commentary on breaking technology news events, and reports on IT market and strategy trends. The company provides clients enhanced industry analysis offerings including go-to-market collateral, consulting engagements, and white papers.

The results of research projects enable our customers to optimize the environment of their high-tech projects and reduce maintenance costs while taking benefits of improved performance of the software products they use.

If you need to upgrade your existing IT infrastructure, or implement new systems and applications to meet your growing business needs or stay one step ahead of the competition, we can help you to add the new technology.

Our business IT consulting professionals cover all the required activities, including:

- ❑ Strategic planning
- ❑ Business analysis
- ❑ Technology review
- ❑ Architecture and design
- ❑ Requirements definition and validation
- ❑ Project planning to initial system specifications

For our customers, this means we can deliver successful projects that concentrate on key IT goals and opportunities.

As a key decision-maker, your expertise is more valuable to your company than the time you spend supporting and managing your IT systems. Supporting and maintaining data and applications for remote offices can be a significant challenge. We can develop a remote office solution so you can outsource the support and management of your infrastructure to it and securely deliver data and applications, while maintaining them from a central location. Your organization stands to benefit greatly from your increased productivity. We provide also expert IT support - both onsite and offsite.

Our clients value our responsiveness, flexibility and genuine desire to help them meet, and often exceed, their goals.

### Software Re-Factoring

Today, most organizations are aiming to shift from the existing legacy systems to newer technologies in order to respond to market needs and rapidly changing technologies. Migration from legacy systems to advanced target systems is a huge challenge that most of the organizations face.

While re-factoring and reverse engineering have been trendy buzz-words for a few years by now, the implications are variable – from a trivial patch to infringement of other people's intellectual property rights.

Delivered by MBS-NL, a widest range of application re-factoring services include platform porting, language migration, and complete system redesign. Our reverse engineering techniques ensure that your expansion challenges are addressed, your property rights stay intact, and all of your established business practices are preserved.

Performed by MBS-NL, migration, porting and re-factoring consist of:

1. Analysis, discovery and improvement of existing software application assets

2. An improved application architecture with clean components and well-defined interfaces
3. Careful choice of the best target platform to move to

These factors improve the ease of development and maintenance, and increase the system's flexibility. They also deliver a host of other advantages, like improved integration and interoperability, meeting the updated technology and business requirements.

IT consumers spend up to 75% their project budgets after the product is deployed. Thus, smart re-factoring strategies offered by MBS-NL greatly reduce the expense.

Our procedure of porting large code bases is as follows:

- ❑ An initial migration plan is generated for a given porting project between a source platform and a target platform, which have respective settings.
- ❑ The migration plan specifies a set of migration stages between the source settings and the target settings via intermediate settings.

- ❑ The relative order between migration stages is specified where necessary to account for dependencies between the intermediate dialects.
- ❑ Migration stages of the migration plan are executed in a sequence consistent with the partial ordering specified by the migration plan.
- ❑ Each migration stage is executed as a transition between preceding settings and succeeding settings, from the source platform to the target platform.
- ❑ Migration issues between the two dialect settings are identified, and the software code is modified accordingly to operate under the succeeding settings rather than the preceding settings.
- ❑ The modified software code is built according to the succeeding dialect settings.
- ❑ Migration stages are executed in turn, from the settings of the source platform to the settings of the target platform, at which stage migration is complete.

## Testing and Quality Assurance

We offer a variety of software testing solutions, from testing applications developed in house to providing external tester resources and to assuming responsibility for product quality.

On many programs and large projects, testing will take up a significant portion of the budget. But it will receive less management attention than an activity of this size warrants. At MBS-NL, we help product and project managers define what they want to achieve from testing; deliver the testing benefits and maximize the return on the resources used.

And testing is not just about reducing risk - it is also about increasing control. By aligning the testing objectives with the business objectives and by increasing the effectiveness of testing both can be delivered.

For example:

- ❑ Including testing expertise in the contractual definitions for the system or service and the acceptance processes can significantly reduce the delivery risks
- ❑ Providing objective and accurate information on risks, issues and milestones throughout the project lifecycle can significantly increase control.

And this clarity enables managers to make informed and timely choices as the project proceeds. Effective testing services improve the outcome and the journey to create it.

Our process assumes active involvement of the QA team from the earliest stages of product development, providing feedback on the product fundamentals. This includes work on the business vision and on requirements definition, requirements specification and design documents, thus making them neat and clear to all project participants. And, of course, this includes testing the resulting code to ensure that it performs to the above documentation.

In our work, we use a set of proven tools and technologies – automated code analyzers, test robots, load/stress testing solutions and fault tolerance are just some of them. We apply various QA techniques like functional testing, end-to-end testing, crash testing, and peer code review. And we are offering our knowledge and experience for you to benefit on.

Our software testing and QA services are tailored to help bring greater stability to your product development efforts, reduce costs and improve productivity of the development team. We can help scrutinize your application and deliver unbiased results. Because of our experience in QA processes, we can help implement your software solutions with the confidence that they will perform as expected and will be available when needed.

We add value to your software product development or maintenance efforts. Our engineers are trained and highly experienced in software testing, software quality, configuration management and release engineering. Our strong Project Management expertise keeps the Design, Development and Execution on track. Our comprehensive training program keeps our engineers abreast of software test tools, QA techniques, processes, methodologies and the latest technologies.





## Data Management

We offer high quality, cost-effective data entry and information processing services suited to high volume data entry applications such as database compilations, claim and invoice processing, electronic publication, investigators' reports, etc; as well as to low-volume specialized applications including antique manuscript, woodblock printing, and handwritten historical document conversion.

While our bread-and-butter is continuous high-volume applications, our services are also available for one-time projects and on-call support for business, research, educational, and historical organizations. Large job or small, long-term or short, we apply the same stringent standards of excellence to whatever we do.

Due to our established QA methodology and to the iterative document processing / verification technology, our quality levels are a solid 99.5% for key data entry activities, which meets the industry standards. For fault-critical applications, we can offer an even better quality – 99.8% and up!

And we enjoy a challenge. Got a tough one? Or something unusual? Let us take a crack at it. If we don't think we can do an excellent job for you, you'll know right up front, no charge. We know that we only win when you do.

Our services include:

- ☐ Online Data Entry, Extraction and Verification
- ☐ Forms / Invoice / Claims Processing
- ☐ Document Adjudication

- ☐ OCR Clean Up
- ☐ Web Research
- ☐ Mailing List Compilation
- ☐ Data Conversion
- ☐ Database Update
- ☐ Image Keying, including double- and triple-rekey and the insertion of searchable tags
- ☐ Manuscript / Handwriting Processing

Supported formats:

- ☐ Digital images including TIFF, JPEG, PDF, etc.
- ☐ Office formats such as Microsoft Word, Excel, Access, etc.
- ☐ Plain text and CSV formats
- ☐ Database SQL statements
- ☐ Binary formats like EDI
- ☐ XML-based and other hypertext formats
- ☐ Microfilm/microfiche
- ☐ Customer's proprietary data-entry/data processing formats of virtually any kind
- ☐ Paper documents: files, books, manuscripts, letters, etc.

## Contact Center

Convenience, response, resolution; and a friendly voice to talk to. That's what your customers want from a contact center and that's what we provide, in any medium you choose.

