

Administrative Information System of the Government of the Republic of Lithuania: Creation of the Infrastructure

Evaldas Kulbokas

UAB Sekasoft, P.O.Box 1147, Kaunas, Lithuania, ek@ssoft.net

Eugenijus Telesius, Dr.

Vytautas Magnus University, S. Daukanto 28, Kaunas, Lithuania, et@ssoft.net

Alvydas Jaliniauskas

Information Technologies Institute, P.O.Box 1147, Kaunas, Lithuania, iti@ssoft.net

The paper presents the main results that have been achieved during the Administrative Information System of the Government of the Republic of Lithuania infrastructure creation phase. Major direction of the work includes reengineering of the administrative processes in Lithuanian Government through workflow automation. Project critical success factors and problems are briefly outlined.

1. Introduction

In the middle of 1995 the Government of Lithuania issued a decree which called for the creation of an **Administrative Information System of the Government of the Republic of Lithuania (VADIS)**. The Ministry of Communications and Informatics of the Republic of Lithuania was appointed as responsible for implementing this project.

The specification phase of VADIS started in the end of 1995. **UAB Sekasoft** in cooperation with two Kaunas Universities has won the tender and was involved directly in the project. VADIS technical requirements document and draft project (methodological background and technological solutions) was prepared by UAB Sekasoft [1] and approved during 1995 – 1996. From the technological point of view VADIS was defined as the **global integrated information infrastructure** based on principles of **groupware**. This phase ended in September 1996. New tender for General Designer of VADIS was announced and **UAB Sekasoft together with IBM Representative office in Lithuania** were declared as the winners.

2. VADIS Project Goal and Objectives

VADIS mission is to increase the effectiveness of the State governance due to more rational use of resources assigned to public administration. **The purpose of the VADIS project** is to streamline and to supervise governmental decision making processes and document management by providing effective means based on use of innovative information technologies (i.e. groupware and workflow) to enable the VADIS users to share, track and control appropriate information [2].

Specifically, VADIS is an integrated information system designed to:

- facilitate decision making with correct and timely information,
- provide a central document repository to avoid decisions based on inaccurate and/or dated information,
- coordinate the preparation of draft papers among the relevant institutions,
- speed-up preparation, legalization and dissemination of the governmental and institutional decisions and regulations,
- standardize and computerize office work and document handling,
- eliminate unnecessary and redundant paper transactions,
- control and monitor the governmental policy implementation,
- increase public servants' professional skills.

In addition, the system will provide information to:

- Seimas (the Lithuanian Parliament),
- Office of the President,
- other national organizations involved in the State administration.

The following public authorities are defined as VADIS institutions:

- the Prime Minister's Office,
- Ministries, other Governmental Institutions (Departments, Inspections, etc.),
- County Administrations,
- State Consultants, Commissions, Working Groups.

3. VADIS Technical Solutions Description

From a **technological point of view** VADIS is an integrated information infrastructure linking VADIS institutions and ensuring coordination of activities of all institutions, their departments, and individual public servants involved in the procedures of State Governance. Electronic messaging technology and shared data base access has to be implemented in all VADIS institutions. VADIS implementation is based on VIKT (State Institutions Computer Network). During 1997/1998 VIKT will cover all Lithuanian governmental institutions. VIKT is linked to networks abroad via Internet as well.

Major share of the documents circulating through VADIS institutions should be electronically generated and managed. Unified formats and properties of the documents enable author and content verification, which is authenticated by digital signature.

The second technological element of VADIS infrastructure is the ability to associate and link documents independently of the location of their creation and storage. This functionality is supported by integration of VADIS information funds with external data resources (e.g., stored within non VADIS institutions), platform independence, user mobility (which is extremely important for high-level decision making persons), Internet access (integration with World Wide Web), and workflow management.

A unit of information stored and transferred in VADIS system is a document. Information within VADIS infrastructure is primarily classified as follows:

- normative acts issued by various State institutions,
- statistical, economic and social data,
- interinstitutional office correspondence,
- public institutions functional responsibility and their management surveys,
- State information available for general public, etc.
- public requests, complaints, etc.

