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Dennis Barnedt,
Executive Chairman,
ZircoDATA Group

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Threat or Opportunity?

Automated Electronic Records Management?

Are We There Yet?

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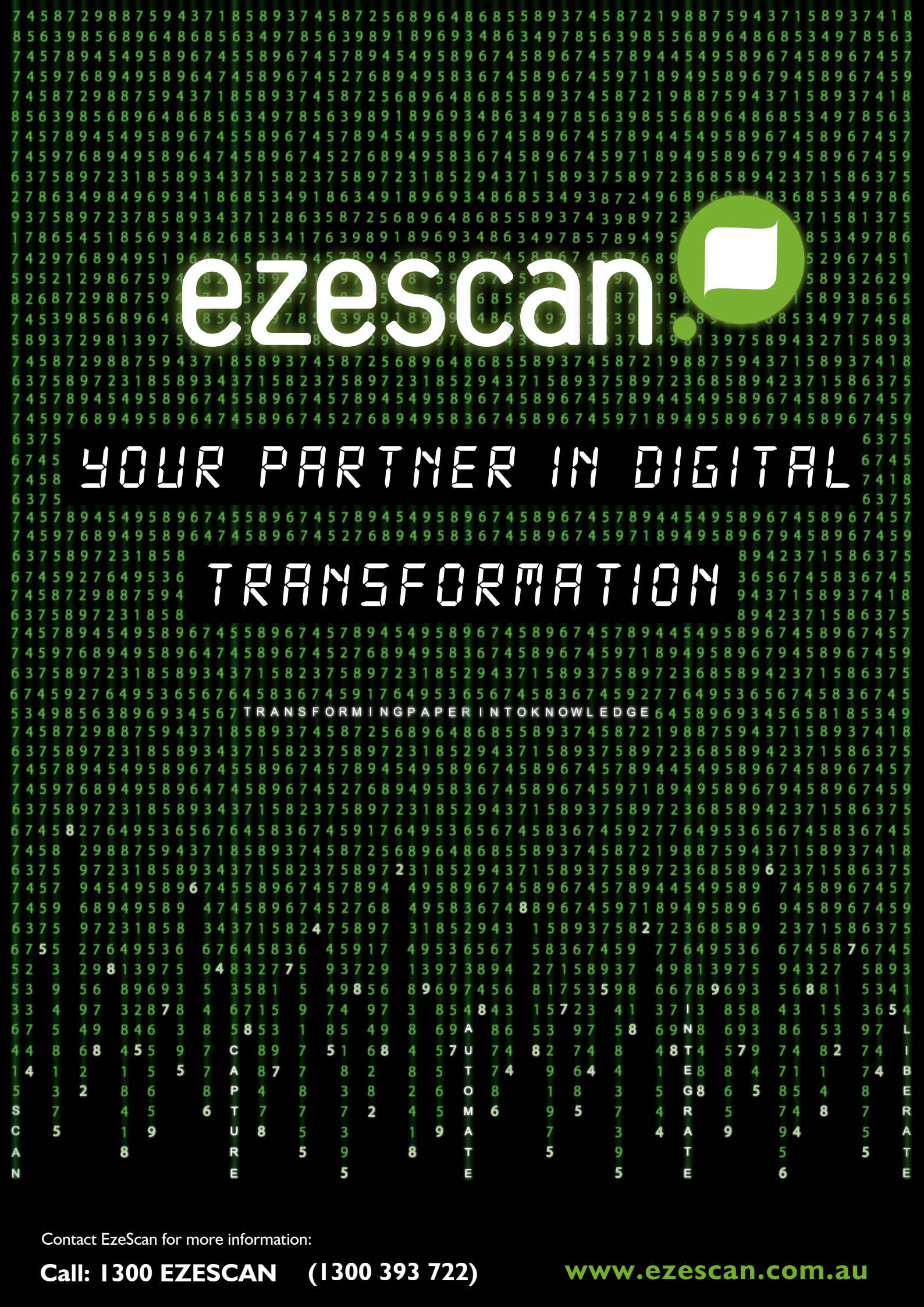
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esignature market set to soar: Forrester

Over 100 million electronic signature transactions are projected to be made annually in Australia by 2020, but less than 20% of Australian businesses are currently prepared for this outcome, according to a recent survey undertaken by Forrester Consulting.