We offer a full array of inbound and outbound contact center services, including traditional live agent inbound support, email / chatrooms, Interactive Voice Response (IVR), and outbound business-to-business programs. Whether your requirement is order placement, inquiry and assistance, or problem resolution, our contact center professionals will provide your customers the efficient and pleasant experience they expect and deserve.

Every operator of MBS-NL's contact center understands the importance of good customer service to the success of their operations. To transfer a huge amount of information, to communicate with the customers, answer all their questions, help them; to provide effective feedback are not easy tasks. You have to be ALWAYS pleasant, cheerful, open-minded, kind and polite! Our contact-center representatives will help you to achieve success and return from their investment by providing customer service support 24 hours per day, and dispatching service and technical support personnel according to your escalation protocol.

Taking advantage of our Contact Center service, you can quickly and seamlessly set up the following business extensions to support your operations:

- ☐ Research, polls and questionnaires over the phone
- ☐ Initial communication with prospects and leads
- ☐ Expense management (payment management, following up on outstanding bills etc.)
- ☐ Issue resolution
- ☐ Customer care hotlines

Our contact center QA process includes:

- ☐ Recording all phone calls for further review
- ☐ Verification of all tasks by the management team
- ☐ Tracking the pick up times and response rates
- ☐ Tracking the customer requests for the record





## Our Portfolio

### Overview

*Listed here is summarized information on our most outstanding projects. For more detailed information, please do not hesitate to contact our office.*

#### Healthcare Services Platform

Healthcare master services platform is a high-performance software system that integrates the healthcare benefits from multiple providers in a unified system; provides clear and easy access to the benefits for consumers, while facilitating sponsorship of these benefits by employers.

#### Document Workflow Suite

This product is a complete mature and well-established product in document management market, which has been deployed and is being used by multiple offices in the health care and other industries. The product has been created as a pure UNIX system and grew over time to a mixed AIX / Windows solution.

#### Cellphone Ordering System

A system for management and online ordering of mobile phones and accessories. The main purpose of the project was to allow customers place orders from mobile devices and track their completion.

#### Bank Automation System

The Bank Automation System is one of our most successful projects which we take pride in. It was developed based on the research done in over 30 commercial banks in Europe. The system is certified by the National Bank of Ukraine (certificates SEP 0 - 00017, 00018 for model 0, and SEP 1 - 0007, 0008 for model 1).

#### SCADA Monitoring Suite

Scada was developed as a power plant monitoring suite. This system provides a complete set of tools for the operators of production site as far as control and monitoring of production facilities.

#### The EDC System

The EDC System incorporates a complete set of software tools for distributed information interchange. EDC was designed for, and tested at, major government agencies and enterprises (Khartron and Monolith Corporations, Kharkov, Ukraine; Social Security Fund of Ukraine etc.), where document management is critical for company's success.

#### Online Ordering System

An online product ordering system was developed for a major US-based food network. The purpose of this project was to create a consumer portal that restaurants could use for online sales and marketing interactions with their customers.

#### Xplorex System

Xplorex is a multi-tier web-based system. It enables the service providers to offer their subscribers a feature-rich, self-managed e-commerce web site service supported by easy-to-use, non-technical administration system and publishing tools.

#### Telecom Expense Management System

Add-ins designed to enhance the performance and abilities of the Payment Management system were designed and developed. The main purpose of the project was to allow the system to process EDI invoices automatically, and to perform identification and data capture of scanned hard copies of invoices.

#### FlexiScribe

FlexiScribe combines automated document recognition, data capture, QA, and output data transformation and formatting into a single modularized process, automatically routing items to human operators when required for interpretation or verification. Multiple modules of any type can be easily configured for specific purposes, and keyed to the Document Recognition module for identification and appropriate sequencing.

#### Manuscript

There is a huge number of old printed and hand written materials waiting for their turn to be digitized. The main obstacle in establishing this process is the way such old historical records should be treated. Manuscript software deals with such situations by taking two (or more) angle shots of the appropriate page and merging them into one.



## Healthcare Services Platform

### Summary

Healthcare master services platform is a high-performance software system that integrates the healthcare benefits from multiple providers in a unified system; provides clear and easy access to the benefits for consumers, while facilitating sponsorship of these benefits by employers.

### Customer

The project was implemented for an emerging US healthcare benefits provider.

The customer's goal was to provide employers and employees with the tools, education, and support needed to implement a successful Consumer Directed Health Care program featuring Health Savings Accounts (HSAs).

### Product Features

The Service Platform allows for proper integration of consumer focused services in an easy to use, singularly managed user account with all necessary events, data and funds exchange between the services to achieve highest value proposition for the member.

The platform comprises a number of governing functional items:

- Single point of enrollment into all services
- Single account to manage all funds and expenses related to all services
- Single point for service coordination
- One point of service in the form of a dedicated service executive
- One website to go to and one phone number to call

Thus, the system makes a complete healthcare management solution for consumers, employers, healthcare service providers and brokers. It effectively beats the competition like Health Equity, HSA Bank and others.

### Implementation

The Service Platform is designed in the Services Oriented Architecture, with extended MQ Series messaging capabilities. Services are mapped out as a set of requests and responses that make up each service, with specific interfaces on top of that.

The system is connected to banking and financial networks, which enables consumers to manage their healthcare savings online, pay their bills, use an electronic card for their healthcare shopping etc. Also the system features

an online account management console, call-center support with administrative console for consultants, management by fax and by surface mail.

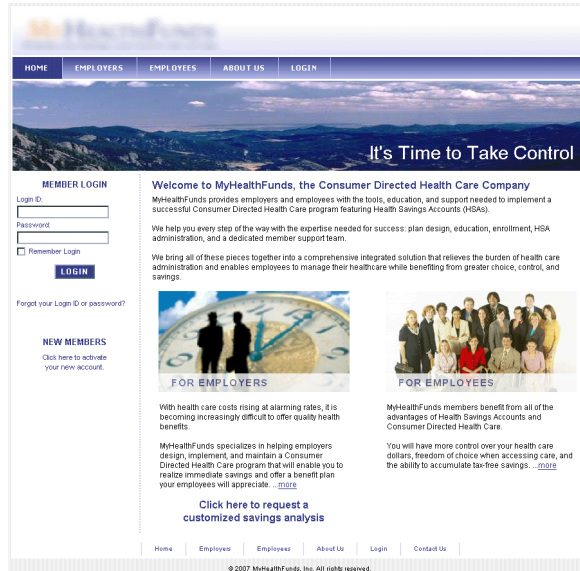
The system's administrative console provides for effective low-cost system monitoring and administration, extensive reporting capabilities, and flexible integration tools for interaction with third-party entities.

The system is implemented in J2EE 3-tier architecture, with additional elements that handle security, scalability, and external interface features.

The architectural solutions provide for high-volume performance (first release supports 100,000 users with a 5% concurrency level; extensible to 1,000,000 users). Scalability, reliability and security are integral parts of the project.

