



## **The Philosophy**

**Defining the Corporate Information Space**

**presented by**



**CONVERGENCE**

*bringing people & technology together...*

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# The Ability Approach

## ***The ‘Corporate Information Space’:***

One of the key concepts behind the *AbilityCenter™* is the Information Space that it creates. By using the *AbilityCenter™* to implement a Corporate Information Space an organisation addresses, amongst others, the following key issues:

1. Removing the significance of where a document is stored and concentrating on what the document is about, both for saving and retrieval.
2. Taking a managed approach to meta data.

## **Removing the Significance of where a Document is Stored:**

Commonly documents are stored in hierarchical systems. This approach was adopted in the main because early generation systems were focused on where a document was stored physically rather than what the document was about and what it related to. Many hierarchical systems have their roots in real life physical file systems where physical documents have a physical location defined by rooms, cabinets and folders.

Computer systems offer better flexibility in this regard and yet the designs of many document management systems (DMS) try to repeat this somewhat outdated and clearly limited structure in their design.

Libraries addressed this problem even before the invention of computers. It's not surprising that libraries had the right approach since for centuries they have been concerned with exactly the issues of document management that many organisations are now facing in the 'virtual world of information technology'.

## **What Libraries Did Right:**

What libraries did right was that they realised early that wandering around several floors of rooms and searching through shelves of books to find the information one was seeking was not efficient. They created index card systems to store in one place the key details of each book. Computers can create a multi-dimensional meta data information space within which index cards can reside. Libraries initially however, did not have computers and so they choose the most important meta data and created a two-dimensional system of cards based usually on author and topic. This made it possible to 'let your fingers do the walking' within the index card system in order to find the document at which you wanted to look. Only after having established what you want to look at, did you go to the shelves (storage) to get the actual document.

Clearly this was a good system since by using the index cards a person could establish the existence of documents in other buildings, which may be checked out at the time or which may even be in another library altogether.

In other words the index card system was de-coupled from the physical storage of books. The index card system was small and lightweight so searching was fast and in fact you could even take the index card system away from the library and it would still be of value.

## The *AbilityCenter*™ Index Card System:

The Ability approach de-couples the location of a file physically from the location of a file logically within an organisation's Information Space. The Information Space of an organisation is not a physical location but rather a logical designation based on categories that are meaningful (like author and topic in a library system but with more possible dimensions than these two). Clearly, there is great flexibility in such a system. As opposed to saying, for example, that a document is stored on the F: drive or referencing a single dimensional folder structure therein, the Ability approach is to use meta data to locate a document. The document designation using meta data is independent, multidimensional and clearly more meaningful than a reference to where a document is actually stored.

For example, a document or communication may relate to a project, a client and product manufacturer. Storing such a document in a single folder would clearly result in the kind of restricted document management system most organisations struggle with.

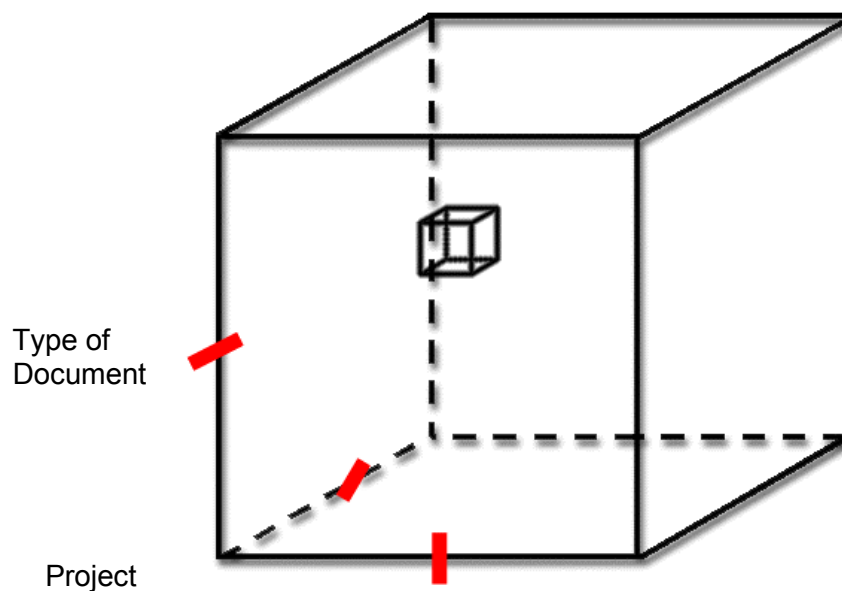


Figure 1.  
(Three-dimensional Information Space)

