

Good Digital Records Don't Just "Happen": Embedding Digital Recordkeeping as an Organic Component of Business Processes and Systems*



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RÉSUMÉ Ce texte examine pourquoi, après plusieurs années consacrées à affronter le défi de la gestion de l'information électronique, si peu d'organisations réussissent à créer et à sauvegarder les preuves essentielles numériques de leurs décisions et de leurs activités. En se servant de l'expérience des Archives nationales de l'Australie à titre d'exemple, il critique les approches d'implantation d'une gestion de l'information numérique qui mettent l'accent de façon trop rigide sur le processus au détriment des résultats et il critique aussi la tendance des organisations de se servir de systèmes de gestion de documents qui n'ont aucun lien avec les systèmes et les processus opérationnels. La deuxième moitié de ce texte décrit les résultats d'un projet du Conseil international des archives (CIA) qui visait à relever ces défis en développant une suite de trois énoncés de principes et d'exigences fonctionnelles interreliés et harmonisés pour les systèmes de gestion de documents numériques dans l'environnement de travail. En particulier, ce texte met en évidence le troisième module de la suite du CIA qui aborde les exigences de base pour créer et conserver des documents dans les systèmes administratifs.

ABSTRACT This article considers why, after so many years of addressing the challenge of electronic recordkeeping, so few organizations are doing a good job of making and keeping the born-digital essential evidence of their decisions and activities. Using the experience of the National Archives of Australia as an example, it critiques approaches to digital recordkeeping implementation that focus too rigidly on process over outcomes, and on the tendency of organizations to deploy records systems that are disconnected from business systems and business processes. The second half of the article describes the results of an International Council on Archives (ICA) project that focused on addressing these challenges by developing a suite of three interrelated statements of globally harmonized principles and functional requirements for digital records systems in office environments. In particular, the article highlights the third module of the ICA suite, which addresses the core requirements for making and keeping records in business systems.

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Introduction

The National Archives of Australia (NAA) has built what it calls a “prototype” digital archive. It has developed what it believes to be state-of-the-art, open-source digital preservation normalization and workflow tools for ingesting what the Open Archival Information System (OAIS) Reference Model calls “submission information packages” and converting them into stable, authenticated, long-term “archival information packages.” This has been the culmination of almost ten years of research and development.¹

The NAA facility is called a prototype because its current capacity (approximately 50 terabytes), is regarded as being grossly inadequate for the predicted deluge of digital records that logically should soon be arriving. This logic seems irrefutable if you consider the rapidly expanding volume of petabytes of digitally stored information currently managed by over 300 Australian government agencies. This logic leads the NAA to the view that before long it will need a greatly expanded digital archive, with “industrial scale” ingest and preservation capacity.

But something strange is happening; in spite of encouragement from the NAA, very few agencies seem interested in – or, in fact, are even ready to contemplate – transferring any digital records to archival custody. The NAA currently has less than two terabytes of born-digital archives in its digital repository; almost all are transfers from defunct agencies such as royal commissions of inquiry. The NAA has a prototype digital archive that is still more than 95 percent empty, with few immediate indications that this is likely to change! The NAA has built it, but “they have not yet come!”

At the same time, the NAA’s traditional paper storage facilities are effectively full, and it is unable to accept further large transfers of records until it secures government support to acquire a major new paper storage and preservation facility; on the other hand, surveys tell us that agencies have almost two hundred shelf kilometres of paper archives that they would be willing to transfer. Those who hold the government purse strings, not surprisingly, are reluctant to authorize the acquisition of a huge new paper storage facility unless the NAA can assure them that it has viable strategies for working with agencies to reduce the unsustainable growth in the volume of new paper records; they want to be reassured that the government will not have to fund yet another paper storage facility in another six or seven years’ time.

There is a huge irony here. Back in 1994 the NAA announced a policy of

1 For more information on the National Archives of Australia’s (NAA) approach to digital preservation see <http://www.naa.gov.au/records-management/preserve/e-preservation/at-NAA/index.aspx> (accessed on 22 February 2011); see also Adrian Cunningham, “Digital Curation/Digital Archiving: A View from the National Archives of Australia,” *The American Archivist* 71 (Fall/Winter 2008), pp. 530–43.