Forrester consultant Tim Sheedy said Australian law allows nearly all documents to be signed using simple electronic signatures with minimal requirements and clear enforceability. The survey of 209 Business and IT decision makers and managers in Australia was commissioned by Adobe.

With 68% of Australian businesses yet to implement an eSignature solution of any kind, customer demand for increased convenience and efficiency is set to fuel enormous growth says Forrester.

According to the study, in addition to exponential growth projections for the eSignature market, by 2020, one in every 10 global eSignature transactions is expected to be completed in Australia. This is despite Australia currently trailing other markets in terms of its acceptance of cloud solutions, with only one in three Australian businesses willing to accept SaaS software solutions.

"Over 90% of the companies believe that an eSignatures solution can save up to 15% of operating cost," said Sheedy, "Most companies are looking to invest in eSignatures solution in 1 to 2 years time."

The Forrester surevy also found that while most of the companies have started their digital transformation journey the overall level of digitalisation is low. However, the vast majority believe it is important to their enterprise to provide a complete digital experience – i.e., eliminating any wet signature process.

Wanted: Government Chief IGOs

Technology alone will never be enough to manage the vast volume and variety of information created in today's world, according to the National Archives of Australia.

'Of course it's pleasing to see the uptake of new technologies transforming the way we deliver government and managing the overwhelming amount of information that's created today,' said David Fricker, Director-General of the National Archives. 'Right now as the Australian Government transitions to digital, we need people with high-level strategic skills to work with business to manage digital information assets effectively across an organisation.

'We are calling for Commonwealth agencies to establish a chief information governance officer (CIGO) role to bring people, technology and processes together.'

Under its Digital Continuity 2020 policy, the National Archives recognises the role of chief information governance officer as 'best practice' for agencies committed to professional information management. As well as leading information governance across an agency, the role is critical for digital innovation and capability, and for championing the importance of effective information management, the NAA says

'An enterprise-wide view will break down silos to create new opportunities to deliver better business outcomes,' said Mr Fricker. 'We recognise that in an agile environment, agencies will implement the CIGO role in their own way. To assist agencies to implement the role as part of their information governance agenda, we have provided comprehensive advice online.'.

Hospitals go live with OnBase ECM

Ten hospitals across three Australian health services, including Mater Misericordiae Limited Brisbane, Melbourne Health and The Royal Children's Hospital Melbourne, are deploying OnBase by Hyland.

The ECM platform will deliver electronic patient records, support hospital administrative needs, and streamline a multitude of clinical and business processes.

Mater Group employs OnBase to scan and digitise health records, providing clinicians the OnBase Patient Window e-chart via integrated single-sign-on capability with Mater Health's clinical viewer. Additionally, Workflow and electronic forms increase efficiency and improve communications.

OnBase enables Melbourne Health to electronically capture health records and data by scanning and capturing health information from third-party clinical repositories. Clinicians securely view patient records either through the OnBase Patient Window directly or via integration with The Parkville Precinct's new Clinical Viewer, which unites patient e-records generated by Melbourne Health, The Royal Women's Hospital and Peter McCallum Cancer Centre.

The Royal Children's Hospital Melbourne uses OnBase to scan and capture medical content simultaneously with millions of images migrated from their previous scanning solution. All information is seamlessly integrated into the hospital's new Epic Electronic Medical Record for patient care and release of information.

Dropbox expands Symantec partnership

Symantec and Dropbox have announced an expanded partnership which will address access management and data protection challenges. In addition to network control interoperability, the agreement includes data loss prevention integration, which will allow joint customers to better monitor and protect sensitive data in Dropbox and across other cloud services.

"We are pleased to partner with Dropbox to provide customers market-leading, enterprise-grade security solutions that seamlessly work with their content in the cloud," said Peter Doggart, Vice President of Business Development at Symantec.

"As part of our joint efforts with Dropbox, we can provide customers peace of mind that their stored data in the cloud is safe from accidental loss or theft. And, we're able to offer CIOs more visibility and control across their corporate networks and enhance the overall collaboration and security experience."

Dropbox users can access Symantec's Data Loss Prevention (DLP) solution coupled with Symantec's CloudSOC CASB solution (formerly Blue Coat/Elastica). This integrated solution provides visibility and control over all sensitive content that users upload, store, and share via the cloud. Since launching the Dropbox Partner Network in November 2015, Dropbox has signed partnerships with more than 30 leading security vendors, including Cisco/Cloudlock, HPE, IBM and Microsoft, among others.