Architecturally, the system consists of three high-level components:

- Core
  - Business logic
  - Persistent storage
- Front end
  - Customer-facing web application
  - Administration web module
- Back end
  - System service functions
  - Transactions clearance
- Backup and recovery
- Alerts and notifications
- External interfaces
  - Banks
  - Card benefits providers
  - Add-on service providers
  - Reports



### Tools and Technologies

**Platform:** Novell SUSE Linux

**Application Server:** IBM WebSphere Application Server

**Database:** IBM DB2 Universal Database

**Language:** Java 2 Enterprise Edition, JDK 1.4

**Technologies:** SOAP, XML/XSLT

**Messaging:** IBM MQ Series

**Performance:** up to 1,000,000 users with 5% access concurrency

**Effort:** over 300 man-months



## Document Workflow Suite

### Summary

We have done development work on a large industrial-scale document workflow suite. This product is a complete mature and well-established system for document management market, which has been deployed and is being used by multiple offices in health care and other industries. It had been created as a pure UNIX AIX system and grew over time to a mixed AIX/Windows solution.

### Customer

Founded in 1989, Dakota Imaging, Inc. is a leading provider of turnkey systems and outsourcing for automated data capture, transaction processing, document imaging and document management. Our ready-to-use solutions are employed in mission critical, high-volume transaction processing applications by the healthcare insurance, fulfillment and government markets. Dakota Imaging has been recognized as one of the fastest growing companies in the software industry.

In 2005 Dakota Imaging became a part of Emdeon Business Services. This company provides revenue cycle management and clinical communication solutions that enable payers, providers and patients to improve healthcare business processes. We offer a full suite of products and services to automate key business functions for healthcare payers, providers, and vendors.

### System Overview

The suite lets customers turn paper to digital data, and allows document intensive businesses to capture information quickly and efficiently while controlling costs. It is a total document imaging solution that provides scanning, image enhancement, automated forms recognition, automated and intelligent indexing, warehousing, search and retrieval. All of these components are comprised together, in one system. The system is a forms processing/data entry imaging application that is fully compatible with all popular off-the-shelf hardware and software. It can be customized to work with your data in your environment.

### Product Features

- ☐ Scanning of all forms, claims and attachments (such as HCFA-1500, UB-82/92, Ambulance, Encounters, Dental claims, Enrollment, Orders, Tax Returns, Invoices, etc.)
- ☐ OCR/ICR based automatic indexing
- ☐ OCR/ICR based automatic data entry of claim/form data
- ☐ Integrated manual data entry from image
- ☐ Industry specific expert system based data validation and automatic decision rules

- ☐ Output "clean data" in ASCII, NSF, XML, EMC, custom, and EDI formats
- ☐ Integrated optical storage, image archival management and search; retrieval of forms/claims images from any PC on the network or over the Internet
- ☐ Robust data warehousing
- ☐ Remote OCR reject-repair, data entry from image and claim/order pre-adjudication using built-in secure telecommuting software

### Document Storage and Management

- ☐ A complete modular client-server or Web based turnkey imaging system built-in
- ☐ Interface with different types of off-the shelf scanners and optical/tape jukeboxes
- ☐ Production strength SQL database, RAID and optical jukebox management of documents
- ☐ Automatic & Manual Indexing using data from OCR and keying processes
- ☐ Each form and associated attachments can be automatically indexed with multiple keys as it is input into the system
- ☐ Database indexing for associated "external user" information
- ☐ Priority querying
- ☐ Queries are assigned priorities based on requester's needs ("hot" requests first)

- ☐ Built-in extensive queuing and caching system
- ☐ Routine requests queued and processed periodically by platter

#### Automated Transaction Workflow

- ☐ Sorting

- ☐ Multi-page Forms

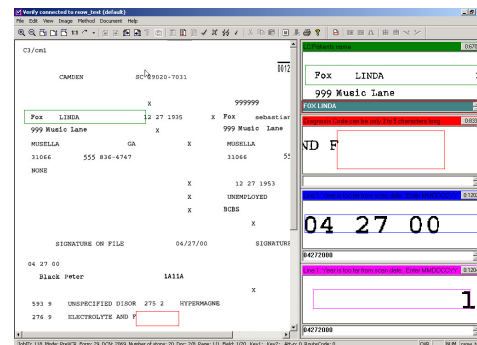
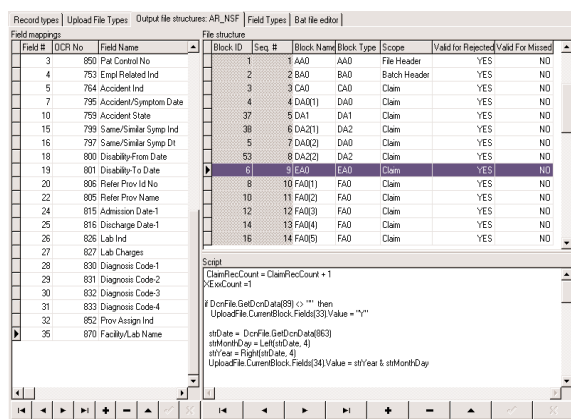
- ☐ Transform Advantages

#### OCR/ICR Automated Data Capture

- ☐ Image Processing
- ☐ OCR, ICR, Bar Codes & OMR Mark Sense
- ☐ Edit and Verification
- ☐ QA
- ☐ Fast, color coded data support

#### Form Design

- ☐ Design Studio lets you easily create forms without extensive training or customization.



### Tools and Technologies

**Platforms:** AIX, Linux, MS Windows

**Application Servers:** Jakarta Tomcat, ColdFusion Application Server

**Database:** Sybase Enterprise Server, Sybase Adaptive Server

**Languages:** C++, Java, Perl CFML, XML

**Technologies:** RUP / UML

**Effort:** over 300 man-months



## Cellphone Ordering System

### Summary

A system for management and online ordering of mobile phones and accessories was developed. The main purpose of the project was to allow customers place orders from mobile devices and track their completion.

### Customer

The customer is a US telecom support company that provides services in ordering and maintenance of mobile phones, phone numbers, accessories, and their ordering. Some of the customers include USPS, Delta, BASF, Sealy, Texas Instruments, Penske, Cardinal Health.

### Product Features

- User interface for Web-based ordering
- Integrated CRM module
- Database of Mobile phone models Mobile communications service providers
- Order placement to providers
- Customized interface for every client
- Extensive reporting facilities
- Order confirmation by email

The system's core is the database with the main core classes implementing the basic business logic. On the top of core functionality a customer specific features (including GUI modifications) have been elaborated. A proprietary Customer Relations Management system was integrated with the main application, which allowed to perform quick tracking of the customer orders and to provide instant reporting on the status of the order. The system comprises the following modules:

### Wireless Module (customer-specific)

- Ordering of mobile devices and accessories, selection of the carrier, shipment to other locations allows to place an order and to receive the ordered item.
- Coverage research can be ordered for some locations to ensure that the chosen carrier can provide communication services in the desired location
- Approval of the orders and their tracking to ensure that only a correct number of devices will be ordered to backup necessary tasks and that only authorized models will be used

### Customer Care Support Manager (CCSM)

- Maintaining the databases of clients, their requests and their status.
- Coverage research can be ordered for some locations to ensure that the chosen carrier can provide communication services in the desired location
- Approval of the orders and their tracking to ensure that only a correct number of devices will be ordered to perform necessary tasks and that only authorized models will be used

Integration with Wireless module allows to instantly and comprehensively address the customer inquiries, as well as to place orders on customers' behalf.