“distributed custody” for electronic records.² The rationale for this policy was that, since at that time the Archives had no capacity to preserve electronic records, the best hope of preserving these records was for them to remain in the custody of the agencies that had created them in the native systems environments in which they were generated and maintained. This policy position caused a controversy that dogged the NAA for years, with government agencies and fellow professionals accusing it of renegeing on its archival preservation responsibilities.³ At that time the agencies seemed very keen to off-load their electronic records to the Archives and they expressed annoyance at what they regarded as a cost-shifting of the archival preservation burden to creating agencies, for whom archival preservation was not core-business. Yet, sixteen years later, now that the NAA has a digital preservation capacity, extracting digital records from those same agencies is proving to be very difficult.

So what is going on? Business processes in most government agencies went almost entirely digital some twenty years ago. While there are inevitable time lags before public records are deemed ready for archival transfer, surely by 2010 one would have expected a noticeable dwindling in the growth of paper records and a marked upsurge in transfers of digital records.

The problem is not for any lack of digitally stored information. Vast amounts of digital records are lying around in data centres and storage area networks across the government. Despite the fact that data storage continues to drop in per unit price, the almost exponential growth in this digitally stored information means that the government’s data storage bill is skyrocketing. The problem is that agencies are incapable of identifying the important and valuable records within these mostly low-value digital holdings. Picking through the digital slag heaps to find the occasional gem takes too long and costs too much; it seems cheaper and easier to keep everything, especially if the Archives is only prepared to accept transfers of digital records that can be attested as being of archival value.

Of course this is not a sustainable situation and some hard decisions will need to be made about the disposition of these digital slag heaps. Some will indeed disappear, while for others, funds may well be found to do some post-hoc sorting of the wheat from the chaff. This is a legacy mess that the govern-

2 Stephen Ellis and Steve Stuckey, “Australian Archives’ Approach to Preserving Long-Term Access to the Commonwealth’s Electronic Records,” in *Playing for Keeps: The Proceedings of an Electronic Records Management Conference Hosted by the Australian Archives, Canberra, Australia, 8–10 November 1994*, ed. Stephen Yorke (Canberra, 1995), pp. 113–32.

3 See for example: Luciana Duranti, “Archives as a Place,” *Archives and Manuscripts*, vol. 24, no. 2 (November 1996), pp. 242–55 and Terry Eastwood, “Should Creating Agencies Keep Electronic Records Indefinitely?,” pp. 256–67; and accompanying rejoinders and commentary in that same issue of *Archives and Manuscripts* by Greg O’Shea, David Roberts, Adrian Cunningham, and Stephen Ellis.

ment and the Archives will need to deal with somehow – inevitably in a less than ideal manner.

A more pressing concern, though, is to ensure that government agencies stop adding to these digital slag heaps. The time has come for government agencies to make and manage good digital records – records that are linked to their business context, where assessments of retention needs can be made efficiently and effectively at or before the time of creation, not years later (if at all). Furthermore, it is time for agencies to stop the frankly ludicrous (and increasingly ignored) official policy of printing “records” for paper filing because their record-keeping systems have not kept pace with their business processes by going digital.

A survey conducted on behalf of the NAA earlier this year revealed some sobering realities about how Australian government agencies are managing (or not managing) the transition from paper to digital recordkeeping. Fewer than 30 percent of agencies regard themselves as operating in a “comprehensive records management environment,” meaning that they have digital record-keeping systems in place for their born-digital and scanned records. Disturbingly, approximately 40 percent of agencies that have not moved to digital practice indicated that they have no intention of doing so at this stage, or do not know when they will make the move.⁴

How could all this have come to pass – in Australia of all places!? Australia has prided itself on being at the cutting edge of developing standards, frameworks, and guidelines for digital recordkeeping. Australia is the home of ISO 15489, of the *Designing and Implementing Recordkeeping Systems (DIRKS) Manual*,⁵ of metadata standards, the work process analysis standard for records, etc. Indeed, in the 1990s the NAA made the strategic decision to postpone addressing the digital preservation challenge in favour of first addressing the challenges of making and managing good digital records. The logic here was that there was no point in creating digital preservation programs if there were no good digital records to preserve. There was a sense of urgency during the mid to late 1990s when the NAA began articulating new approaches to digital recordkeeping, as it was felt that government records-creating agencies were clamouring for such guidance.