The information space is a hypothetical space bounded by 'dimensions' or 'categories'. The selection of the categories for any organisation is surprisingly simple since most organisations or departments usually deal with specific entities, which form the basis of the categories. For example, things like products, clients, projects, equipment, sites, departments, authors, publishers, dates and types of document are common meta categories found in most organisations.

This concept is portrayed in figure 1. In this example the space is bounded by three categories, those being: client, project and type of document. We chose, for this example, three categories since we live in a three-dimensional world and so it is easy to represent this pictorially. In fact, using technology like the *AbilityCenter*™ an organisation may have many categories, which are meaningful (and often common across different document types).

In this example by selecting values within the categories like a project name and document type users can quickly find a sub-set of all the documents contained within

the information space as depicted with the small cube. This subset is the search result containing the information they require. Clearly, by including other categories along with standard categories that come out of the box like creation date, author, etc. one can slice and dice through the information space very easily and effectively.

### **An Information Space is Non-Hierarchical:**

Many modern systems for document management attempt to actually emulate the old notion of filing cabinets, rooms and floors. **Using the power of computers to simply do what we have always done with hard copy does not add enough value.** The answer is a paradigm shift away from storage-oriented systems for documents.

One of the most important benefits from the fact that the Information Space is multi-dimensional and non-hierarchical is the ability it gives users to view information based on criteria that are meaningful to them, not the structure of the system.

For example in a manufacturing company:

- A financial controller may want to look at information based on financial quarter.
- A product manager may want to look at information based on product name.
- A maintenance person may want to look at information based on equipment.
- A site manager may want to look at information based on site.

In a hierarchical system, since it has only one dimension, only one of the above people is likely to be satisfied, and that is likely to be the person who had the system set up or the one with the greatest influence on IT.

In a multi-dimensional system, such as the *AbilityCenter*™, multiple categorisation at the document level creates the document's location within the 'information space' which is not linked to the structure of the storage system. This means each person simply enters criteria that are relevant for them and they are presented with the appropriate information.

### **Storage Abstraction allows a Holistic view of Documents and Data:**

Another key issue facing the users of computer systems is that the full picture of information they would like to see in one view spans several document types and data repositories. Take, for instance, the job of a claims officer in an insurance company. A customer contacts them and wants to process a claim on their house, which has been burned down in an act of arson. The claims officer would ideally like to be able to, in one place, view the policy wordings for the cover that the client has, any legal opinions about this type of claim, (similar) ombudsman cases, fraud indication check lists, policy and procedure documents, calls the client has made to the call centre, past claims the client has made - **all in one place**.

Unfortunately, multiple disparate items of information often cannot be viewed together because they are in separate databases and/or may be in separate folders in a document management system. In fact, the reason they are in separate databases or folders stems from process related requirements and given the available options at the time, this may have been justifiable. Each document mentioned in the list above has its own paradigm in terms of who can contribute information, what the lifecycle or workflow around the document is and who should have access to the information contained within the document. Traditionally these requirements have precipitated the creation of separate and sometimes disparate systems for each document type. Where the systems for creation are the same the storage is often in different places. The need to holistically view information across several of these systems was often not considered – until later.

As shown in figures 2 & 3 calling up what you want to see in a category based index card system is easy. Further, a holistic view of the information that the company has in several repositories (including email) can be obtained in one place because in the case of the *AbilityCenter*™ the original search is within the index card system. Only when an actual

document is selected does the user get taken to the actual repository for the document, which is then automatically loaded and displayed. The user does not need to know where this is stored.

**Note 1:**

*A user may go straight to any repository and bypass the index card system at any time if they know what they are looking for. This would be typical of authors for any particular type of document.*

Figure 2.  
(Each user simply selects the categories of information they require.)

