

UNIFIED VS. FEDERATED

Which Has the Proven Track Record for Managing Information?

In a classic case of man versus machine, the unified approach to managing information depends on human judgment and discipline, while the federated approach depends more on computer software and hardware. Which has the best track record?

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Editor's note: *This article offers a counter-point to a May/June 2009 Information Management article highlighting the federated approach to solving the challenge of managing information in disparate content silos. (See "Getting From Point A to Point B: What it Means to Take a Federated Approach" at <http://content.arma.org/imm/mayjune2009>.)*

Tremendous financial and human resources are being spent to automate the complex task of information management and information disposition in the digital environment. Because of the proliferation of applications, computer platforms, operating systems, and many other variables, information is being created, retained, and disposed of in an uncontrolled and undisciplined way. Everyone who creates and processes information using

computers can relate to this problem. And many understand the difficulty of following record retention schedules in this digital world.

There are two main approaches to bringing discipline and structure to this environment – the unified approach and the federated approach. Each has its advantages and disadvantages.

The **unified approach** to managing records, which are defined by ISO 15489 as "information created, received, and maintained as evidence and information by an organization or person, in pursuance of legal obligations or in the transaction of business," establishes a central repository and requires that all records to be retained be moved there to be managed, referenced, and disposed of in accordance with records retention and disposition requirements. Records not moved to the central repository



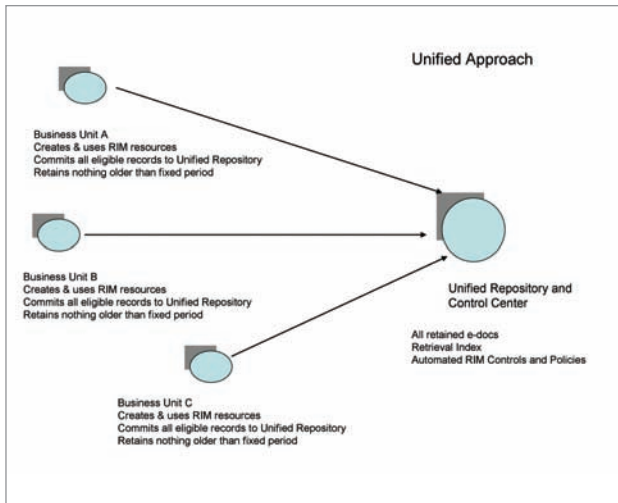


Figure 1: Unified Approach to Managing Records

are retained locally and deleted after an established, brief period of time.

Judith Lamont, writing in the May 1, 2008, issue of *KMWorld*, provides a useful definition of the **federated approach** to managing records. “Leave records in their native repositories, but manage them centrally. That way, the records do not need to be physically moved into a single location, yet a single set of retention rules can be applied. Records are ‘virtualized’ so that they all appear to be within the federated records management application, from which they can be searched, placed on hold, or acted on in other ways.”

Competing Approaches

The process of managing information and records in all forms is incredibly complex and hard to understand. To make computer software reflect these realities is challenging for developers, and individuals who attempt to work through these solutions can quickly “get lost in the weeds.” This is particularly true for decision-making senior managers who can devote only limited time to understanding the issues and who may not possess sufficient technical RIM knowledge to dissect the issues. Consequently, it is easy to understand why the person recommending a solution that seems to cause the least disruption to the status quo may get the nod to go ahead.

To understand the fundamental processes of these competing approaches, it helps to visualize the unified and federated approaches as simply as possible.

The Unified Approach to Managing Records

In the model of the unified approach shown in Figure 1, the organization has three business units that are actively involved in creating records in all forms and using them to achieve informational objectives.

The records retention schedule identifies the records that are to be retained to meet organizational requirements. The schedule also indicates the records that are to be transferred to the unified repository and the point in the lifecycle of each information asset when the transfer is to take place. Records that are not scheduled to be retained in the unified repository are retained by the business unit for defined, brief periods and destroyed or deleted when the system confirms the retained version is in the unified repository. Records move in the direction of the unified repository only. Conceptually, the process is the same for electronic and paper records.

The Federated Approach to Managing Records

In the model of the federated approach shown in Figure 2, the organization also has three business units that are actively involved in creating records in all forms and using them to achieve informational objectives.

The records retention schedule identifies the records that are to be retained to meet organizational requirements. The federated repository is primarily a central index. Through a variety of application tools specific to each software product used by the organization at its many locations, the index keeps track of records being created and retained at each node – in effect, at each desktop.

During the active life of a record, the federated index is used to search for and retrieve information where ever it may be found in the network. There is no records transfer process in the federated approach. The centralized federated retention schedule provides software instruction to the nodes to carry out records dispositions.

Audit trails can provide a record of electronic record deletions. When this approach is applied to physical records, the equivalent audit trail requires human intervention to ensure compliance. Records remain dispersed and do not move in the direction of the federated repository.

Disadvantages of the Unified Approach

The unified approach is not new. There are many historical examples, among them the British Registry System (and its variants in Canada, Australia, Europe, and elsewhere). Mankind has faced the need to identify, control, and make available “the record” for much of its existence.

Under the British Registry System, when a document was complete and considered by all parties to be the record, it was physically brought to the registry, copied into a ledger book, witnessed by the parties as being “the record,” and from that point on considered by the legal community as the only acceptable description of the facts.

In more recent times, the central file room has operated very much like the registry. So does the U.S. Patent Office. Patents must be registered to have legal status.

