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Document management — Business process baselining and analysis

Gestion de document — Établissement des références du procédé d'affaire et analyse

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Foreword

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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ISO 10244 was prepared by Technical Committee ISO/TC 171, *Document management applications*, Subcommittee SC 2, *Application issues*.

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Introduction

Organizations with the desire to review existing processes and identify which technologies would benefit the organization constantly face the challenge of trying to determine how much information needs to be gathered. Many organizations prepare work or business process-related baseline documentation not containing sufficient detail, forcing the selected solution provider to develop this level of documentation after the technology has been selected. Not having a clear and detailed understanding of where technology-based change and non-technology-based change are appropriate can greatly reduce and at times prevent successful implementation of the selected technologies.

The goal of this International Standard is to provide sufficient information enabling organizations to understand what work–business process related information should be gathered along with the level of detail required to properly identify the required/desired technology enabling the organization to address business goals, objectives, and requirements identified during the baselining and analysis efforts.

Terms and acronyms associated with various aspects of electronic document management systems (EDMS) technologies commonly change over time, especially as technology developers and vendors update product lines and solutions to address customer requirements. In most cases, new terms and acronyms reflect updates and changes to how these technologies are utilized, incorporating additional levels of functionality, and they are very rarely a result of an entirely new core technology. This is important to note, as the core EDMS technologies are constantly maturing and solution providers are not only identifying new approaches to addressing organizational issues and requirements, but also expanding the use of these technologies into areas previously unconsidered.

There is a difference between enterprise content management (ECM), electronic content management (ECM), and EDMS. For the purposes of the discussion within this International Standard, the use of the abbreviated terms EDMS and ECM are identical from the perspective that both require the use of core technologies along with policies, procedures and methodologies to successfully design, implement and manage electronically stored information.

Enterprise content management is defined in ISO 12651 as a set of tools and methods that allow an organization to obtain, organize, store and deliver information crucial to its operation. It can be broken down into five major components:

a) capture,

b) manage,

c) store,

d) preserve, and

e) deliver content.

Electronic content management is considered to be synonymous with EDMS in that it focuses on the technology aspects of the overall environment.

This International Standard provides both user and technical levels of information and guidance detailing specific activities and tasks identified throughout the EDMS industry as being the industry standard associated with documenting all aspects of the business process and analysing those business processes to determine where technology-based change is appropriate and where EDMS-technology-based change would benefit the organization. The type of business does not matter when doing a baseline as the baseline is documenting the individual business processes regardless of the business.

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Document management — Business process baselining and analysis

1 Scope

This International Standard specifies the detailed information associated with the activities organizations perform when documenting existing work or business processes (business process baselining), defining the level of information required to be gathered, methods of documenting the processes, and the procedures used when evaluating or analysing the work or business processes.

This International Standard provides tools for organizations to identify relevant aspects of processes and to document them in a standardized format, thus permitting them to facilitate detailed analysis and identification of relevant technology(ies) so as to improve the processes or procedures.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 12651, *Electronic imaging — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12651 and the following apply.

3.1
process baselining
process of documenting the information flow through discreet activities performed by an organization

3.2
detailed baseline
description of all aspects of a process incorporating inputs, processing and outputs for an existing process or activity

4 Business process baseline schematic overview

4.1 Preparing to gather information

4.1.1 The first step in gathering information for a process baseline is to identify the organizational goals and objectives associated with their plans and expectations. These goals and objectives will help structure what aspects of the organization should be evaluated, as well as providing a level of structure and focus for the users involved in the entire process.

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4.1.2 The next step in developing a business process baseline is to identify resources that will participate in the information gathering, review and approval. Whenever electronic document management systems (EDMS) technologies are implemented, there is a significant impact on the organization requiring careful change management. These projects may contain resources from the following portions of the organization.