### Reports module that allows producing numerous reports

### Tools and Technologies

**Platform:** MS Windows

**Database:** MS SQL Server

**Language:** C#, ASP.NET

**Effort:** 60 man-months





## Bank Automation System

### Summary

The Bank Automation System is one of our most successful projects which we take pride in. It was developed based on the extensive research done in over 30 commercial banks in Europe.

### Customer

The Bank Automation System is used as primary operating software in over 60 bank locations Europe.

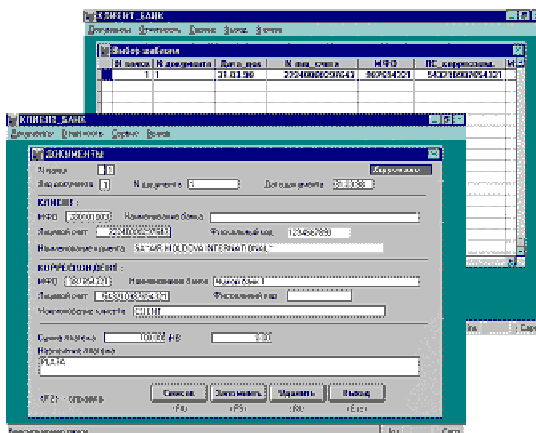
The system is certified by the National Bank of Ukraine (certificates SEP 0 - 00017, 00018 for model 0, and SEP 1 - 0007, 0008 for model 1).

### Product Features

- Automatic interaction of all bank departments
- Efficient data collection, processing and management
- Easy integration into other bank systems / document management systems
- Global environment for all departments (legal, marketing, logistics, executive)
- Extensive flexibility to support the localities and specifics of bank operations in different countries

### Implementation

The system has grown from a plain file server in the first release, to a high-performance full-blown cross-platform three-tier architecture.



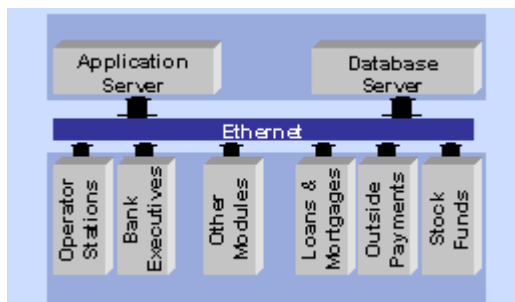
The system has a user-friendly graphic interface and is easily configurable to fit the client's national and custom specific requirements, which provides extra comfort for the personnel. Its persistence is implemented using IBM DB2, the first-class database engine for bank solutions.

An extended multi-level security system ensures the safety of bank operations. Due to the architectural flexibility, the system is easily scalable. By simply adding new database servers / application servers, banks can cover their growing performance requirements at small costs.

Compatibility with heterogeneous split-function networks expands the range of the Bank System's capacities. While optimizing the hardware and software expenses, our customers receive a prompt, effective, and high-quality service. The system installation, configuration and startup are done within shortest time possible.

The Bank Automation System includes a set of design tools for client-server bank application, which offers banks independence from the developers. The supported platforms are:

- RISC 6000
- AS/400
- IBM PC (Windows and OS/2 platforms)



### Tools and Technologies

**Platform:** Windows, AIX, OS / 400

**Application Server:** IBM WebSphere Application Server

**Database:** IBM DB2

**Languages:** Visual C++, Borland Jbuilder

**Technologies:** MFC, OLEDB, ODBC

**Effort:** 1100 man-months

| Installed At   | Released    | Server                                | Database | Network            | OS, Tools                 |
|--|-------------|---------------------------------------|----------|--------------------|---------------------------|
| <b>1<sup>st</sup> generation bank system (File Server architecture; certified by the National Bank of Ukraine, 1996)</b>   |             |                                       |          |                    |                           |
| 6 banks (over 50 bank locations)   | 1993 – 1995 | Novell 3.11                           | FoxPro   | IPX / SPX          | MS DOS / Fox Pro          |
| <b>2<sup>nd</sup> generation bank system (Client Server architecture; certified by the National Bank of Ukraine, 1996)</b> |             |                                       |          |                    |                           |
| 1 bank   | 1996 - 1997 | RISC 6000 - AIX                       | IBM DB2  | TCP/IP             | Windows<br>Visual C++     |
| <b>3<sup>rd</sup> generation bank system (based on the International Accounting Standards)</b>                             |             |                                       |          |                    |                           |
| 2 banks (10 bank locations)  | 1997 - 1999 | RISC 600 / AIX,<br>PC / Windows, OS/2 | IBM DB2  | Ethernet<br>TCP/IP | Windows<br>Visual C++     |
| <b>4<sup>th</sup> generation bank system (Application Server Technology, three-tier architecture)</b>                      |             |                                       |          |                    |                           |
| 1 bank   | 1997 - 2003 | AS/400 - OS/400<br>RISC 600 / AIX     | IBM DB2  | Ethernet<br>TCP/IP | Windows<br>Borland / Java |

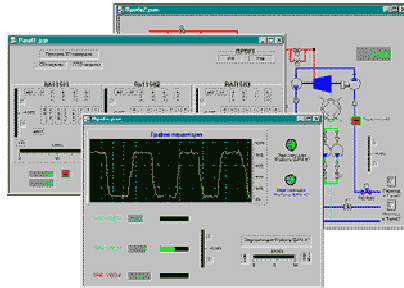




## SCADA Monitoring Suite

### Summary

SCADA was developed as a power plant monitoring suite. This system provides a complete set of tools for the operators of manufacture site as far as control and monitoring of production facilities.



### Customer

Zaporizhya Power Station is one of the largest power plants in Europe. Its construction started in 1977.

Today, Zaporizhya Station is the leading power supplier in Ukraine. It produces above 40 bn. kWh of electric energy, which is 1/5 annual electricity production.

### Product Features

The following items were required as part of the SCADA creation project:

- Real-time capture, processing and saving the signals arriving from appliance monitored;
- Archival / review of the information about the equipment observed;
- Tools to create / edit the mnemonic diagrams of panels;
- Tools for custom reporting on the events observed;

Therefore, the system includes the following important features:

- Control and monitoring of production equipment and facilities
- Custom script programming for collection and storing the signals received
- Information display in form of schemes, diagrams, trends and reports
- Virtual tools and user-friendly interface, unified style of data input/output
- Advanced system storage that saves signals incoming from appliance, which can be used by the personnel for review and fine-tuning the equipment
- Extended archival and reporting capabilities
- Distributed real-time architecture on the basis of local network

### Implementation

Due to distributing the suite into logical units, tasks requiring immediate response (real-time operations) have been separated from data display. Thus, the system has pure real-time units responsible for capture and logging the events, and "mild" real-time units for user interface.

The core contains a real-time monitor designed in a custom environment. This component can operate on personal computers created for industrial conditions (Industrial PC), intended for work in aggressive environments: vibrations and temperatures, gas or radiation spillages.

Installed on industrial computers is a multitasking real-time system that controls technology and calculation processes. Software units are designed using RTKernel real-time library, and can operate on any computer system

with MS DOS installed. Although RTKernel programs have features of multitasking real-time systems, they still remain standard applications.

