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Integrating Information Management into Business Processes: Project outcomes

This paper has been created by the UK National Archives in collaboration with the Transformational Government Team. It represents our initial thoughts about the way forward for the capture and use of government information. It comes out of a fundamental change in the way information flows in a digital age, and the paradigm shift this implies for the way we (government and businesses) manage our information.

The purpose of this thinking is to embed enhanced records and information management functionality in commonly-used office and business software at the point where users create information. Our vision is that office and business software provides effective recordkeeping capability for government agencies, and allows us both to manage our risk, and harness the opportunities digital technology gives us for managing and (re)using information, and for doing our work differently and more effectively.

This paper has been prepared as a discussion document to engage with the supplier community and with other national archives and government IT communities. We are not seeking to outline *requirements*, but instead outline what we believe the desired *outcomes* are for the way business systems (web, desktop and middleware) need to support the effective management of our information. These are offered as a basis for discussion and debate.

The context: why are we doing this?

The world is handling volumes and types of information on an unprecedented scale. The amount of information generated by organizations is doubling every 19 months - and accelerating (Gartner), and now underpins the functions of almost every business and government department/ agency in the developed world.

Government's (and business's) information profile is also changing. We estimate that 80% of enterprise information is unstructured¹. Conversations take place by email and provide a temporary audit trail. Once their purpose is served, they are often deleted. More public sector workers are working remotely and flexibly; Blackberrys and mobiles are ubiquitous. They have extended the working day beyond the confines of the office and the 9-5, and beyond the traditional boundaries of official to official communication. Inspired by the collaborative working and social networking tools, governments are engaging in new areas of communication. Ministers write blogs; departments post videos on YouTube. We

¹ being created and kept outside databases

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use information to engage citizens, hold debates, pay pensions on time, and to work with third parties across the world. This is no longer a digital version of a paper world.

Critically, the subject of information (as broader than recordkeeping) has entered the political arena for the first time in many countries. For example, in October 2007, the UK Prime Minister Gordon Brown announced that “this is the century of information. Our ability to compete in the global economy, to protect ourselves against crime or terrorist attack, depends not just on our natural wealth or on walls or fences but on our ability to use information”.

A consequence of this is that information risk is increasingly being taken as seriously as the more familiar corporate risks. There is an increasing burden of compliance, and there is delegation of responsibility for information risks. But it's not only about risk and compliance. The opportunities to create value from this new environment, in terms of better collaboration, services to customers, effectiveness and knowledge management. Good information management now needs to be a core part of business and government capability – and we need the systems to support this.

The burning platform – examples

- UK Data handling review. Recent losses of Government data have prompted a formal review of data handling. This has raised the profile of the risk Government faces by not managing its information assets. The way Government handles its data has become linked explicitly to accountability.
- Critical information is wrongly destroyed, not kept or not findable when needed - leading to reputational damage, large cost or both. The Chief Information Officer at the White House recently reported that over \$15 million would be spent sifting through disaster recovery tapes to find emails that had disappeared from the President's Office servers, owing to a software change in 2002.
- Lack of basic records management disciplines lead to things going badly, sometimes tragically, wrong. A poignant UK example is the case of Victoria Climbié, an eight-year-old girl who died after sustained abuse. The Inquiry into her death found that the case “was given no less than 5 ‘unique’ reference numbers. Retrieving files was... like the National Lottery, with similar odds”. Lord Laming, who led the Inquiry, concluded that Victoria’s death may have been avoided had information been shared and basic good practice adhered to.
- A number of incidents of wrongful detention of Australian citizens by the Australian Department of Immigration in 2005 stressed the need for

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better information management systems. Two official investigations, a National Archives report on records management in the Department, and an Ombudsman's report all highlighted information management problems and a lack of integration between the Department's business systems as key factors contributing to the difficulties that had been identified.

- The failure of Enron and, in its wake, its auditor Arthur Andersen, has demonstrated the applicability of the same issues and concepts to the private sector just as much as to the public sector. The resulting Sarbanes-Oxley Act has led to a huge shift in practice in US governance, requiring demonstration of the authenticity of data used to certify accounts, essentially putting information integrity at the heart of corporate governance.

How are we handling our information today?

Across some (but by no means all) of the developed world, governments and businesses are using bolt-on, dedicated electronic document and records management software (EDRMS) and requiring staff to capture records created in native business applications into EDRMS applications. These depend on file plans, metadata schema, taxonomies and manually applied classifications, and often on user defined definitions of 'records'. They are generally not linked to information creation, but are an additional step in the normal business workflows. In addition to EDRMS, most organisations have email deletion policies, and database-rich bits of governments and businesses often have their own discrete approaches.