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Search and Content Analytics market set to surge: analyst

Analyst firm Technavio forecasts the global search and content analytics market to reach $US6 billion during 2016-2020, according to its latest report, with a growth rate of almost 25% driven by the growing importance of deriving useful information from unstructured data.

Technavio ICT analysts highlight the following three factors that are contributing to the growth of the global search and content analytics market:

- Increase in adoption of search and content analytics in industries
- Increasing volume of data
- Use of social media data for content analysis

Amrita Choudhury, a lead IT security research analyst at Technavio, says, "Search and content analytics systems provide insights and help in the interpretation of large volumes of complex data. They significantly reduce the time taken for research while offering the required speed and agility."

The growing volume of data generated by organisations is a major factor driving the growth of the global search and content analytics market. Organizational data is generated from sources that include enterprise applications, web-based searches, social networks, and cloud-based applications.

Civica wins A$103.6m Victorian deal

The Victorian State Government has awarded Civica, one of the leading suppliers of software applications, digital solutions and outsourcing services for the public sector, a contract worth A$103.6m for the provision of an integrated Infringements Enforcement and Warrants management system with ongoing support for 8 years.

The 'VIEW' system will help to improve and streamline operations, allow increased self-service citizen engagement, and support the introduction of the Fines Reform Act 2014. It will underpin more effective infringement enforcement processes, allowing the government to manage the collection of fines, civil judgment debts and victim compensation orders more efficiently. This includes improved verification, processing and monitoring of infringement notices and an enhanced experience for citizens and for field-based staff.

Civica will be building on its existing Melbourne capabilities and has also committed to the Victorian Industry Participation Policy (VIPP) to source employees where possible from the local economy to support the contract.

8common wins at NSW Industry' HR

Software technology group 8common Limited has announced its subsidiary Business Information Services has won the NSW Department of Industry's Expense Management System tender. 8common will deliver its integrated travel and expense management solution, Expense8, on a software as a service basis to Industry. The initial contract is for a period of three years with provisions for extension for another two years.

The Industry win will add to 8common's committed annual recurring revenue (ARR) growth and additional monthly transaction revenues with the pre-trip approval travel module.

Expense8 is an integrated software solution that streamlines the accounting, reporting, tax compliance (GST, FBT) and governance of employee generated expenses and corporate travel bookings. Tailored for each client, Expense8 provides organisations with all the tools needed for employees to plan and book business trips; and reconcile travel and corporate expenses.

Expense8 government customers include Federal Department of Finance, Department of Prime Minister and Cabinet, NSW Department of Education, NSW Police, whole of Northern Territory Government, and Transport for NSW.

ASIC revises guidelines for AFSLs

The Australian Securities and Investments Commission (ASIC) has issued a notice seeking to clarify financial advisers' record keeping obligations by amending Class Order 14/923 *'Record-keeping obligations for Australian financial services licensees [AFSLs] when giving personal advice'.*

The amendments state that AFSLs must have access to records for the period of time required to keep the records, even if a person other than the licensee stored the records. It also makes explicit that authorised representatives who are advisers must keep records, and give the records to their authorising licensee if the licensee requests the records for the purposes of complying with financial services law, the statement said.

While the amendments to licensee obligations clarified rather than amend obligations, ASIC said it would still take a facilitative compliance approach for the first six months to ensure advice licensees had access to records as it recognised some licensees would need to change their systems to comply with the class order. This facilitative period will end on 26 April 2017.

"Our facilitative compliance approach applies where advice licensees make a good-faith attempt to comply with the obligation but are unable to do so because of, for example, the need to make systems changes," ASIC said.

Deputy chairman, Peter Kell, said advice licensees were responsible for the advice given by their authorised representatives and should have the means to monitor them.

"Consumers should have trust and confidence that advice licensees have access to their representatives' records so they can monitor the advice given by their representatives and remediate consumers if something goes wrong," Kell said.

Knosys prosecutes KM in Victoria

The Victorian Office of Public Prosecutions (OPP) has entered into an agreement with one of Knosys' resellers for a 250-user deployment of the Knosys Knowledge Platform. The multi-year contract follows a highly successful Proof of Concept ("POC") implemented in June and evaluated by OPP during the following months. The license revenue from this opportunity is expected to exceed $A150,000 over a 3 year period.