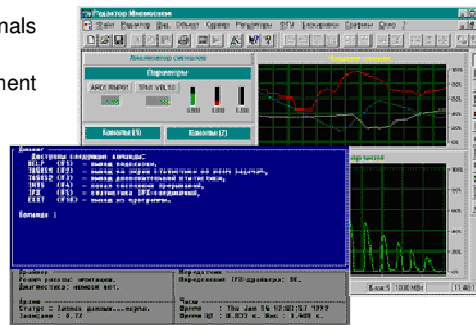
The real-time module includes numerous functions and procedures for managing tasks, interrupt flags and data interchange tools. The module also provides a set of service functions enabling the user to control the application performance and computer time resources. System configuration includes both a single real-time module and a backup one; real-time modules can be installed on two computers.

Workstation units are placed on a standard Windows PC. They enable the personnel to get graphic information related to the production equipment in the real-time mode. This part of the suite includes a complete set of tools required to create process state panels (special mnemonic diagram editor), and to use them for information display on the operator's screen.

The panels include dynamic instances that serve as basic elements of information display. SCADA supports a library of predefined dynamic object classes for creating complicated panels, ranging in style from texts and mnemonic process diagrams to frames with real-time animation. The library consists of the following object classes:

- ☐ Regulating gate
- ☐ Latch
- ☐ Pump
- ☐ Two-way slider control
- ☐ Indicator of channel status
- ☐ Indicator of control position / status
- ☐ Digital control
- ☐ Digital indicator
- ☐ Multi-channel diagram display

The panel editor also allows for specifying the panel hierarchy and setting the panel switch sequence. After creation, the panels are sent to workstations for immediate usage.



There are two sorts of technology information in the system:

- Archived events - a binary archive that contains a track record of signals received from the appliance under monitoring within a fixed time period. This type of archive is generated and supported by the real-time module. The archives can be viewed from workstations of chief technology experts or station operators in PLAYBACK mode (as a movie on a VCR).

- Reports, information about technology and/or emergency events on the appliance monitored within a given time period. Reports are displayed in ASCII format with necessary comments and explanations.

### Tools and technologies

**Hardware:** Industrial IBM PC

**Platform:** MS DOS, Windows

**Languages:** Borland C++

**Technologies:** RTKernel real-time library

**Performance:** 1 real-time server, 64 workstations, up to 25,000 digital channels, up to 30,000 analog channels

**Effort:** 650 man-months



## The EDC System

### Summary

The EDC Office Automation System provides a set of software tools for creating distributed information interchange systems. It has been deployed and tested at major government enterprises and agencies (the Ukrainian Khartron and Monolith Corporations; the Social Security Fund of Ukraine etc.), where document management is crucial for company's success.

### Customer

This product was developed on demand of the Institute of Cybernetics, a division of the National Academy of Sciences of Ukraine. The Institute of Cybernetics is doing research in theoretical, technical, biological, economical cybernetics, as well as technical development.

### Product Features

EDC is an excellent choice for the following industries:

- ❑ Manufacture, where priority is the process of software/hardware creation (large equipment construction corporations, power production facilities, aerospace and defense industry).

The most critical issue here is resource management, so the requirement is to provide advanced tools for managing the material flows, design/production processes and document turnover.

- ❑ State and public Institutions, where priority is document circulation (finance organizations, public authorities, trading companies and other establishments that combine process management and document management).

The ultimate objective here is involvement of different informational sources and of numerous employees.

The system includes the following features:

- ❑ Powerful tools for differentiating the document access rights
- ❑ Open software interface, which facilitates the integration of numerous modules of different origin, and thus considerably expands the system's capacities
- ❑ Confirmed logic of integration with applications
- ❑ Extended document routing; document lifecycle management
- ❑ Hierarchic data storage; sorting the documents by usage intensity; backup supporting a wide range of media, including streamers and optical disks.

EDC offers a complete set of tools for document creation, registration, routing, accounting, execution control, all in both electronic form or in printed form, and tools for information retrieval in various modes. This enables the personnel to:

- ❑ Create storages, work with electronic documents/paper documents
- ❑ Search for documents
- ❑ Archive the history of each document, including version control
- ❑ Process the multi-component and multi-format documents
- ❑ Manage the document relations and document collections
- ❑ Assign the access permissions to each document
- ❑ Interface with a wide range of other informational systems

### Implementation

The system is designed in client - server technology and has an easy interface, which reduces the training/maintenance costs.

The server side provides primary processing and verification of data inputs. The functionality is stored in SQL procedures designed for Oracle and IBM DB2. It runs on IBM PC, RISC/6000, AS/400.

The client side includes user interface and custom modules that expand the system functionality. The applications are designed in Visual Basic and Delphi for Windows 95 / Windows NT platforms.

All documents registered in the system have a set of attributes in addition to the contents (document title, author, time created etc.). The set of attributes can vary from one document type to another. Anyway, within a specific document type, this set remains unchanged.

For each document type, a card template is created with document attributes. When creating a document, author takes the necessary card, fills it out (enters the attribute values), and attaches the card to the document.

Persistence is implemented using most advanced database engines: Sybase, MS SQL Server, Informix. Other supported systems, Oracle and DB2, support distributed databases and clustering / data duplication. Thus, the system storage can have a complex distributed environment structure, which meets the requirements of scalability for large-scale enterprises.

The system provides powerful tools for managing the access to documents for different users. The administrator can assign users the following access types for each document:

- ❑ Full control over the document
- ❑ No access to the document
- ❑ Edit, but not delete the document
- ❑ Create new versions of the document, but not edit the contents
- ❑ Read the document, but not edit
- ❑ Access the card, but not the document contents

The advanced document encryption utility operating on the go, together with the wide range of user permissions, enables the EDC system to serve the classified documents. Each user's action is saved to log, thus forming complete history of processing each document.

The number of nested levels is not limited. The same document can be included into several folders and catalogs by using the reference technique. Thus, the source document remains intact and is stored in the location as specified by the administrator.

Documents can be routed among enterprise departments, user groups, or individual users. Document routing forwards information (electronic documents) between network units or grants them the access rights, sends notifications and monitors the results.

### Tools and technologies

**Hardware:** IBM PC, RISC/6000

**Platform:** MS Windows, AIX

**Database:** Oracle 9i

**Languages:** Visual C++, Visual Basic

**Performance:** 10,000 clients (512 workstations in 24 regions)

**Effort:** 300 man-months



## Online Ordering System

### Summary

An online products ordering system was developed for a major US-based food network. The purpose of this project was to create a consumer portal that restaurants could use for online sales and marketing interactions with their customers.

### Customer

The customer is SIVA, a Florida corporation, creator of point-of-sale, kitchen, back office and operations intelligence software that use web technologies to improve operational efficiency and reduce the cost of technology ownership for multi-unit restaurant operations. Among its impressive customers is the largest casual dining chain in the world Darden Restaurants, owners of the Red Lobster and Olive Garden. Other customers include Restaurants Unlimited, Inc., Luby's and Legal Sea Foods.