The Lotus Accelerated Value Method (AVM) is used as a structured framework for planning, development and implementation of Lotus Notes solutions in VADIS project. Designed for Notes-centric projects, AVM gives both designers and customers a complete framework of management tools to speed up VADIS solutions deployment.

4. Current Status of VADIS project

The VADIS project involves **four stages** of the system development:

1. creation of VADIS infrastructure,
2. full implementation of VADIS data bases and implementation of pilot workflow solutions,
3. implementation of workflow solutions at the institutional level with full usage of shared databases and communication system,
4. VADIS integration with other State information systems.

The following list represents **the primary targets in the first stage** of VADIS development:

- to link VADIS institutions together via VADIS messaging subsystem, enabling them to send and receive data/documents, communicate with VADIS administration services and to use the Internet WWW services,
- to design and implement primary VADIS databases,
- implement and test internetworking and shared use of document repositories between selected VADIS institutions.

The most **important results achieved during 1997** were:

1. Pilot project of VADIS infrastructure (the first frame) was implemented.

VADIS technical layer has been created consisting of 3 central servers and 8 servers of institutions. For communication State Institutions Computer Network (VIKT) is used. Lotus Notes software is installed on more than 200 workstations and carries out daily e-mail processing and computerised document exchange. VADIS infrastructure involves following institutions:

- The Prime Minister's Office,
- Ministry of Social Security and Labor,
- Ministry of Environmental Protection,
- Ministry of Public Administration Reforms and Local Authorities,
- Ministry of Foreign Affairs,
- Ministry of European Affairs,
- Ministry of Justice,
- Department of Statistics.

2. VADIS messaging subsystem was tested.

VADIS messaging guarantees reliable and secure transfer of e-mail and computer documents between governmental institutions. Specialized Lotus Notes databases were created for document messaging support.

3. Interinstitutional Document Management Subsystem prototype was created.

Interinstitutional Document Management Subsystem is dedicated for document management in VADIS institutions and covers the transfer, management and distribution of incoming/outgoing documents, task tracking and control. It encompasses a subset of institutions' internal document management functions as well.

Interinstitutional Document Management Subsystem carries out the following activities:

- Incoming documents processing (documents receipt by ordinary mail or e-mail, registration in correspondence repository, printing, distribution to departments, etc.);
- Incoming documents internal processing control (routing of documents, reports, lists of documents, search, etc.);

- Outgoing documents processing (creation, approval, linking, editing, signing, mailing, etc.).

Figure 1 shows a workflow status, when VADIS document was composed using Interinstitutional Document Management Subsystem and delivered to a public servant for approval (TVIRTINIMAS). The menu bar, workspace pages, database icons, and other Notes items display text in Lithuanian. This is the crucial advantage – Lotus Notes system was localized in Lithuania. Users see Lithuanian terminology on their screens, use Lithuanian documentation and training materials. It is very important for users who do not know English.

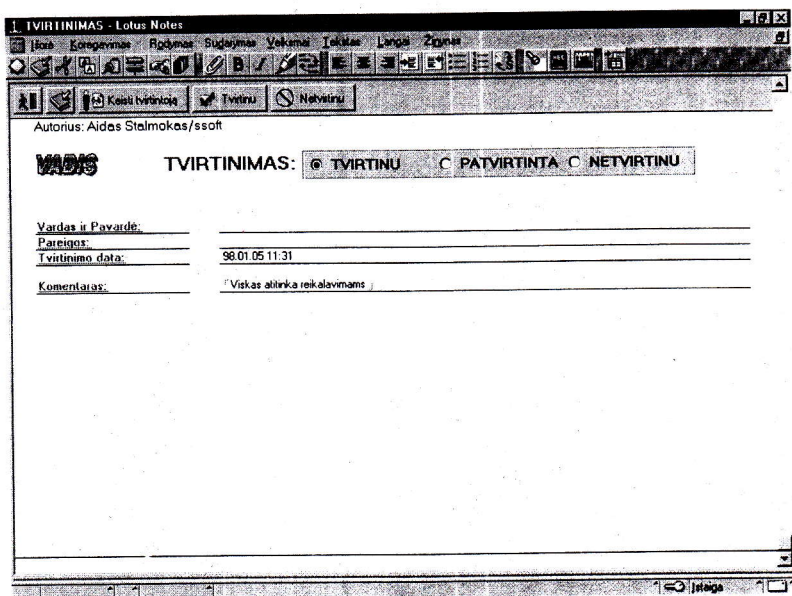


Figure 1

4. The workflow of computer supported document processing was designed.

Complete set of standard computer document forms (Lotus Notes and MSWord) was prepared for use. Computer documents prepared using these forms may be transferred to other departments using Interinstitutional Document Management Subsystem. Corresponding regulations of document processing workflow were prepared as well.