The OPP is Victoria's largest criminal legal practice. The OPP prosecutes serious offences in Victoria's County and Supreme Courts and conducts criminal appeals in the County Court, the Court of Appeal and the High Court of Australia.

John Thompson, CEO of Knosys, said: "The Knosys knowledge platform will help the OPP's solicitors to better prepare and undertake legal cases both in and out of court. This is being achieved via delivery of new and dynamic policy, procedure, research and training content to the legal practice. In concert with providing engaging content, Knosys tools are contextually presented in the form of decision trees, calculators, and process guidance. External content is contextually surfaced into the Knosys platform using Knosys' market leading information virtualisation capabilities. Over ten internal and external content sources will be integrated into the OPP's Knosys platform. This will create a superior user experience for the OPP's solicitors, with Knosys becoming the trusted one-stop-shop for knowledge, presented simply in a single web user interface."

The implementation of Knosys at the OPP required no coding, no desktop/device deployment, and allowed the OPP to retire a legacy system in the process. Knosys will be used at the OPP on desktops and on iPads. The mobile optimised user interface means that OPP solicitors will be able to call up the Knosys platform while in court to either refer to their case work, or quickly find the answer to a question on-the-fly.

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Iron Mountain Oz reborn as ZircoDATA

Iron Mountain's legacy business in Australia will operate as ZircoDATA Pty Ltd following approval by the Australian Competition and Consumer Commission for the purchase of the domestic records and information management business by a consortium of industry investors – Housatonic Partners and Dennis E. Barnedt.

Under the terms of the purchase agreement, the newly-branded ZircoDATA will operate as a standalone going concern, with the business' existing team continuing to service the company's national client base. ZircoDATA has 18 facilities and a workforce of more than 300, and will continue to be led by Managing Director, Wes Gleeson.

In partnership with Housatonic Partners, Dennis Barendt is a key player in the global records and information management industry, having founded, acquired, managed and developed leading companies in the sector across the United States and Europe *(see interview this issue page 40)*.

Mr Barnedt, who will relocate to Melbourne in his role as Executive Chairman of ZircoDATA, said the decision to purchase the majority of Iron Mountain's legacy Australian operations was "driven by the opportunity to acquire an established, well run and profitable business with a reputation as a leader in the Australian market."

Mr Gleeson said the team's customer-focused approach was a key factor in its success and would continue while the business transitions to the new brand name.

"We'll continue servicing our strong client base to the level to which they're accustomed,while looking to drive further growth as a fresh name on the domestic landscape", he said.

"We're the same business, with the same great team and we've got the backing to keep building our suite of services for the benefit of our customers. In the meantime, we're working through the process of introducing the ZircoDATA brand to the market, including our soon-to-be rebranded website and other assets", said Mr Gleeson.

"Our core business is very strong in physical records management and the industry still has a long horizon in this area, however, we recognise the shift to digitisation and how our customers create, use and store their information," said Mr Gleeson.

"In terms of the future of the industry, it's about the broader management of information, and that includes both hard copy and digital information. However, we will be very assertively entering back into the data protection market, and establishing that as part of our full product suite including traditional records management."

"We have terrific capability in our imaging bureau for data capture and OCR, and we will continue to leverage that. But we're also going to broaden out our thinking and offering around digital backup, cloud storage of data, and potentially other adjacent products and services that sit around information management" said Mr Gleeson.

Executive Chairman Dennis E. Barnedt confirmed his interest in seeking further growth in Australia and the region through new acquisitions. He will be relocating to Australia after spending seven years in Europe to expand his companies' operations there.

"I'm committed to building our business in the region. This acquisition was the right one for us and provides a very strong base for our growth plans" said Barnedt.

Personal email is a corporate data weakpoint

A recent survey of 4,006 employees in North America and Europe found that 49 percent of mid-market managing directors (MDs) and C-level executives (CxOs) have used a personal email account to send sensitive business information.

The survey, conducted by Opinion Matters and commissioned by Iron Mountain, also found that 57 percent of MDs and CxOs have left business-sensitive or confidential information on the printer for all to see, and 40 percent have sent information over an insecure wireless network.

Forty-three percent of MDs and CxOs have disposed of documents in a potentially insecure trash bin, and 39 percent have lost business information in a public place.

Lower-level employees seem to be far more security-conscious -- just 29 percent of administrative staff have left confidential information in the printer and just 15 percent have lost company documents in a public place.

