

# DOCUMENT WORKFLOW MANAGEMENT IN CENTRAL ADMINISTRATION

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## Abstract

This paper presents how IT can provide help to central administration entities with document workflow by moving the accent from paper to digital format. We discuss a case study at former Ministry of Economy and Commerce (MEC) and an software implementation provided by SoftMentor.

Keywords: document, workflow, retrieval, registration

## 1. Introduction

In central administration the documents movement is described as a sequence of steps which follow a set of regulations that requires signatures and registration for each start and end. Although [3] this is a good practice, when a large amount of documents are considered, then the bureaucracy is overwhelming. The general lifecycle of an document starts and ends at a Registration Office. Here an incoming document receives a registration number. The same number is used for the corresponding answering paper, with the specification of outgoing document. If a response is not required (papers for information), then the document is classified at the target Department. Else the incoming document is sent to a state secretary or to general secretary. Here the document receives another registration number. The process of delivery/reception is recorded in books together with the two registration numbers. After examination of the document the statesman in charge sends it to adequate Department where the document receives another registration number. If necessary, several Departments may receive the same document and each one assigns them different registration numbers. When tasks required by the incoming document are finished, each Department sends a response to upper level. A copy of response and the incoming document are stored in department archive. At state secretary or general secretary office a comprehensive response is written and the document is sent to General Registration for post-office sending. Usually the sent response references the General Registration incoming number. It is also possible that the Statesman's Cabinets to issue documents (without any incoming document), assign their own registration numbers and sends them to GR for sending.

## 2. Problem

As a process requirement, documents that enter in a Registration office are always on paper and the corresponding response must be also on paper. Paper documents workflows are hard to manage. A paper document is difficult to locate as it can be easily lost or misplaced. A real-time report about documents status is impossible to display.

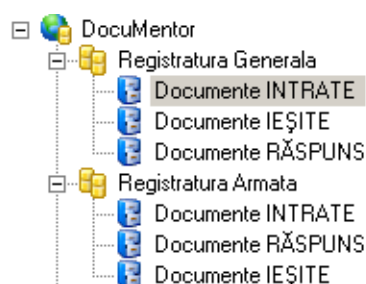
When working with paper workflows, the main problem lies in searching documents and retrieval information. Physical document can be obtained by following registration numbers given at each level.

Sometimes only the document content is needed and not the physical paper.

The retrieval problem is almost impossible when a registration number is not provided.

Each department has its specific archive and it does not exist a centralized archive for the entire organization.

## 3. Solution



Mirroring the paper workflow and transform the documents in electronic format. Additional work is implied at Registration offices but further access to documents becomes quicker, easy and reliable.

Electronic format does not implies any digitalization of the paper documents, so no OCR functions are used. Electronic format (if fact, electronic copies) is achieved by scanning paper documents and fill up predefined labels such as: issuer, recipient, deliver method, deliver date. Electronic format of documents is then saved on a server, the same for any Registration. Any electronic document (scan) receive an unique auto generated id referred as registration number. In fact the registration process, as giving id, is a computer job, so that documents without electronic copy can not receive registration number.

This solution was named Electronic Secretary (Secretariat electronic) and it was implemented in MEC using DocuMentor platform from SoftMentor. The implementation is based on a strong analysis of a current situation.

### Registration

As a functional structure MEC has three main registration offices (General Registration - GR, Army Registration - AR and European Union Registration - UE) for incoming and outgoing documents and more secondary registration offices (Statesman Cabinet Registrations - SCR) only for outgoing documents. The software administrator define Registration points in DocuMentor, after the functional structure, each containing more cabinets for any type of used document. For Registration Office user the storage structure is very similar with Window folders hierarchy. Those offices received proper technical condition and permission for achieve and save to server electronic version of paper documents. To add a new document a user must choose proper cabinet (Incoming Documents – *Documente Intrate*, Outgoing Documents – *Documente Iesite*, Response Documents – *Documente Raspuns*) and proper way to import: From Scanner or From File. Firs method will produce an .pdf or .tiff file. The second method is used only for EU Registration where documents arrive in electronic format via secured internet connection. After scanning/ importing document, filling up labels and save to server the system provide the registration number which must be written on paper (except UE documents).

### Workflows

Electronic document must follow paper trace with the mission of recording data about actions/decision performed in its case. The record process has an automatic feature (audit – see bellow security) or can be manual, with users contributions. In the notes field attached to electronic form, registration offices personnel write tracking information: statesman in charge to response, statesman resolution, Department where the file was sent, dateline for response, the author of response, special annotation.