4 Barbara Berce, “From Red Tape and Reticence to Realisation,” paper presented at the inForum Convention, Records Management Association of Australasia, Gold Coast, September 2010.

5 NAA, *Designing and Implementing Recordkeeping Systems (DIRKS) Manual*, Canberra, 2001, <http://www.naa.gov.au/records-management/publications/DIRKS-manual.aspx> (accessed on 22 February 2011).

Implementation Challenges

Experience has shown that it is one thing to develop standards and guidelines for digital recordkeeping; it is quite another to get them implemented in the real world. The slow uptake of guidelines has resulted in the chaos described above. Why have agencies – and not just Australian agencies – allowed their recordkeeping systems to fall so far behind their business processes and digital business systems? Arguably, this question is one of the most significant challenges facing records professionals today. Using funding provided by the British Arts and Humanities Research Council, it has been the subject of a major, three-year research project at Northumbria University in England. Led by Professor Julie McLeod, the Accelerating Positive Change in Electronic Records Management (AC+erm) project rigorously studied the problems and obstacles experienced by organizations in pursuing advances in electronic records management and suggested strategies for overcoming these difficulties. Of particular interest is the project's systematic literature review, which analyzed hundreds of publications, reports, and conference papers on the topic.⁶

The main findings of this project were that:

- few organizations and/or individuals have articulated a vision for Electronic Records Management (ERM);
- the people, process, and systems/technology aspects of ERM are inextricably linked; though useful for the research design and as an analytical tool, the distinction between these aspects is not one that can easily be drawn in modelling what actually happens;
- people issues are predominant, fundamental, and challenging as they concern culture, philosophical attitudes, awareness of RM and ERM issues, preferences, knowledge, and skills;
- records professionals may be part of the problem as well as part of the solution (e.g., they take the holistic view and have the principles and tools to manage records but their demands may be unrealistic or too constraining);
- solutions for ERM are contextualized and complex;
- the success and/or failure of ERM implementations can be contingent on the presence/absence of small or accidental factors (e.g., an individual, an event, a coincidence, or an opportunity);
- there are few published *in-depth, critical* case studies of success or fail-

6 Northumbria University, *Accelerating Positive Change in Electronic Records Management: Systematic Literature Review, Outputs and Findings*, 2010, http://www.northumbria.ac.uk/sd/academic/ceis/re/isrc/themes/rmarea/erm/diss/diss_slr/?view=Standard (accessed on 22 February 2011).

- ure, or of post-implementation evaluation;
- risk based approaches are needed if the challenges are to be addressed in a timely fashion and with the resources available in many contexts/organizations; and
- records management principles appear to be applicable for ERM, however, practise needs to be adapted.⁷

Partly, of course, it is a matter of priority setting in resource-stretched government agencies. Recordkeeping will always struggle for both a high profile and high priority with senior managers and resource allocators; it is not at all surprising that they will postpone addressing record-keeping issues until it is too late and they realize they have a major problem on their hands, despite widespread lobbying and advocacy efforts, and the efforts of independent auditors to highlight the risks associated with poor recordkeeping. That is a reality with which we are all sadly too familiar.