— "Champion users" are selected individuals within the organization who have a full understanding of specific activities. It is preferred that these individuals be "lead users" or "senior users" and not supervisors or managers, ensuring that representation associated with how work is actually performed is captured at the detail level and not just the management view of how work "should be or typically is" processed. These "champion users" can also provide bi-directional communication to their peers and other team members, solicit input on specific processes/activities within their responsibilities, ensure information gathering is complete and accurately captures the real process, etc.

— "Management" are the selected members of the management team who identify "champion users" and ensure the team has time to provide the information being solicited and actively encourage the team to assist and participate. This is critical as the management team will also need to establish clear understandings as to how the new technology will be used, the impact on the organization, etc.

— "Records coordinator" or "records manager" may be consulted to develop rules on how to index, save, and dispose of the various documents, records, or documents and records that are generated.

4.1.3 Once the people to be interviewed have been identified, it is important to ensure that adequate time has been set aside by the management team to participate in the process baseline activities. Without having time set aside from other daily work activities, users are typically unable to devote the time necessary to participate. The amount of time required will vary from organization to organization and should be estimated during project planning. Another activity that will be of value to the organization will be a task or activity description document showing who will be needed, when, and for how long. This will assist the organization in personnel planning.

4.1.4 It is then important to identify the process analyst. There are two different approaches for identifying the process analyst:

a) select the analyst who is already familiar with the processes; or

b) select the analyst who is already familiar with the technologies and has directly participated in the implementation of those technologies.

It is important to note that while it is of value for the analyst to understand how the organization currently performs its duties and functions, typically there is greater value for the analyst to fully understand how content management technologies operate and allow the organization to provide information on how they function.

The difference between having an analyst who is an expert in the organization as compared to the technology expert analyst is that if the analyst is not already familiar with the organizational processes, there are no preconceived notions or expectations that may lead to a potentially biased view or analysis. In some cases, the organization may want an expert in both areas, but the organization should also consider the change management activities. During the initial information gathering phase, the champion users will begin the change management process, including the ability for them to share what is working for them, what needs to change, and more importantly to establish a mechanism for them to feel a part of the process and to establish a level of "ownership". This is very important because the more "ownership" the users feel, and the greater the level of detail that the analyst will receive in a shorter time period, the faster these types of projects can progress. Furthermore, the more the users participate, the more issues and ideas for change will be identified.

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The analyst should ensure that the appropriate level of information is gathered, and that the organization understands the level of detail required to properly complete the baseline and subsequent process analysis. To prepare the organization, it is helpful to review any existing documentation, including

— existing task level process baselines (most organizations have at least one version of these documents, all at different levels of detail and completion),

— process/procedure manuals used by users (identify if they are current or need to be updated), and

— time studies or metrics (if current and available).

When organizations already have process level documentation prepared, the analyst should take into account that the users may be reluctant to participate in the new process baseline activity, as they may feel they have provided the information in the past or they have participated in this type of analysis without any change taking place. These issues are common and need to be addressed by the process analyst to ensure a successful project completion. Many process analysis projects do not include the level of detail required to fully evaluate where technology and non-technology change can take place. While the process analyst typically only assists with the technology-based change, in many cases the non-biased view results in questions being asked that potentially may not be presented for consideration, to the users, the management team, or both.

The analyst should prepare the user team to begin considering the level of information to be gathered. This process should include multiple interviews and discussions that begin with identifying all the major processes and procedures, followed by increasing levels of detail within each process, i.e. by ensuring that information associated with how activities start, end, transition, decision points, escalation paths, exception handling together with all manual processing steps are identified and documented. As the analyst continues to prepare the team, it is critical for the management team to fully and openly support the process baseline activities and ensure that the selected users have adequate time allocated by the management team to participate in these efforts.

4.2 Work process schematic development

4.2.1 Schematic structure

The work process schematic shall contain a high-level view of the process being examined. The high-level view of the process shall include sufficient information to clearly define all major activities and processes. An example of a high-level view of processes, including sub-processes, is shown in Figure 1.