Figure 2 shows a VADIS document created in the Ministry of Social Security and Labor (SOCIALINĒS APSAUGOS IR DARBO MINISTERIJA) and classified according to “VADIS subjects” register.

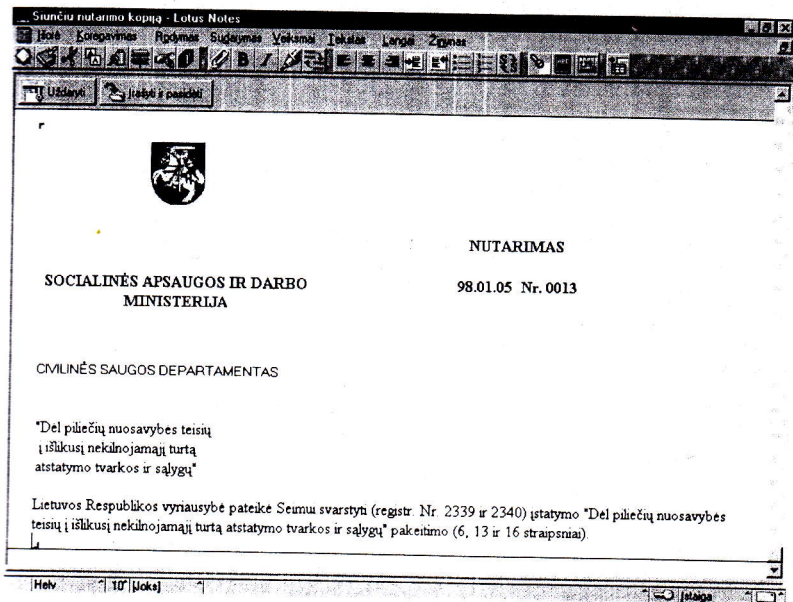


Figure 2

5. Training was accomplished.

Training programs and course materials for VADIS users, administrators and experts have been prepared. By working on joint project teams we learned to transfer information technology skills to public servants. These skills are being transferred through classroom-style sessions, but more often acquired on the job.

6. Pilot part of VADIS information fund was created.

Currently VADIS information fund contains the following core databases:

“VADIS users” - lists of VADIS institutions and public servants with their appropriate information (e-mail addresses, phones, security requirements, access rights, etc.);

“VADIS subjects” - document classification register created according to EUROVOC;

“VADIS options” - special options for system administration are stored here.

Figure 3 shows the structure of “VADIS users” database with the navigation and view panes in Lithuanian.