But it is more than that. Arguably, as the AC+erm project found, some of the fault for this situation lies closer to home. In some ways we have not helped our cause by sending out the wrong messages, and by unnecessarily overcomplicating some of our tools, strategies, and guidelines. In Australia, DIRKS is a good case in point. The DIRKS process model for designing and implementing record-keeping systems is a fairly straightforward, flexible, and logical model for systems implementation. Yet, the NAA managed to antagonize a large number of government agencies unnecessarily by insisting upon an overly complicated and rigid set of DIRKS implementation processes for identifying and documenting business functions and activities, and their associated record-keeping requirements.⁸ As a result, DIRKS projects were bogged down in years of glacial progress and often fruitless effort. To be fair, the adoption of recordkeeping based on functional analysis and researching record-keeping requirements took everyone out of their comfort zone; as a result, the NAA most likely overcompensated for its lack of certainty by taking refuge in a set of unnecessarily cumbersome and inflexible set of processes. Instead of focusing on outcomes and key messages, as well as being flexible about processes, NAA staff obsessed about these and lost sight of the desired outcomes. What resources were being allocated to reinventing recordkeeping in agencies often got swallowed up in seemingly endless and pointless DIRKS projects, such that the word DIRKS became something of a dirty word in Canberra.⁹ Since 2007 the NAA has overhauled its approach to working with agencies on these projects, making them simpler and more flex-

7 Northumbria University, *Accelerating Positive Change in Electronic Records Management: Final Project Report*, 2010, p. ii, <http://www.northumbria.ac.uk/static/5007/ceispdf/final.pdf> (accessed on 22 February 2011).

8 Australia, Management Advisory Committee, *Note for File: A Report on Recordkeeping in the Australian Public Service* (Canberra, 1997), p. 27.

9 *Ibid.*, pp. 26ff.

ible¹⁰ – but it was an expensive lesson.

Another implementation lesson learned was the phenomenon of agencies buying an Electronic Document and Records Management Systems (EDRMS) or a Records Management Application (RMA), and assuming that by doing so they would solve all of their record-keeping problems and challenges. There are many examples of failed EDRMS implementations, where project mismanagement and/or change mismanagement doomed the undertaking. In that sense EDRMS implementations are no different from other software rollouts, where the rate of failure can be alarmingly high. But even where EDRMS systems are well implemented, they have often not met expectations. Why is that?

The fundamental problem with EDRMS systems often lies in the fact that they are disconnected from core business processes. Organizations do not usually use EDRMS applications to conduct their core business. Instead, core business is carried out using core business systems (e.g., client relationship management systems, benefits delivery systems, licensing systems) in addition to standard office software suites for document authoring and email. In other words, there are many record-making systems in use that generate lots of records. The problem is that these record-making systems usually are not very good at being record-keeping systems. The result is the digital slag heaps referred to above, in which high-value, business-critical information and evidence are all but impossible to identify and locate.

Faced with a variety of record-making systems that have poor record-keeping functionality, it usually seems easier to acquire and implement a separate record-keeping system than it would be to redesign or replace the record-making systems with those that include adequate, native record-keeping functionality. While this is understandable – and perhaps the only viable strategy in the short term – the problem with this approach is that it requires records to be created in one place, and then moved to another place so that they can be captured and managed as official records. While some EDRMS systems can integrate relatively seamlessly with document authoring and email applications (but, unfortunately, usually not very well with core business systems), at best the process is still clunky and onerous from an end-user perspective. It creates a disconnect from the business process that makes good recordkeeping more difficult than it really ought to be. If you have to overcome end-user resistance to the system because the end-user does not see the benefits for their particular business need, and because they see the system as just making more work for them, then success is highly unlikely.

Given this reality, one could speculate that separate EDRMS systems are but a transitional phase that we have to experience, and that in time all

10 NAA, *Annual Reports, 2007–2008* (Canberra, 2008), p. 26.

record-making systems will also be record-keeping systems and that EDRMS software applications will eventually disappear. I have some sympathy for this assertion, but nevertheless believe that there will probably always be a place for EDRMS-type systems for what used to be called “general correspondence records.” Either that or there will be a convergence of standard office software suites and EDRMS-type functionality, such as has been seen with some highly configured implementations of products (e.g., IBM’s Lotus Notes or Microsoft’s Sharepoint).