When it comes to following processes designed to protect sensitive information, 21 percent of CxOs said they find such processes too complex, and look for a workaround. Another 14 percent don't follow company policies regarding information security because they find the policies too complicated, and 6 percent are unaware of any such policies at all.

"Our research shows that business leaders in the mid-market are more likely to put sensitive information at risk than any other employee," Iron Mountain UK commercial director Elizabeth Bramwell said in a statement.

"They tend to bypass the very protocols designed to keep information secure. Given the potential consequences, this is concerning. The financial penalties for companies who fail to meet data handling and security obligations are getting more severe."

"But getting it right is not just about avoiding fines; the reputational damage associated with a data breach can erode customer loyalty and impact the bottom line," Bramwell added.

"With the stakes so high, companies need to put the policies and processes in place to support good information governance. On its own, this may not be enough; companies must promote behaviors that protect sensitive company information."

A survey of 1,022 U.S respondents conducted earlier this year found that 13 percent of employees have let their colleagues use devices that can access their employer's network, 9 percent have let their partners do so, and 1 percent have even allowed their children to do so -- despite the fact that one in five employees have no security software on their work devices.

The survey, conducted by Arlington Research on behalf of OneLogin, also found that 20 percent of employees share their work email passwords, and 12 percent share passwords to other work applications.

Notably, almost half of all employees said they're unaware of any company policies regarding sharing of passwords.

"Security breaches are a near-daily occurrence in the news," OneLogin CISO Alvaro Hoyos said in a statement.

"Given that it takes only one compromised account to lead to a breach, these lax security practices are troubling, especially when you consider that they could take place at your bank, at your children's school, or in your local government. A breach at one location can lead others, especially with bad password habits like password reuse."

ECM industry it's time to stand up and defend our birthright!

By Brent Bussell

I am an Enterprise Content Management (ECM) bigot. I admit it without shame. If ECM had a colour, I would bleed it. If ECM had a flag, I would salute it. I was there when the term "ECM" was invented and remember how we struggled with the term because we knew it wasn't about the technology it was always about the solutions.

ECM was forced into becoming a "platform" because it proved to be one of the very best ways to deliver real business solutions especially when combined with Business Process Management – and because I know these solutions help customers make remarkable improvements in their businesses, improve customer service and save millions of dollars I will defend our birthright to the death…….. Or at least until someone proves me wrong!

You must be wondering: "What has got this guy in such a lather?" Well, since you asked, I'll tell you. It is because other technologies are encroaching on ECM's sovereign territory as a solutions platform that can scale across a wide variety of business needs and provide scalable and reusable technology assets.

The problem is we're simply not defending our ground as fervently and passionately as we should and we're allowing less compelling technologies to take the high ground in digital content and associated customer experience management processes.Did you ever see anyone say they increased customer service 100% with Dropbox, or achieve $20M in cost savings with Yammer . This is why I am in a bit of a lather!

I just finished reading a series of interesting articles from McKinsey that deliver a very compelling case for companies to focus technology investment today on the Digital Customer Experience. For my purpose, it's the tremendous opportunity for business transformation enable by digitisation that McKinsey is calling out that simply screams "ECM" at me.

My concern comes from the perspective that I believe I'm part of a dwindling number of ECM subject matter experts and that this knowledge and skill is going to be needed more in the future than ever before. The fact that the average business executive will not read those McKinsey articles and say to themselves "I think ECM will help me solve these problems" is as much a marketing problem for our industry as anything else.

McKinsey doesn't use the articles to tell you what technology to buy, and as such they don't make a case for or against ECM – but we all know ECM vendors across the world are abdicating the digital content and customer experience solutions market to technology providers who know a lot less about customer business problem, sell products that are not as flexible or configurable and frankly don't have the war wounds and scars needed to be able to implement best practice solutions that will help re-engineer business processes for a new digital age!

In my opinion the ECM industry needs to step up and position itself as a critical technology platform in the transformation of a customer's digital experience. And frankly I am thinking it doesn't matter if we call these technologies ECM or even Information Management any more – I am more worried that we are focused at being crystal clear in helping customers digitise their critical business moments to help transform their processes for the future - and in my opinion we are collectively doing a poor job!

It seems to me that the voice of the ECM industry is ceding the high ground of delivering complete high value solutions.