Figure 3.  
(A holistic view of all the information, which the organisation has, is presented in the index card system.)

## **A Managed Approach to Meta Data:**

Searching technology has come a long way in recent years. However, have we really seen a commensurate improvement in the performance of searches we carry out? Certainly, if you go to use the internet and search for information it usually comes down to finding one useful hit out of the plethora of hits we get back and then following references made within this. After following leads we eventually do find a reasonable collection of sites and documents, which relate to what we were looking for but this is usually after significant 'surfing'. Why is it not possible to get a result set containing exactly what we want straight off?

One of the main reasons is that searching is an open loop exercise. That is, at the searching end of the equation we have very little idea of the meta data applied to the information when it was created in the first place. Also, there is no consistency in the approach taken with this meta data. We have to 'second guess' what meta data was applied to the document/page and enter this as a search parameter. If I am looking for information in regard to farming do I enter farming, rural, agriculture or dairy? I have no idea how a document may have been categorised and what terminology was used. So to some extent you are working blind – this is what we mean by an open loop. There is no connection or relationship between what people use for meta data when saving documents and the criteria people use when searching.

Clearly, the management of meta data is an important issue when creating a concept such as the organisation's Information Space. It is critical that the bounds of the space are established and that users are not shooting in the dark when it comes to finding documents or saving them. The *AbilityCenter*™ closes the loop.

## **Category Manager – In Brief:**

In brief the *AbilityCenter*™ centrally manages meta data. It registers categories and values for these centrally and brokers them out to connected databases. When documents are created the user is prompted for mandatory and optional categories. Values for the categories are suggested, based on the type of document being saved. When locating documents those same categories and their values are used to suggest possible search criteria. In this way common categories and language are used across all repositories including email.

## **Category Manager – Detail:**

The *AbilityCenter*™ has built into it a module called the 'Category Manager'. The Category Manager is used to define an organisation's Information Space. Categories are created and values for these are defined using the Category Manager. The Category Manager may source category values from a number of external sources such as *AdaptAbility*™ databases, relational databases, Lotus Notes databases, CSV files etc. The Category Manager in turn brokers out the categories and their values when users are saving documents (so that consistent categorisation is achieved) and these values are also used for search parameters when documents are retrieved.

For example, custom categories that a manufacturing company wishes to use for the storage of standard operating procedures, product specifications, and meeting minutes (in addition to standard ones such as author, creation date, etc) are product, department, and equipment. A relational database has a full product listing, a Lotus Notes database has a list of all plant equipment and the HR system can export a department list. The Category Manager of the *AbilityCenter*™ connects to these data sources and then 'brokers' out to all connected document repositories the categories and their values.

In this way when a document is saved a selection of suggested meta information is presented to the person saving the document. At the same time an index card is created containing a "meta summary" which can be used for searching without having to interrogate all the databases.

## Honey Where Are My Keys? Where You Left Them!

Finding stuff is about leaving it somewhere sane in the first place. Clearly, the Ability approach is tied to good meta data and the use of this when documents are saved. We believe that the three aspects of contribution, process and retrieval are critical to successful document management.

The contribution of documents into the system must be easily carried out at the time of creation. Systems, which depend on users going back and saving documents into the DMS at a later time, are destined for failure. What this means practically, however, is that you need to be able to contribute directly from desktop productivity tools. If for example you are working in MS-Word, and you select 'Save', you should be able to apply the mandatory and optional meta data required at that point. Values for these categories should be suggested for each so that it is simple to select the appropriate ones, based on document type. The user should not need to 'free type' such values. Finally, if the document is part of a process or the document has a lifecycle then by saving it at that time it must now be part of that process.

A fundamental philosophy of the *AbilitySuite*<sup>™</sup> is to **make it easy to do the right thing at the right time**. To this end, the one of the components of the *AbilitySuite*<sup>™</sup> is an ODMA (Open Document Management API) compliant tool for exactly this purpose, i.e. Desktop *Ability*<sup>™</sup>. Likewise, the Mail*Ability*<sup>™</sup> module allows categorisation using the suggested values from the Category Manager of the *AbilityCenter*<sup>™</sup> to save and register email into the Information Space when it is sent or received.