In short, good recordkeeping is most likely to occur when it is regarded and promoted as a business priority by organizations, and when it is a natural and organic part of the business process, not some onerous add-on to the already busy working lives of staff. To help governments and private sector organizations achieve this vision, what is needed (apart from changes in organizational culture) are more tools and guidance solidly rooted both in business processes and in “recordkeeping first principles” that reflect genuine global consensus, and that are as simple and flexible as possible to implement. Ideally, these tools need to speak to diverse audiences, not just to records professionals spouting records management jargon.

The Principles and Functional Requirements of the International Council on Archives

With this “recordkeeping first” objective in mind, a multinational project run by the International Council on Archives between 2006 and 2008 produced a suite of products that provide a genuine opportunity to accelerate the rate of positive change in electronic recordkeeping. These products were launched at the ICA Congress in Kuala Lumpur in 2008 under the collective title, *Principles and Functional Requirements for Records in Electronic Office Environments* (ICA-Req).¹¹ The document consists of three modules: Module 1: *Overview and Statement of Principles*; Module 2: *Guidelines and Functional Requirements for Records for Electronic Records Management Systems*; and Module 3: *Guidelines and Functional Requirements for Records in Business Systems*.

The initial, somewhat modest, aim of the ICA-Req project was to produce globally harmonized statements of requirements for EDRMS-type software products. The need for such global harmonization was evident, given the proliferation of jurisdiction-specific EDRMS software specifications, of which the United States *Department of Defense Design Criteria Standard*

11 International Council on Archives (ICA), *Principles and Functional Requirements for Records in Electronic Office Environments*, 2008, <http://www.adri.gov.au/products.aspx#> (accessed on 22 February 2011).

*DoD 5015.2*¹² is but one of dozens in existence. The ICA project achieved this global harmonization with Module 2 of its suite of products – a high level statement of requirements and implementation guidance for EDRMS-type systems.

More interesting, though, are Modules 1 and 3 of ICA-Req. Module 1 is an overview document that focuses on first principles, key concepts, and implementation issues. It is hoped that those reading any part of ICA-Req will at least read the relatively short and non-technical Module 1. This module was developed in the knowledge that detailed technical specifications for software will have a limited and largely technical audience, yet there are key messages about record-keeping software that the wider, non-technical audience needs to hear. In truth, there are first principles in Module 2 that technical people often do not fully grasp either, so it is also vital for them to read Module 1. I reiterate here my earlier argument that part of our failure to have our digital record-keeping standards and frameworks implemented is because we have made them unnecessarily complex and prescriptive. They have focused too much on the how, rather than the why and the desired outcomes. While software specifications have to, by necessity, be somewhat technical and detailed, they should not make the mistake of being unnecessarily prescriptive or detailed.¹³

The centrepiece of the ICA's Module 1 is a set of twelve principles – four relating to records and eight relating to systems – that should guide the development of any systems designed to make and manage records, be those core-business systems with records functionality or separate EDRMS-type systems. The four records principles are:

1. Electronic business information has to be actively managed and maintained as evidence of business activity.
2. Business information has to be linked to its business context by metadata.
3. Business information has to be kept and remain accessible for as long as it is required.

12 US Department of Defense, *Design Criteria Standard for Electronic Records Management Software Applications, DoD 5015.2-STD*, version 3 (April 2007), <http://jitec.fhu.disa.mil/recmgt/p50152stdapr07.pdf> (accessed on 22 February 2011).

13 An unfortunate example of unnecessarily complicated and prescriptive (indeed non-implementable) specifications is the 2008 version of the European Community's MoReq2 (European Commission, *Model Requirements for the Management of Electronic Records Update and Extension*, 2008 [MoReq2 Specification], <http://www.moreq2.eu/moreq2>, [accessed on 22 February 2011]). The problems inherent in MoReq2 have been acknowledged by its sponsoring organization, Europe's DLM Forum, which has committed to rectifying them by developing a "MoReq2010" in partnership with the ICA (DLM Forum, *MoReq2010: New Developments and Frequently Asked Questions*, <https://www.xing.com/net/informationlifecyclemangement/records-management-2657/en-moreq2010-new-developments-frequently-asked-questions-29014047/> [accessed on 22 February 2011]).