We all know ECM is more than just an easy to deploy and use scalable repository in the Cloud – that's the easy bit – and as we as an industry rush to address our long-standing Achilles heel of deployment and usability challenges while also catching the Cloud wave we should not cede the ground of delivering real business solutions, especially in the growing market of transforming the digital customer experience as described by McKinsey. And yes, I'm fully lathered up now and I hope a few of you other ECMers are as well!

Brent Bussell is Managing Partner at UNDRSTND Group, a management consulting company formed to help software & services companies in the digital content and customer experience management market. https://undrstndgroup.com/

Deleted documents are still discoverable through technology

By Robert Dickfos, HopgoodGanim Lawyers

One of the most onerous parts of litigation for a party is undertaking discovery or disclosure of documents relevant to the dispute. This involves collating, reviewing and determining the relevance of those documents and is a time- and resource-consuming process; one that becomes that much harder when dealing with documents that may have been archived, deleted or destroyed.

In the case of soft copies (electronically displayed or stored documents), often parties will undertake searches, including key word or date range searches to determine what documents exist on the relevant laptop, computer or other electronic device. Whilst this is considered a reasonable method, the recent case of Hanks v Johnston (No. 3)[2016] VSC 629 (Hanks v Johnston) has ordered that a party use specialised software to search backups made of documents that otherwise would not be found during a normal search or using basic search functions, such as key word or date range searches.

The case of Hanks v Johnston related to text messages sent by Mr Hanks that may have contained defamatory comments about Mr Johnston. During the relevant time period in which such text messages may have been sent, Mr Hanks had replaced two Apple iPhones due to damage (water damage and then dropping the replacement iPhone).

Mr Hanks did not back up his iPhone to a laptop or computer, rather relying on a backup to his Apple iCloud account and configured the settings on his iPhone to delete text messages after 30 days.

During the course of discovery, Mr Hanks searched his Apple iCloud account and found no text messages that were relevant to the dispute. However, Mr Johnston was aware that particular software existed that went beyond the usual search functions available on an Apple iCloud account.

The specialised software cost $29.95 and would allow for text messages and other documents that have been lost from a previous iPhone to be recovered. Mr Johnston applied to the Court seeking orders requiring Mr Hanks to utilise such software.

The Court, whilst not criticising the reasonable nature of searches undertaken by Mr Hanks, ultimately required Mr Hanks to use the specialised software to search for further text messages that may be backed-up to his Apple iCloud account (but not viewable via normal search means), provided Mr Johnston paid the $29.95 specialised software fee.

The case is a timely reminder that deleted documents may still be recoverable via technological means such as backups made at the relevant time. Further, in certain circumstances, Courts may require parties to go beyond reasonable search endeavours where the cost of retrieving a document is low, and the significance of the document could be high. As technology continues to develop, it is likely that the costs of doing such searches will continue to drop, allowing more Courts to justify such further searches.

Robert Dickfos is a solicitor at Australian law firm HopgoodGanim Lawyers, where he advises clients on a broad range of commercial litigation matters.

Teams takes up the collaboration slack?

Any modern day Rip Van Winkle who fell asleep in 2015 and woke to the headline *"Slack Intends to Adopt Watson Conversation for Slackbot"* may be forgiven a feeling of bewilderment as they adjust to the enterprise messaging landscape of 2016. Remember when they nodded off it was all about Yammer and Jive.

The Slackbot referred to in the perplexing headline is a customer service "bot" used by the developers of the Slack messaging platform. It will now incorporate IBM's Watson services -- such as Conversation, Sentiment Analysis and speech APIs - to improve the accuracy and efficiency of trouble-shooting.

"Slack offers unprecedented internal transparency to organisations of all sizes around the world. As an increasing number of functional teams — from finance, customer support and HR, to recruiting, marketing and sales — have integrated their workflows into Slack, the degree of leverage we can gain from enhanced cognitive capabilities becomes massive," said Stewart Butterfield, CEO and co-founder of Slack.

"We want Slack to become better and smarter the more you use it. We want to make it simpler for people to keep up with the most important conversations and to supercharge their ability to find answers. This partnership with IBM and the work we are doing with Watson, will accelerate our customers' organisational intelligence and propel workplace productivity in dramatic new ways."