### Stats

The main paper document workflow in MEC use General Registration. In DocuMentor the most significant folder is GR and its most important cabinets are Incoming Documents. The lifecycle of an DocuMentor document, hosted in Incoming Documents from GR, contains three states: registered, in work, finished. For any incoming document registered, DocuMentor assigns by default the “registered” status. The transition condition requires the paper document to arrive at Statesman Cabinet. As long as the document is at the Statesman Cabinet or in Departments to be settled, its state remain “in work” in DocuMentor record. The transition condition implies the achieve code (from paper archive) to be introduced in DocuMentor. If an document reaches the “finished” state then all tasks (connected to it) are completed, document is archived and an response, if asked, was sent to corresponding registration. Note that documents hosted in other cabinets do not have states.

### Security

The communication from registration workstation with DocuMentor server use an HTTPS secured protocol. The personnel from registration offices uses a client application and personalized accounts for login to server.

In administration mode DocuMentor allow to create users accounts and grant them permission with different level of authority: system, registration and documents. The system permission are at the lowest level and permit (DocuMentor) system connect (a must for user login), create registration, view audit

data, export documents. On every defined registration (GR, AR, UER) and on each containing cabinet (document type), users must be add and for each specified permission: (registration permission): Read/Update/Delete Department, Create Cabinet; (cabinet permission): Read/Update/Delete Cabinet, Create/Read/Delete Document. The access of an user to a level is constrained by permission to that level and each top level. So, the access to a document is secured at three levels: system connect, department read, cabinet read.

In order to secure electronic document workflow and grant users only necessary permissions roles were defined. A role is a set of permission at department and cabinet level. By default all roles have system permission: system connect and export documents. A role is an theoretical concept which helps the admin to manage users permission and it does not have any correspondent in technical implementation. Document workflow reveal following roles: view (only view for documents), registration (view, add, state modification), view of Statesman Cabinet Registration (only view for own documents), Statesman Cabinet Registration (view, add, state modification).

Also audit data are available on any document and on any user. For a document the audit report presents its incoming properties and modification taken by users (state change, adding archive code ...). For a user the report shows actions taken: login, search, retrieve documents, update documents status.

### Search

Using this software a search form is used to retrieve documents. As a result of previous efforts retrieving a document is possible using various criteria, defined in software implementation as labels. Searching key can contain multiple labels value. If the key is a string, then the search reveal recordings which contains the specified string. If the key is numeric or date then the software offers the choice to display the recordings contained into an interval by selecting minim and maxim value.

Search for no value will produce a list of all recordings. The result list can be arranged by any column header. Important column header are: *status* and *cod arhiva* (archive code). For any document with “finished” status the archive code will give exact location of the paper document (in Department archive). Complementary search are available using as key the author of scanning, text from notes and any keyword.

When found the document can be open from server or downloaded to local machine and to view its content user must install Acrobat Reader.

### Technical

DocuMentor server runs under Microsoft Windows Server 2003 ED Sp2, and use Microsoft SQL Server database to save recordings. The client application requires Microsoft .NET Framework 2.0 installed on user machine. Automatic Backup Database Task can be defined with Microsoft SQL Server Management Studio, using Maintenance plans from Management tools.

The screenshot displays the DocuMentor software interface, which is divided into three main sections. The top section, titled 'Indexare', contains search criteria fields for 'Emitent', 'Semnatar', 'Mod de livrare', 'Numar de document', 'Data de la emitent min.', 'Data de la emitent max.', 'Data de la emitent min.', 'Data de la emitent max.', 'Numar de document min.', 'Numar de document max.', and 'Numar MEC min.'. The middle section, titled 'Document Properties', includes fields for 'Document type', 'Document status', 'Date Scanned Min.', 'Date Scanned Max.', 'Scanned by', 'Notes', 'Document Id', and 'File Name'. The bottom section, titled 'Full Text Search', features a 'Keywords' field.

### 4. Conclusion

Implementing this solution MEC made a step to a modern informational system where bureaucracy is reduced to a minimal level. In the context of e-society, citizen and other organization can take advantage of electronic archive and retrieval opportunities. The electronic document workflows have potential to shorten the waiting periods and accelerate processes in central administration in order to offer better services.

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