4. Business information has to be able to be disposed of in a managed, systematic, and auditable way.

The eight systems principles are:

1. Systems for capturing and managing business information have to rely on standardized metadata as an active, dynamic, and integral part of the record-keeping process.
2. Systems have to ensure interoperability across platforms and domains, and over time.
3. Systems should rely as much as possible on open standards and technological neutrality.
4. Systems should have the capacity for bulk import and export, using open formats.
5. Systems must maintain information securely.
6. Most metadata should be system-generated.
7. Systems should support business information management as an organic part of the business process.
8. It should be as easy as possible for users to create/capture records of business activity.

At a high level, these twelve principles are the only functional requirements you really need. Of course for tendering, procurement, or system development purposes you will need to provide more detailed specifications – but all of those specifications should relate to at least one of the twelve principles.

Records in Business Systems

Unlike Module 2, which was simply a synthesis of existing publications and past experience, the ICA broke new ground with Module 3 (*Guidelines and Functional Requirements for Records in Business Systems*). The only model for this was a brave but flawed exposure draft of functional requirements for records in business systems issued by the NAA in 2006.¹⁴ In developing Module 3 it was decided that the main audience was not record-keeping professionals, but rather ICT professionals charged with the responsibility for developing, or redeveloping, business systems. The ICA authors tried to put themselves in the shoes of such individuals who have decided that their systems should have basic, native record-keeping functionality and need a concise set of guidelines to help them with the records-specific requirements they need to address.

With that in mind, when the ICA team looked again at the NAA's 2006

14 NAA, *Specifications for Business Information Systems Software*, Canberra, 2006, <http://www.naa.gov.au/records-management/publications/BIS.aspx> (accessed on 22 February 2011).

exposure draft, they realized that that document was too long and too detailed, and that it made the mistake of trying to turn business systems into EDRMS systems. The team, therefore, removed a lot of unnecessary details from the NAA exposure draft and tried to distill the requirements down to the bare essentials for managing records in a business system. They also tried very hard to avoid using record-keeping jargon, but rather to use language that would resonate with the target audience.

An important feature of Module 3 is its discussion of how to identify the “record” in a business system. As business systems are not primarily designed to make and keep records (but rather to conduct business), the data generated by these systems often lacks many of the characteristics that we would associate with good records. Frequently, data is held in tables, where it is regularly updated and easily manipulable, where data currency and accuracy is often regarded as being more important than data fixity, authenticity, and redundancy (for evidential purposes). In short, business systems often do not readily accommodate record-keeping requirements and processes. It can be quite challenging to incorporate record-keeping functionality as an ancillary function in a business system – but it is certainly not impossible. The aim of Module 3 is to help organizations incorporate record-keeping functionality as a native feature of business systems so that recordkeeping can become a natural and organic part of the business process – where records creation, capture, and management can occur without the end-user having to do anything different or unnatural.

Identifying the record in a business system requires a partnership of business owners, systems developers/administrators, and records professionals. It requires an understanding of the business, systems engineering and architecture, and recordkeeping.

In distilling its business systems requirements down to the bare essentials of recordkeeping, the ICA team decided that there were only four areas of essential records functionality that business systems need to address:

1. Creating records in context.
2. Managing and maintaining records.
3. Supporting import, export, and interoperability.
4. Retaining and disposing of records.

All other areas of record-keeping functionality usually addressed in EDRMS specifications were deemed unnecessary in this context, usually because they are areas of functionality that are not unique to recordkeeping and, as such, are likely to be addressed already by business systems developers. An example of this is access to data/information in the system. No business system developer would create a system that captures information where that information is inaccessible to identified categories of users. All such requirements were removed from Module 3.