Figure 1 — Example of a high-level structure

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A detailed level schematic of all defining processes shall contain sufficient information to allow the analysts to examine the current process and evaluate technology-based change and non-technology-based change. A simple example of a portion of a detailed level process view is shown in Figure 2.

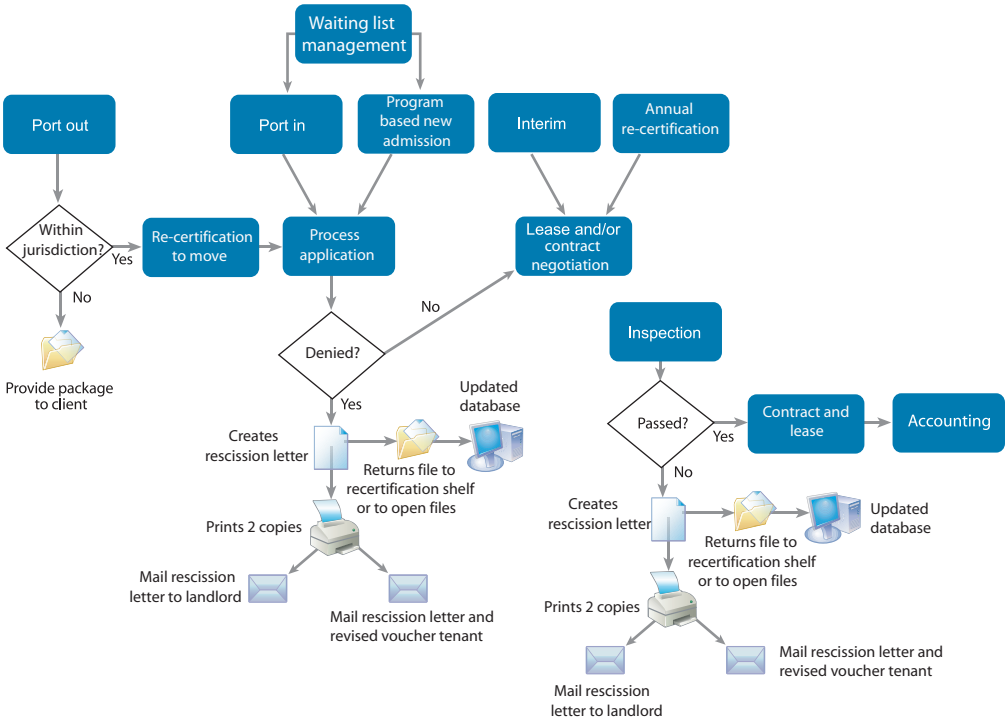

Figure 2 — Example of a detail level process

4.2.2 Icons and descriptions

Descriptive icons, graphical items, or descriptive icons and graphical items should be used to differentiate tasks, processes, and sub-processes. A detailed set of processes should be sufficient for non-technical and technical users to review the process and evaluate whether all processing activities have been accurately captured and identified. Another example of a detailed process baseline is shown in Figure 3.

4.2.3 Processes and sub-process linkage

The processing schematics shall be developed from a top-down model, enabling the user to identify large processes and define relationships between those processes, and identify sub-processes defining linkages between each activity.