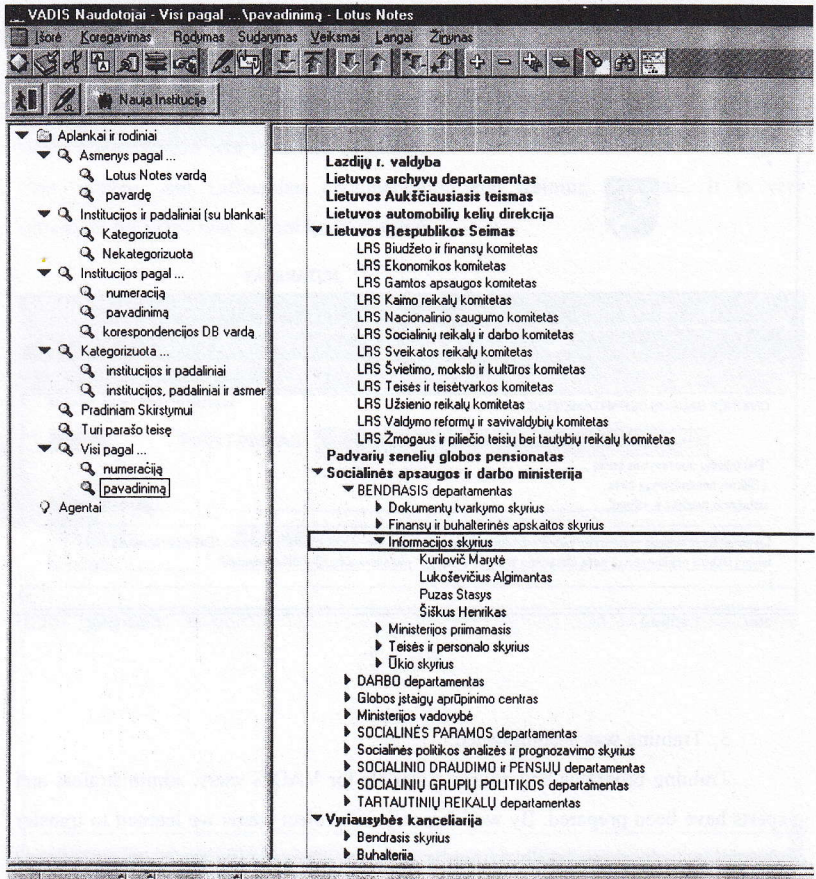


Figure 3

Solutions which have been developed and tested will be implemented in the following VADIS institutions during 1998:

- Ministry of Economics
- Ministry of Communication and Informatics
- Ministry of Finance

- Ministry of Internal Affairs
- Ministry of Defense

5. VADIS Project Critical Success Factors

David Coleman, a groupware consultant with San-Francisco based Collaborative Strategies has developed the following formula for success with groupware [3]:

Groupware Success = Technology + Culture + Economics + Politics

Coleman points out that the further to the right a factor is in this equation, the greater its potential impact on the success of the project. There was a possibility that the negative impact on the success of VADIS project could be made by continuous organizational changes too.

Fortunately, high level Lithuanian politics have understood the importance of VADIS project. Both designers and Government's high level officials have understood that groupware implementation is not just technological changes. The difficulty lies with the relationship between technology and the public servants who have to use it. Coleman notes that the larger the organization, the greater the change, or the more complex the project, the greater the exponent for the resistance to change. The main message of VADIS project that we have understood is: in the most areas of the Government there is no clear path to success, **a lot of public servants resist changes**. This resistance to changes is not unique to groupware. It is true of any new information technology that has quite an impact on administration.

Following are a **several critical success factors** that we have noted during the first stage of VADIS development:

- standard formats to facilitate an easy exchange of documents are needed;
- designers have to create standard applications to promote interoperability, reduce training costs, and reduce support costs;
- VADIS Project Review Board and VADIS administration group to control development and deployment of new applications are needed;

- joint project team approach to transfer of information technology skills to information technology staff in governmental structures and to involve users into the evolving new applications is very useful;
- potential impact of a new application on the changes of VADIS institution and legacy environments should be understood;
- a well-defined development and application roll-out planning is critical for success;
- the worldwide-proven methodology is strongly recommended for effective project management.

6. Problems

The **significance of standard solutions** is unquestionable. Information system standards which are valid in Lithuania are not ISO-approved as official standards. It was not a problem while we were exploiting local information systems. But now, when information systems are crossing organizational and state boundaries and are integrating tools of structured information processing (in most cases, relational DBMS) with groupware infrastructures, the assurance of interface of such systems becomes very important. It is necessary to initiate actions which would guarantee Lithuanian (or even better, Baltic States) standards approval by ISO, otherwise internetworking and use of modern software products may be impossible [4].

The **most important questions** are:

- Government level support and stimulation of computer firms which are working on localization of software products developed by well known foreign companies, or producing original Lithuanian software compatible with products of foreign companies and satisfying their industrial standards;
- priority for localized or original software in organizing teaching process in institutions of education;
- priority for localized or original software in Government financed projects and computerization of governmental institutions;
- Initiation of worldwide acknowledgment of Lithuanian or Baltic States' information technology standards and their legalization by ISO.

Baltic information technology professionals should not sit idle near the information technology highway thinking about their local problems – we aim to join the European Union with proper readiness for innovative information technologies.

References

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