Current Status and Future Directions of ICA-Req

After publishing the three modules of ICA-Req in 2008, the ICA was approached by the International Standards Organization (ISO) with a proposal that the modules be balloted by ISO members for “fast track” adoption as ISO 16175. The accelerated adoption process requires two separate ballots for each of the three modules; the first ballot was concluded in early June 2010. Comments received during this ballot have informed revisions of each of the three modules, which were issued for a second ballot in September 2010. While this is an exciting development and the results of the first ballot were encouraging, we cannot get too excited until the process is complete. ISO processes (including “fast track” processes) have to ensure that international standards reflect rigour and consensus; nothing can be assumed or taken for granted.

Meanwhile ICA-Req itself has been endorsed by a number of governments around the world including Canada, New Zealand, Malaysia, South Africa, and the Australian states of Queensland and Victoria. The three modules have been translated into French, Chinese and Catalan, with a Spanish version being developed. Engagement with software vendors is ongoing and mappings are being developed between ICA-Req and DoD 5015.2, MoReq, and other jurisdiction-specific statements of requirements. The ICA is funding a follow-up multinational, co-operative project, again led by the NAA, to develop implementation guidance and training material for ICA-Req; it is to be launched at the ICA Congress in Brisbane, Australia in August 2012.¹⁵

Planned implementation guidance products include the following:

1. Advocacy material explaining the relevance and utility of ICA-Req to senior managers and business owners, highlighting the good governance and business efficiency benefits of creating and managing records as an organic part of business processes and systems.
2. E-readiness assessment tool for organizations that are contemplating adopting electronic record-keeping technology, building on existing tools developed by the International Records Management Trust.
3. Case studies of electronic records management drawn from the existing literature and pilot projects of ICA-Req implementations structured to mirror the implementation guidance in Module 1. The pilot projects will involve working with selected government agencies in different jurisdictions and selected software vendors to document experiences with implementing the different modules of ICA-Req.
4. Scenario-based implementation versions of Module 3. Up to four different versions of Module 3 will be produced to reflect common imple-

15 Adrian Cunningham, “ICA-Req: Phase II Project,” *Flash* 20 (April 2010), p. 12.

mentation scenarios:

- a) single function system, records stored and managed in the business system;
 - b) records created in a business system, but stored and managed in an EDRMS;
 - c) multiple-function business system, records stored and managed within the business system;
 - d) hybrid systems – mixed digital and non-digital – with digital records created and stored in a business system, but managed in an EDRMS.
5. Detailed implementation guidance for Module 3, examining how to identify, assess, and satisfy record-keeping requirements when designing and implementing records systems, and how to identify records in business systems using ISO's *Work Process Analysis Standard* (ISO TR 26122: 2008).
 6. Summary implementation guidance on particular implementation issues, including the use of classification schemes, metadata, records disposal, and access.
 7. More detailed guidance on implementation issues discussed in Module 1, particularly policy frameworks, change management/corporate culture and training, risk management, and post-implementation review.

Training materials are also being developed to supplement existing ERM training courses. The ICA website will include an E-Records Training Portal, which will include a personal e-records readiness assessment tool and explanations of available training courses, including the ICA-Req training material. Training for Module 2 will assist records professionals in dealing with how to assess commercial, off-the-shelf software products, and configuration and implementation issues. Two training courses will be developed for Module 3: one will be for records professionals and explain business systems, advocacy, how to speak ICT language, and how to tackle implementation issues; the other will be for ICT professionals and will explain records, archives, records concepts and language, and how to implement Module 3.

Conclusion

On its own, ICA-Req will not solve the various problems described in the early part of this paper. But by refocusing our efforts on recordkeeping in the systems where business is conducted and as a part of actual business processes, it should be a great help. Also, by refocusing our minds on first principles rather than on complex processes, we should find easier pathways toward good record-keeping outcomes. No one ever said that good, digital recordkeeping was going to be easy or quick to achieve; we should not despair about the time it is taking us to achieve progress. Progress is being made and we have no choice but to keep trying. We need all the tools, fortitude, support,

and co-operation that we can find to move toward our good record-keeping light on the hill.