### Product Features

- ❑ User interface for Web-based ordering
- ❑ Marketing tools on the basis of user profiles and orders history
- ❑ Maintaining a database of restaurants
- ❑ Pick-up/delivery time selection (immediate and deferred)
- ❑ Menu item and price extraction from the central POS system
- ❑ Order export to the central POS system
- ❑ Online payment processing, including tip, taxes and delivery charges
- ❑ Order confirmation by email
- ❑ Marketing opt-in
- ❑ Dine-in waitlist signup

The system was implemented on the modular basis, with a recurrent phase-by-phase approach. The first phase provided the base functionality and an application appropriate to the needs of table service restaurants (capabilities for pick-up, curbside delivery and limited traditional delivery). Whereas subsequent versions provided advanced on-line ordering features needed by companies with extensive delivery and corporate catering businesses as well as incremental functionality for mobile phone-based ordering and for on-line marketing integrated with customer profiles and sales interactions.

### Online Ordering Module

- Menus, prices, tax tables, customers, and other configuration/setup information will be automatically populated using an XML-based interface. An XML message will be defined for each major data type. A user interface will be built to enter any configuration data that is not automatically populated via the interface.
- A configuration user interface will provide the ability to set global preferences, and manage configuration data that is not directly available from iSIVA. A menu building utility will provide the ability to determine which items and locations they are shown on the web ordering menu.
- Web-based order entry screens will determine what the end user wants to order. The customer may order from the menu, based on a list of favorite items, or based on historical orders.
- On-line payment processing and interface will collect credit card information and securely communicate that information to a credit card interface.

- Order XML messages will be rendered once the order and payment have passed validation. Each message will be transmitted to a JMS that will forward it to downstream consumers of that information.

- Once the web ordering application receives the acknowledgement from the restaurant's store server, it will finalize the credit card transaction and display an order confirmation message to the user.

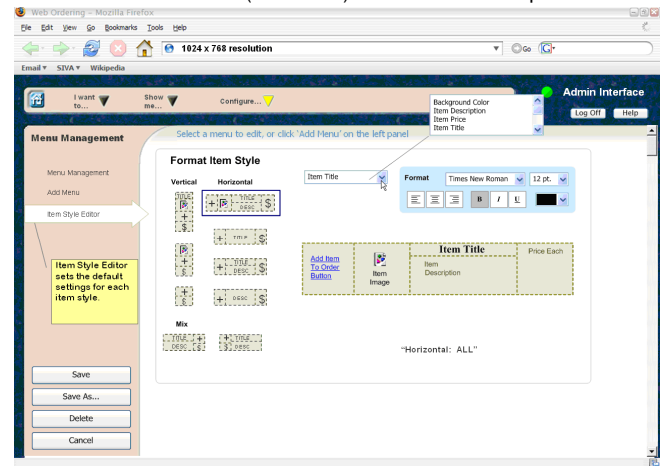
- A customer profile entry/update screen will allow the end user to enter identification information and preferences. Submitting changes to the profile form will result in XML messages. Each message will be transmitted to a JMS that will forward it to downstream consumers of that information, in this case the CRM module.

### CRM Module

- A web ordering transaction logger will write all web-based transactions to a data storage location.
- A customer profile logger will write all customer profile XML messages to the database.
- Reports and queries can be run against customer order data to provide rapid retrieval of order history as well as providing administrative diagnostics and reconciliation between the web-order system and iSIVA system.
- Once the restaurant's store server receives and successfully stores the order, the restaurant will send an order status message (indicating order acknowledged) to the web ordering application. The CRM module will store this order status information with the CRM order history data.

### Notification Engine

- Once the Notification engine receives an order acknowledge status from the restaurant server, it will use notification rules and parameters to determine whether to send (via e-mail) an electronic receipt.



### Tools and Technologies

**Platform:** MS Windows, Linux

**Application Server:** Jakarta Tomcat

**Languages:** Java

**Database:** Derby via JDBC

**Technologies:** ActiveMQ JMS, JUnit, JMeter, EMMA Code Coverage

**Effort:** 120 man-months



## Xplorex System

### Summary

This fully dynamic web site Xplorex.com is based on XML technologies to provide unparalleled customization options.

Currently the system has grown to an ASP system that provides clients with customized fully functional solutions featuring e-commerce engine.

### Customer

This project was done for Xplorex Systems, Inc (Canada). This rapidly-growing technological powerhouse was established in July of 2001, and currently delivers brilliant web-based solutions to businesses located in 7 countries across the globe.

### Product Features

The Xplorex ASP structure contains several independent modules, including front-end system that provides end-user web interface, and back-end part for administration.

Xplorex implements a model where each site (an ASP clone) has its own virtual host and a separate database. Besides Xplorex has one database for global ASP parameters. At client request to access the web site, the required clone is detected and client is provided with a connection to the correspondent database and settings.

Xplorex SP Server enables service providers (eg. ISP's) to deliver instantly the Xplorex Web System, a complete web and wireless solution to a large number of service subscribers in any language at a very low cost. It is by far the fastest and the user friendliest solution for service providers available on the market. 3rd party developers can program server application modules.

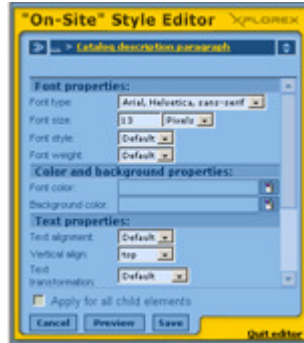
Xplorex Web System is the product that the end subscriber actually gets from the service provider. It is a feature-rich, self-managed e-commerce web site provided on subscription basis, and supported by easy-to-use, non-technical administration system and publishing tools.

Xplorex WAE Server enables Wide Area Enterprises to instantly provide their units, dealers, partners etc with easy to maintain complete e-business solutions (Xplorex WAE client) included into one manageable network, thus eliminating the necessity of independent development which is both time and resource consuming. Site of each unit fits the corporate style of the whole network and contains both local and centrally offered content.

### Site administration tools

Administration of web site (clone) settings such as

- ✓ Front-end settings
- ✓ Start page settings
- ✓ Registration settings
- ✓ Clone settings
- ✓ Admin module settings
- ✓ Managing registered administrators and their rights
- ✓ Web site administration history
- ✓ Admin start page (to do's)
- ✓ Administration of web site style sheets



- ✓ System statistics for content and users
- ✓ Managing mail lists
- ✓ Graphics customization
- ✓ Banner management system
- ✓ Customized menu and static content administration

### User administration tools

- ✓ User / media users administration
- ✓ Disabling / enabling certain IP addresses
- ✓ Editorial administration

### Content administration tools

- ✓ Headlines (articles) administration
- ✓ Media headlines (media articles) administration
- ✓ Admin Pages (customized static content) administration
- ✓ Managing categories
- ✓ Event of the day administration
- ✓ Gallery administration
- ✓ "Did you know" section administration
- ✓ Newswire administration
- ✓ Start page content administration
- ✓ Contest administration

## Tools and Technologies

**Platform:** Red Hat Linux / Windows 2000 Server

**Database:** MySQL / MS SQL Server

**Web Server:** Apache / Internet Information Services

**Application Server:** Jakarta Tomcat

**Mail Server:** qmail / MS Exchange

**Language:** Java / ASP, ASPX

**Technologies:** WML, SMS

**Performance:** 1,000 concurrent users

**Effort:** 50 man-months







## Telecom Expense Management System

### Summary

Add-ins designed to enhance the performance and capabilities of the Payment Management system were designed and developed. The main purpose of the project was to allow the system to process EDI invoices automatically, and to perform identification and data capture of scanned hard copies of invoices.