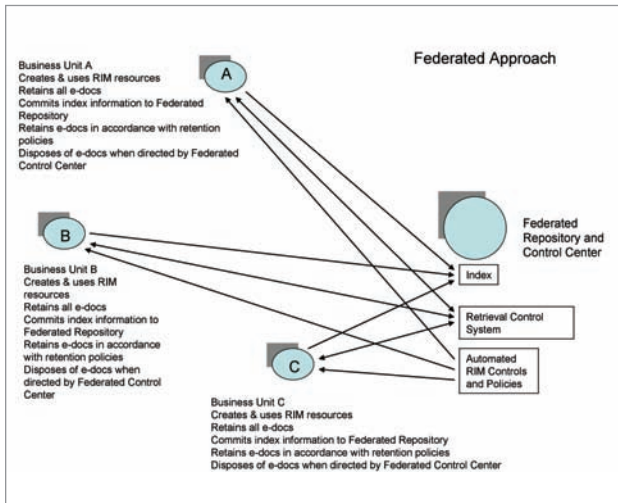


Figure 2: Federated Approach to Managing Records

This is the basic model of the unified approach except computer software, networks, and large electronic storage repositories accomplished the tasks.

One problem with this approach is that its success requires human judgment and discipline to make it work. The process of determining when a document is complete and considered by all parties to be the record requires human judgment.

Once the document is declared the record, it must be transferred to the unified repository. While some systems will automatically make the document transfer upon declaration, the decision to declare requires disciplined human action. The inclusion of relevant working papers and supporting documents to accompany the record to the unified repository requires judgment and human action. The prompt and early disposition of documentation not judged to be part of the record requires human action.

The human element of making the unified approach a success is usually defined and accounted for. Existing accounting and budgeting systems draw attention to the numbers and cost of humans involved in making the necessary judgment calls and applying the discipline needed to make the unified system work. Unfortunately, accounting and budgeting systems do not record the benefits of the unified approach because these costs are buried. The cost of maintaining potentially damaging records, duplicate records, larger-than-necessary electronic storage devices, and many other cost elements are not quantified and therefore cannot be analyzed routinely, but stay buried as hidden operational costs.

Even though the unified approach is linear, rational, and supported by good automated and manual policies and systems with a known historical success rate, it is seen as an approach that adds expense without any quantifiable payback. Because decision-making executives are

under continual pressure to reduce costs, the possibility of eliminating human costs can be very persuasive.

Disadvantages of the Federated Approach

Until the advent of automation, the federated approach would have been cumbersome – perhaps impossible – to consider. Imagine a central card file index and staff attempting to keep track of documents being prepared and used in offices in a large building, let alone in locations around the country or world. The power of computer indexing technology has enabled humans to contemplate having centralized control over dispersed activities.

The growth of the federated approach reflects this yearning. It is very appealing to contemplate whether an organization can:

- Use technology to know what documents are being created and used anywhere in the organization
- Substitute software algorithms for the human judgment required to know a document has become a record
- Set rules that will track each document and ensure retention or disposition is accomplished without human intervention
- Program software to recognize the record and all associated documents needed to understand the record and automatically preserve them, establish and control access to them, and accurately manage the lifecycle without human intervention

Because the records management problem is complex, so are the proposed solutions. The fundamental goal is to automate the human judgment and discipline requirements that recordkeeping requires. Because existing human involvement with records and information management processes is assumed to stay the same (people continue to use the current software and hardware solutions in their work environments without change or added work), human costs will either stay the same or be reduced by the federated approach.

Because the federated approach does not have an historical track record of managing records and information systems, projects that use this approach are handled differently in accounting and budget systems. The starting point is the premise that the application of the federated approach will reduce payroll and benefit expenses; these recordkeeping systems are categorized as “projects” with projected soft and hard costs. In most cases, there will be a payback in future savings to compensate for the current investment. The accounting system gives the nod to the federated approach.

It is during implementation that the problems with the federated approach begin to surface. Human judgment and discipline are far more important and far more resistant to being automated than anyone wants to believe.

The vast number of human judgments occurring in all organizational processes is hard to define in terms of the fundamental “if-then” context of computer programming. Brilliant minds are working on this problem right now – and the ability of the federated approach to achieve its promise depends on this problem being solved.

A key element of the federated approach is that the umbrella application will be able to communicate with and establish remote control over all the local computer systems in use in the organization. It also requires that the humans using these systems will accept the leadership of the umbrella application without intervention or objection. The general term for this computer-to-computer cooperation is “application program interface.” Anyone who has worked with computers at the “weed or final detail level” knows application program interfaces are very difficult to program and require constant vigilance and discipline to ensure they continue to work as needed.


The federated approach can look beautiful in the board room and turn ugly in the work place.

The Proven Track Record

Fundamentally, the federated approach is a records

and information management solution that tries to achieve the results of the unified approach by substituting computer software and hardware for most of the people. (It isn’t just the payroll cost that can be eliminated. Humans don’t always make the same judgment calls, but computers can be programmed to always respond the same way to the same question.) In the end, both approaches aim for centralized control and a complete index of their informational assets.

Despite the admirable efforts to develop computers to replace repetitive, boring tasks often performed by humans, human judgment and discipline remain the key elements for managing information and records.

A track record exists for the use of computer technology in the power of indexing, the almost instant availability of electronic records, and many other wonders of modern day recordkeeping. The track record also demonstrates that the most reliable, accurate recordkeeping systems rely in the end on the application of human judgment and a disciplined approach to the work. The unified approach has that track record. 

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