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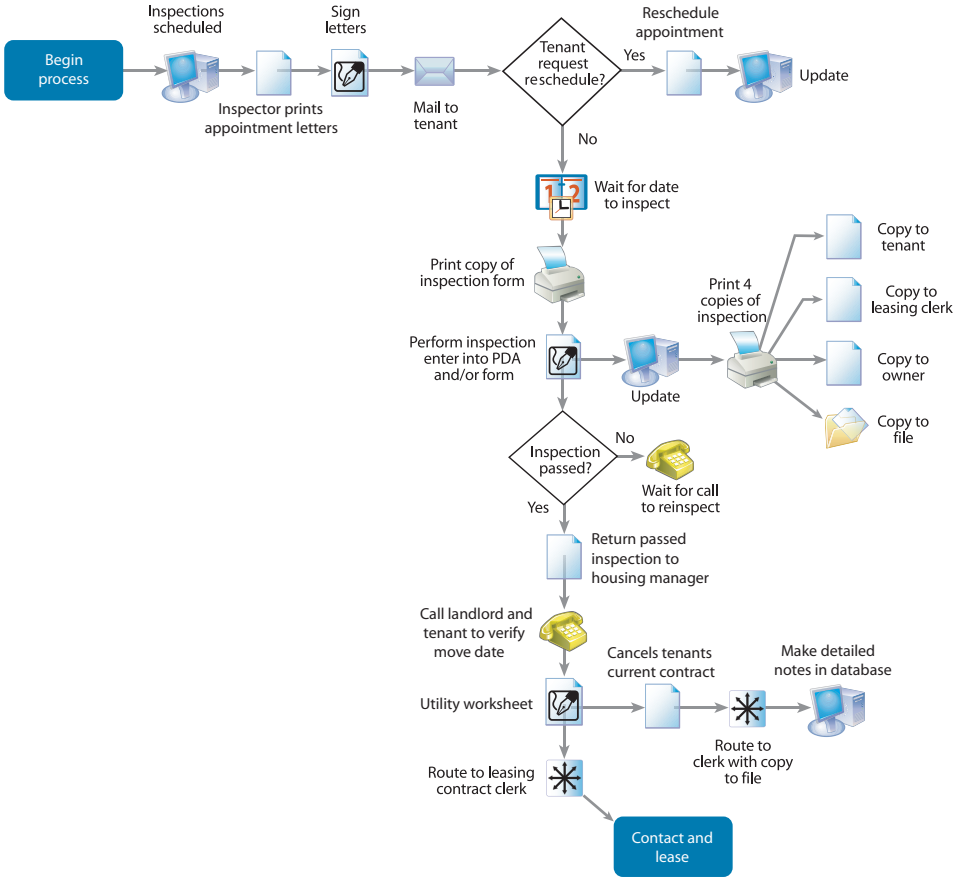

Key

PDA personal data assistant

Figure 3 — Example of a detailed process baseline

4.3 Business process information gathering

Throughout the process of gathering information related to the creation of the graphical depiction of the work processes, the analysis should consider that by having selected users participate in this information gathering, change management has begun. This initiation of change management comes from the perspective that when users begin providing information, it will be related to how a certain activity occurs, how it may be improved and workarounds or other exception processing they typically utilize that may, or may not, be in an approved method by their management team.

Whenever performing business baselining and analysis, it is important for the analyst to recognize that the collection of the business processing information will only be as accurate as the information provided by the people being interviewed. The selection of those individuals actually performing the work at all appropriate stages of the process is critical. Recognizing this, it is important for the analyst to provide a mechanism for the user to participate in the review of the process schematic as it is being developed. This will encourage questions such as

— “What exceptions to the process occur?”,

— “How do you handle these exceptions?”,

— etc.

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without fear of retribution if supervisors or management personnel do not approve of the process being used. This is very important from the perspective of whether the activity, task, or process is officially approved or not. To ensure all relevant information is identified, the analyst will need to capture what is actually transpiring in the organization, not just what is mandated to take place.

The following level of information should be captured during the development of the process information gathering phase of the project:

a) high-level schematics:

   1) identification of all processes, even though they might not be incorporated into the detailed baseline analysis,

   2) identification of how information flows between the processes, and

   3) identification of any exception handling that occurs between major processes;

b) detailed schematics:

   1) identification of how information is received, routed, managed, reviewed, tracked, logged, stored,

   2) identification of how information is related to other forms of data,

   3) documentation of volume and frequency of information at each relevant processing stage or process,

   4) identification and documentation of exception handling,

   5) identification and documentation of decision points and variances, and

   6) identification and documentation of time associated with those activities that can be assisted by EDMS technologies (receipt management, hand-offs, document location, document storage, routing, tracking, logging, etc.);

c) document classification and structures:

   1) it is important for the organization to collect detailed information related to how documents or records are currently organized and classified;

   2) it is very important to collect this information for all existing documents or records in use by those processes being examined thus ensuring the organization has sufficient information to perform a complete analysis after the process baselining activity is completed.