### Customer

The customer is a US telecom company providing services in management and payment of telecom bills. Among customers, using their services are Gartner Group, AIG Technologies, McDonald's, John Deere, Pepsi Americas, Ahold, American General, Ashland, Broadcom, IndyMac Bank, Ernst & Young, Olympus America, SAIC, Starbucks.

### Product Features

- Utilization of database for parsing EDI files
- XSL templates
- Implementation of vendor specific rules
- Flexible identification of the documents
- Form based data capture
- Customized interface for every client
- Extensive reporting facilities
- Order confirmation by email

The add-ins provide the following services:

#### e-Media extractor

- ✓ Processing vendor EDI files to extract the necessary financial data
- ✓ Using SSIS provides a better performance when converting files
- ✓ XSLT style sheets allow easy changes in case vendor's specification alters

#### OCR Engine

- ✓ Introducing of the engine brings a higher level of automation to processing of scanned hard copies of forms and bills
- ✓ Utilization of RecoStar engine allowed making a robust and scalable core application to perform different tasks requiring OCR
- ✓ Form-based identification service allows to identify the document by its features
- ✓ Data Capture service allows to capture all the necessary data from various media

### Tools and Technologies

**Platform:** MS Windows

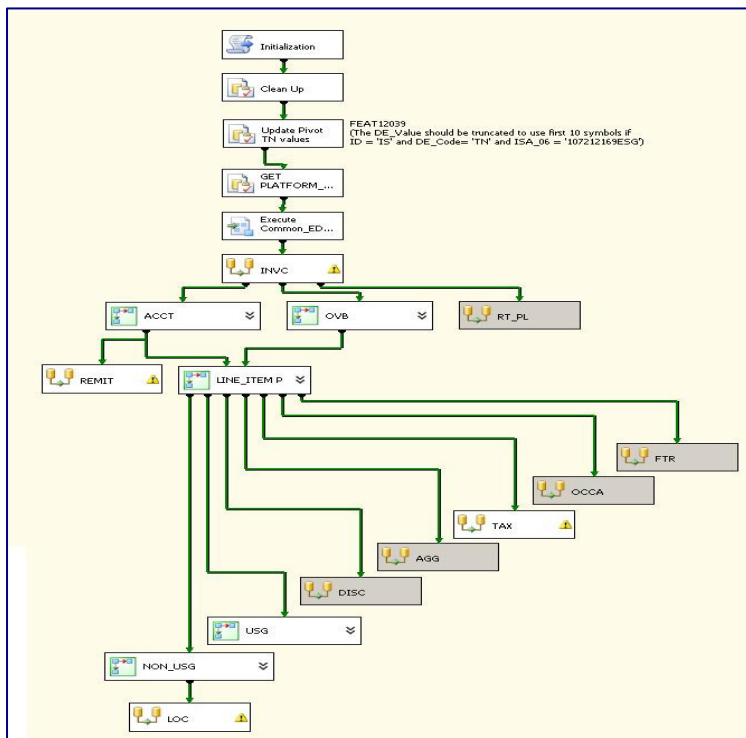
**Database:** MS SQL Server

**Languages:** C#

**Technologies:** .NET, SSIS, XML, RecoStar

**Performance:** 1,000 concurrent users

**Effort:** 180 man-months







## FlexiScribe

### Summary

FlexiScribe combines automated document recognition, data capture, QA, and output data transformation and formatting into a single modularized process, automatically routing items to human operators when required for interpretation or verification. Multiple modules of any type can be easily configured for specific purposes, and keyed to the Document Recognition module for identification and appropriate sequencing.

### Customer

The FlexiScribe project is a development for MBS-NL's Data Management Group.

### Product Features

FlexiScribe is a flexible and powerful application employing a revolutionary concept of handling input and processing information.

FlexiScribe combines automated document recognition, data capture, QA, and output data transformation and formatting into a single modularized process, automatically routing items to human operators when required for interpretation or verification. Multiple modules of any type can be easily configured for specific purposes, and keyed to the Document Recognition module for identification and appropriate sequencing. Thus, any number of projects large or small can be worked and intermixed within a single operating system with automatic compensation for volume fluctuations while providing specific processing sequences and tools for each unique requirement.

FlexiScribe allows data capture and data entry for a stream of incoming documents. The Manager (or the Administrator) can define different data processing tasks for different types of documents. In general case this will be processing of scanned images, submitted by the customer. Depending on the type of images and the tasks required the incoming images are automatically routed to different services.

The key services in the system are:

- ❑ **Document Definition and Classification:** This is the beginning of processing when documents are formed from received files, grouped together, and assigned the task to be performed and the services, which will perform this task.
- ❑ **Document Identification:** This service is used for automatic identification of the type and the areas where the necessary data will be captured.
- ❑ **Automatic Data Capture:** This service employs an OCR engine to capture meaningful data from the images and convert the data into electronic form filling in all possible fields.
- ❑ **Manual Data Capture and Verification:** This service requires employing human operators to either capture data from an unstructured input or to verify the results of automatic data capture (or other operators)

- ❑ **Automatic QA:** This service allows to perform automatic quality assurance of the data either entered manually or captured automatically. Having such service allows decreasing the number of mistakes in the final output.
- ❑ **Data Transformation and Output:** The core of this service is conversion of the captured data into any format required by the customer, and storing or shipping it depending on the request.

FlexiScribe is not just a data entry utility. This is a very flexible and powerful application that employs a revolutionary concept of handling input information and processing.

As the name implies, the system is FLEXIBLE. The core of the system is the Database and File Repository, which serve as the file storage and the control center. Apart from the core, which is stationary and stable, the rest of the system is flexible and adaptive, meaning any number of any services can be added to the system.

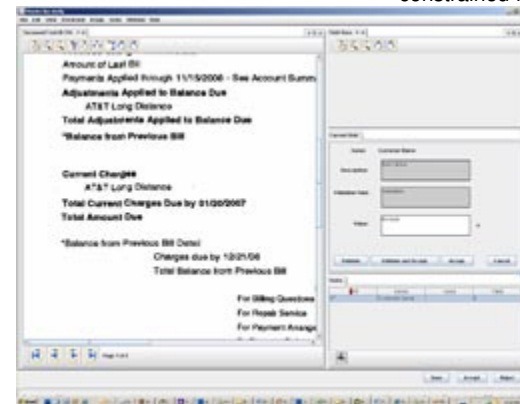
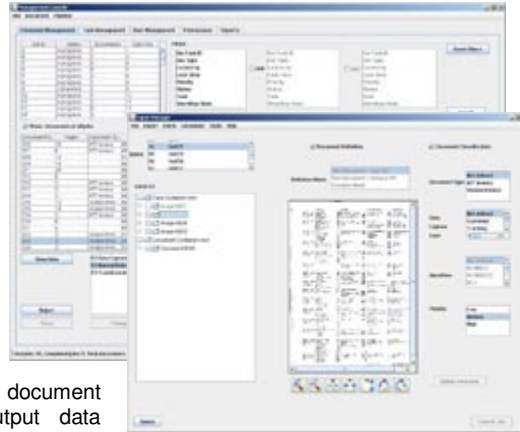
For example, unique data capture requirements can be accommodated with additional Automatic Data Capture services tailored to the requirement. The number of services can be increased or decreased at any time.