But far more of the world is doing nothing. The developing world are seeking basic IT systems to allow them to function – and are unable to consider any 'add ons'. Even in the developed nations, the cost and (lack of) effectiveness of many EDRMS approaches is meaning that systems are either not being implemented, or not working effectively when implemented.

We have not been inactive in this space. Our government has set recordkeeping standards, and continues to develop functional specifications for business systems. The most widely known ones are the European MoReq, and the ICA/ADRI Principles and Functional Requirements for Records in Electronic Office Environments. Across the world, governments have invested hundreds of millions of dollars in the systems that are available. But whilst the systems are filling a gap, they have largely and somewhat inevitably been developed on paper recordkeeping paradigms. We need a new approach to leapfrog the current models, which feel little more than a stopgap.

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Why do we need to now do something different?

The existing technology does not (largely) provide digital solutions to the challenges of digital working. Most current systems, whether EDRMS systems or collaboration tools, rely upon individuals to do additional work above their day job in creating metadata and deciding what to keep or not; and without significant sticks or carrots, most users are not doing it adequately. Furthermore, current approaches fail to manage corporate risk because they devolve responsibility to the end user, when the ultimate accountability and risk actually lies at a corporate level. They are also failing to harness the opportunities that digital information presents us in terms of business effectiveness and knowledge management. We risk a digital black hole, and one where many parts of government and business risk losing control over one of our biggest corporate assets, and potentially one of our biggest liabilities.

And, if this were not enough, we risk losing key information and corporate knowledge. Because there are so few compelling technical solutions, government departments, and businesses have taken a variety of approaches, leading to low levels of consistency and quality of storing information. On the whole, information is hard to find. If it can be found, it lacks an “administrative history” – the context necessary to interpret it. We need a radically different approach which starts from how people use digital information, not the paper paradigms of how they used to.

An international initiative to change the paradigm

We believe that there is a significant opportunity for new approaches to the management of digital information to add huge value, not just to governments across the world, but also to businesses. Information is the lifeblood of today’s government and business world. If we can manage this asset more effectively, there is huge potential for value creation. The significant sums already spent internationally on EDRM products just illustrate this potential value.

A recent initiative of the International Council on Archives (ICA), working together with the Australasian Digital Recordkeeping Initiative (ADRI), offers a starting point for a new approach. ICA has sponsored a collaborative project to develop globally harmonised statements of requirements for software products that are used to make and keep records. The multi-national project team has finalised a suite of three separate but inter-related publications issued under the overarching title “Principles and Functional Requirements for Records in Electronic Office Environments”. The requirements are not just limited to EDRM systems but apply to all business and office applications.

1. Module One: Principles and Functional Requirements for Records in Electronic Office Environments: Overview and Statement of Principles

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2. Module Two: Guidelines and Functional Requirements for Electronic Records Management Systems
3. Module Three: Guidelines and Functional Requirements for Records in Business Systems

While there is still development work to be done, the principles set out in Module One are relevant to the vision of this project and have been affirmed by 13 countries. The ultimate aim of the ICA project is to enable the archival institutions of the world to speak with one voice to the global software industry about the functionality they believe software applications should provide in order to enable organisations and governments to make, keep and use accurate, authentic and reliable evidence of their decisions and activities. An active campaign of engaging and partnering with the vendor community will be a vital follow-up to publication of the Requirements, if the ICA's work is to have the desired affect of enhancing the information management functionality of commonly used office software products.

We are not seeking to impose 'recordkeeping standards' on business application developers. Instead, we want to explore with suppliers how digital working might present completely new paradigms for the way we manage information, underpinned by the ICA Functional Requirements. Therefore, we've outlined a series of business outcomes that we believe need to be achieved, and we want to engage in two-way discussion with suppliers about what new approaches could be developed to achieve them.

Outcomes

- Information management should be an "invisible" part of the process of information capture, creation and storage from the perspective of the worker going about their routine business
- Information should be easily discoverable and retrievable even in large repositories
- Future users of information need to not only find the piece of information but also find out what happened to that information e.g. who created it, who reviewed it, who changed it, where it was derived from. They also need to be able to access information on the same issue from multiple sources and formats
- In other words, information needs to maintain the context in order to understand the development path of that policy, report, decision etc.
- The metadata essential to establish context and manage information needs to be created and retained automatically

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- Information management should be an embedded function of all business systems and technical infrastructures that interact with data, not a bolt on piece of technology
- Systems used to create, capture and store information (and potentially operating systems) need to have flexible ways for organizations to set up business rules in order to manage their own business risks associated with information
- Information captured needs to be digitally sustainable – and readable in the medium and long term

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