5 Business process baseline schematic development and review

5.1 Developing the schematics

Business or work process schematics should be developed by interviewing a sufficient number of staff performing the actual work to ensure that all the associated business or work processes are fully documented. Additional resources, such as supervisors and managers, should also be interviewed to determine whether the processes that are being followed are actually those processes desired by management. It should be pointed out that it is very important to capture all the details of exactly how the processes currently operate. During the analysis phase these processes are then reconciled with how management anticipated or required the processes to be performed or completed. The number of interviewed staff should expand, as necessary, to ensure that all aspects of the process(es) have been documented. Selecting senior users or champion users, who have been working on a specific task or within a specific group, typically provide the greatest level of detail and can discuss with their peers throughout the interview and review processes.

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5.2 Review by end-user staff

As part of the process schematic development, the end-user staff and especially those staff interviewed should be directly involved with reviewing the documented business process. This level of review should be used to ensure that all portions of the process have been correctly documented. This development or documentation process is iterative in nature. As the users continue to review updates to the schematics, it is common for users to identify additional activities, exception handling, special handling steps, etc., that need to be documented. This is common as it is difficult for users to take a "3-dimensional" process and put it on a single dimensional piece of paper without a lot of review and consideration. Multiple reviews by end-user staff throughout the development of the process schematic is required to ensure the process is fully documented.

5.3 Agreement and approval by end-user staff ensuring schematics completeness and accuracy

After the end-users have fully reviewed the detailed process schematics it is important to gain agreement and approval that all processing activities have been accurately captured. This may include all hand-offs, copying, stamping, stapling, routing, routing notations, tickler notes and files, personal filing, etc. When the users agree that the process is complete, they should understand that it is to their advantage to actually ensure that nothing is left out. With the utilization of technology, there is a danger that unknown activities will be missed and the users will have difficulty implementing any new selected technologies without creating new workarounds. The use of a user agreement and approval by the actual users performing the work will help minimize this issue. It should be recognized by the analyst that regardless of how diligent the users, analysts, or users and analysts are, there will be some items that are not provided by the users during the interactive development or review process. The greater the number of iterations of baseline development and review by the users, the more information that will be captured.

6 Business process baseline schematic analysis

6.1 General

After the business process has been fully documented, it is important for the organization to examine this information to determine whether technology-based or non-technology-based processing change is appropriate and desirable to the organization. At a high level, the process shall include the following items.

a) Identification of non-technology-based changes.

After the baseline documents are fully developed and approved by the users as being complete and accurate, the analyst should begin the review process to identify where technology-based change and non-technology-based change should be considered by the organization. The non-technology-based change should be discussed with the organization, and after the organization determines whether to implement these changes, a new version of the process baseline should be created to reflect the new, updated, or new and updated processes.

b) Identification of technology-based changes.

After these non-technology-based changes are identified, the analyst should examine or review the process baselines to identify where technology may be of benefit along with which technologies may bring value to the organization, meeting the previously identified goals and objectives while addressing identified issues and problems, as follows:

1) identification of technologies that should be further evaluated or considered to address technology-based changes desired by the organization;

2) identification of how those selected technologies may change or improve specific processes/procedures;

3) identification of alternative methods and potential results (advantages or disadvantages).

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6.2 Preparation of proposed processing schematics after selected ECM technology(ies)

The final step in the baselining and analytical stages is to develop a set of processing schematics showing what the process may appear like, and the activities that may be performed using the selected technologies. There still may be manual processes along with electronic receipt and processing of information. This should be clearly documented and presented to the users for review and approval in the same fashion as the detailed processing schematic approval process.

If EDMS technologies are identified as desired by the organization to change existing, new or existing and new processes, the organization should consider the use of business process modelling notation (BPMN) tools, if they are utilized by the selected EDMS vendor.

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