On the other hand any new service can be introduced to the system without affecting the work already being done. The service will start its work and will wait until the documents ready to be processed appear in the system. New documents, which require processing by the new server, will be routed to it and processed.

Another important feature of FlexiScribe is handling of incoming files. Whereas most of existing systems are tuned for processing of one or several types of image files to produce the data output, FlexiScribe is not constrained by the type of incoming files. Every file coming to the system's input is regarded not as an "image file" but as a Data Container. This eliminates the restrictions on processing only images.

This flexible and configurable architecture permits addition of any number of services tailored for any kind of data, language, document format, image file, or information structure. As an example, a single project can be configured to combine information from intermixed WinWord docs, .tif images, and EDI files, and output it to a client's proprietary database format.

FlexiScribe introduces an entirely new level of flexibility and response to MBS-NL's worldwide Data Processing division; and represents another targeted success for MBS-NL's Software Development team.



### Tools and Technologies

**Platform:** MS Windows, Linux

**Database:** Oracle

**Languages:** C#, Java

**Technologies:** XML, RecoStar

**Performance:** 1,000 concurrent users

**Effort:** 160 man-months

## Manuscript

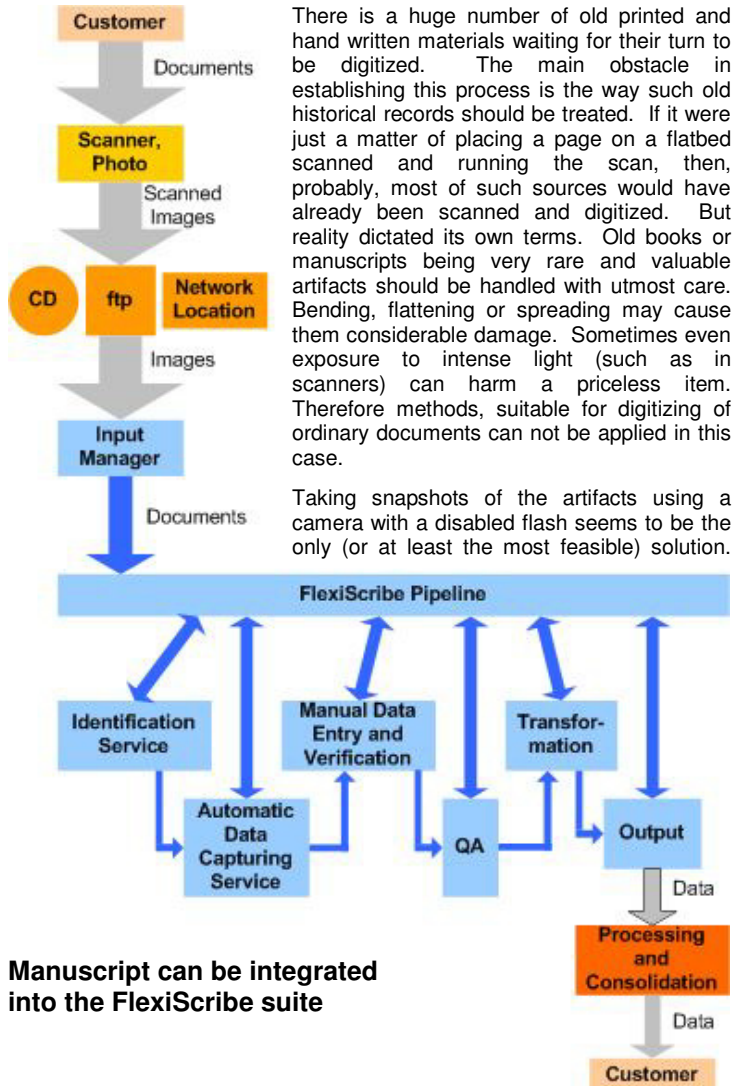
### Summary

There is a huge number of old printed and hand written materials waiting for their turn to be digitized. The main obstacle in establishing this process is the way such old historical records should be treated. Manuscript software deals with such situations by taking two (or more) angle shots of the appropriate page and merging them into one.

### Customer

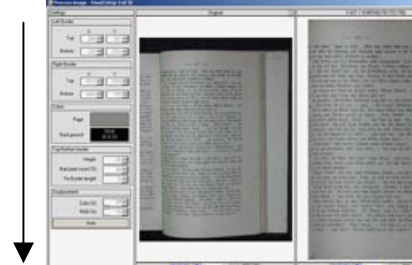
The Manuscript project is development for MBS-NL's Data Management Group. Manuscript is integrated into FlexiScribe - a MBS-NL's proprietary document management system. This allows MBS-NL to provide the whole range of service from photographing pages to OCR and data processing.

### Product Features



Manuscript can be integrated into the FlexiScribe suite

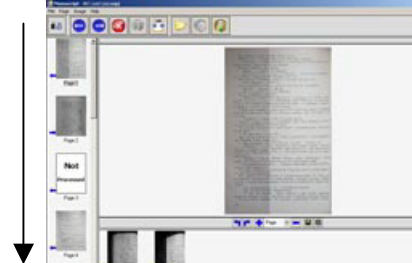
Step 1



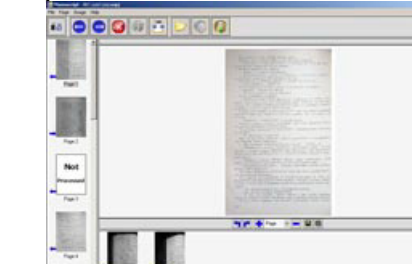
Step 2



Step 3



Step 4



But it has disadvantages which are quite difficult to handle. When placed on a horizontal surface (and we assume that in many cases this will be the only way of placing old items) any book, ledger, scroll, or bound newspaper will have its pages curved closer to the middle, and, sometimes at the edges as well. With thick volumes the distortion can be such, that the text closer to the middle will not be readable unless you flatten the book or look at it at a different angle.

Since physical flattening is not an option, Manuscript software deals with such situations by taking simultaneous multiple angled shots of the appropriate page. Internal Manuscript logic processes the multiple digital images, merging them into a single image of the page as a flat sheet, eliminating distortion.

The image can then be printed or electronically published, following any image-enhancement techniques (contrast, color balance, edge sharpening, etc) that may be desired. Or, the image text may be converted to digital text in any desired format (.txt, .doc, etc) by OCR, manual rekey, double-rekey, or a combination. For this purpose, Manuscript is fully integrated into FlexiScribe, for seamless transition from original paper document to searchable, quotable electronic text.

### Tools and Technologies

**Platform:** MS Windows

**Database:** Oracle

**Language:** C#

**Technologies:** XML, RecoStar

**Effort:** 130 man-months



## Contact Us

Need more information? Talk to us! Whatever your issue is, we do care about your feedback. Please feel free to get in touch using the below information, and we will be happy to provide a prompt and qualified response.

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