While Slack works hard at being smart (digest that if you can) Microsoft has muddied the collaboration waters even further with the announcement of a new chat-based workspace in Office 365, Microsoft Teams. It seems the expensive addition of Yammer to the Microsoft toolkit was not enough as Microsoft says that Teams "further enhances the collaboration capabilities in "Microsoft Office 365." To assist with this, it includes a "library of emojis, GIFs, custom stickers and memes gives people a fun way to express personality within their digital workspace." One might ask how did work ever get done in the past without this vital resource? CEO Satya Nadella says Teams serves different needs than Yammer, which acts as a company bulletin board, and Skype, a real-time communications tool. If you are concerned about the record-keeping implications of moving important business communication to Teams, Microsoft seeks to reassure that it offers "advanced security and compliance capabilities provided by the Microsoft Cloud."

A new report from analyst firm Osterman Research places some doubt on this assurance. The report, commissioned by a vendor of a compliance solution for Office365, unsurprisingly concludes that "a blend of Microsoft and non-Microsoft solutions is the best approach for assuring compliance with eDiscovery and regulatory requirements, thereby removing the threat of serious legal and financial penalties."

"For Microsoft, Office 365 is first-and-foremost a day-to-day communication and collaboration cloud environment a market in which it hotly competes against Google, Slack, Huddle and others. And, while Office 365 delivers obvious eDiscovery and regulatory benefits, some shortcomings remain. This is likely due to conflicting priorities and design goals, such as those between day-to-day interaction and long-term retention," said Michael Osterman, President, Osterman Research.

(Microsoft Teams is now available for those with Office 365 Enterprise or Business plans. Office 365 IT administrators can enable Microsoft Teams for their organisation from the Office 365 admin centre.)

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Leading Innovation

Making information management real

By Matt Kuznicki

In the ECM space practitioners still talk about the same basic set of problems as they did back in 2000. The conversation hasn't really progressed; it's just gotten more complicated.

Since 1996, I've watched leading document-management, ECM and similar trade-shows and conferences such as AIIM's change their focus from scanner sales and service to 'content management', to 'big data' that promises extraordinary new insights, savings, opportunities, etc.

Each year, the hardware and software does indeed get better at doing its thing. Even so, the questions from the attendees don't seem to change.

ECM conference attendees - and here we're speaking of practitioners and users, not vendors or consultants – tend to break down into three groups:

1. Those fully invested in XYZ vendor's solution - they are looking for best practices within that solution

2. Those running into limitations with their legacy solutions, and are wondering what to do about it

3. Those interested in best practices in their line-of-business, irrespective of their installed technology

Group 1 attendees are looking for support for a specific technology / implementation. They tend to think in terms of what's possible by studying the solution's user interface.

Group 2 attendees are the old salts who have come to realise, among other things, that:

• ECM systems are extremely sticky. Large organisations tend to accrete multiple semi-overlapping systems – and then spend lots of time and effort attempting to coordinate them

• Users just don't behave as the systems tend to assume, and often use other work-arounds

Group 3 attendees prefer not to think about technology, but instead focus on specifying the right solution in principle.

There's not much to say to group 1 other than ask your vendor to make it work better for you. At broader industry events, most attendees these days are in groups 2 and 3.

Group 3 attendees get the major focus from ECM conference speakers. But what do they hear, year after year?

• Policies aren't connected to content

• Information silos prevent organisation-wide awareness and cripple productivity

• Engagement models should ensure consistent customer experiences, but almost never do

• The upgrade landscape is a nightmare

It's all true. And it's all been true since as long as I've been in this industry (20 years). The proliferation of electronic documents, email, social media, file-sharing, open-source software, databases, web technologies and much more are beginning to close the door on the era of the fax machine, but there's a long way to go. Very notably, the fundamental questions - and problems – haven't changed much since the days when the fax machine, mail service and FedEx was how information was communicated.

A common portable container

There are many complications in developing software and solutions for other people's core business systems. Here I'm going to focus on one concept that really should have taken off by now: a common portable container.

What would such a container do? It would have the following features (assuming conforming software):

• It could hold any type of content reliably

• It would be self-contained, and work online or (when appropriate) offline

• It would be resilient; allowing for the real world of additions and other changes

• It would include a standardsed metadata model and provide for annotations

• It would deliver consistent results to every type of user

• It could be digitally-signed using common methodologies to protect its integrity

• It could be encrypted to control access irrespective of location

By leveraging a single platform technology, users could begin to enjoy an ECM environment in which:

• Standardisation of content containers makes it possible to apply policies and enable 'smart content'

• Inherent portability multiplies options for bridging or upgrading systems

• Consistent customer experiences irrespective of factors such as connectivity, device, etc. become the norm

• The trend towards consumerisation is extended into more complex workflows and functionality

• Retention costs drop while management options expand

What is this technology? PDF. Yes, it's been here all along, and it's really the only candidate. PDF addresses all the requirements of a portable container format, and for most features, has done so for over a decade. So what's holding the ECM industry back?

Partly, it's the legacy (too many otherwise well-informed people think Adobe still owns PDF, but it's actually an ISO standard).

Partly, it's because PDF is internally complex, and thus more vulnerable to the Not Invented Here phenomenon. Mostly, it's the fact that a standardised, fully-supported and broadly-accepted portable container format would provide users with powerful technology independent of any specific vendor, ending the era of vendor lock-in. Vendors don't like that, but customers do. Over the next 5-10 years, expect to see PDF become the common portable container for a new era of smart, interconnected document and information management systems.

With real answers for information management needs, practitioners will finally be able to focus their questions on best practices in general, and shed the handcuffs binding them to today's expensive, clunky and overlapping systems.

Matt Kuznicki is Chairman of the PDF Association.

Will you be ready for PDF 2.0?

Organisations will need to prepare now to exploit the enhanced workflow capabilities of PDF 2.0, the first major overhaul of the venerable Portable Document Format (PDF) standard, which is due out in early 2017.Peter Wyatt, co-leader of the international body that is developing the PDF 2.0 standard, said that while the new standard is fully backwards-compatible, only those organisations that have the correct systems in place will be ready to exploit the new capabilities encapsulated in the updated format.

"PDF 2.0 is a significant update that will include a range of new features and fix many of the ambiguities that were present in the previously fast-tracked standard," said Wyatt.

The Portable Document Format (PDF), created by Adobe in developed in the early 1990s, was released as an open international standard in 2008. BPI Network report called *"Dealing With Document Deluge and Danger"* states some 2.5 trillion PDFs are generated every year, and about 90 percent of survey respondents describe themselves and their co-workers as "PDF-dependent." PDF has become integral in the lives of many people and businesses.

(Continued over

Federal ministers love WhatsApp. But what does the law say about it?

By David Stewart, Williams + Hughes

Revelations that the Australian Prime Minister Malcolm Turnbull and cabinet ministers (including a specific Defence-related WhatsApp group) are using Facebook's messaging system WhatsApp for confidential discussions have raised issues around cybersecurity. The use of WhatsApp by government officials also raises legal issues.

There are over eighty pieces of legislation around Australia dealing with document and record retention and destruction. *The Archives Act 1983 (Cth),* for example, prohibits the destruction of Commonwealth records without the permission of the National Archives of Australia, subject to certain exceptions. These exceptions include where destruction is 'required by any law' or is in accordance with a 'normal administrative practice'. If a federal politician deletes WhatsApp messages relating to the exercise of government, then is this a "normal administrative practice"? There is also the *Privacy Act 1988,* which requires government to destroy, delete or de-identify certain types of personal information. Finally, there is the *Freedom of Information Act 1982*, which provides to individual's rights of access to government documents including those held by Australian Government ministers. The definition of "document" in this act includes "electronically stored information". It is not clear how these pieces of legislation could be accommodated by the use of WhatsApp. WhatsApp allows the exportation of messages, which would allow compliance with these acts. But WhatsApp also makes it clear that if the messages are "deleted or lost for any reason, [WhatsApp] cannot help you recover the messages because we do not store your WhatsApp chat history in our system".

There must be an administrative mechanism by which determinations are made as to what should be done with information contained on WhatsApp – the periodic exportation of the data for assessment and processing by staffers, for example. In addition, ministers' devices would need to be handed over upon change of government or retirement, so as to capture that information (including metadata) for assessment.

WhatsApp also does not make it inherently easy to accommodate the requirements of the Australian Government Information security management guidelines which notes:

15. Information which needs increased protection is to be either security classified and identified by a protective marking showing the level and protection required, assigned a dissemination limiting marker (DLM) or, when appropriate, a caveat….

52. Not all information needs to be protectively marked (assigned a security classification or DLM). Information is only to be protectively marked if its compromise could damage the National Interest, organisations or individuals, or requires protection under the Privacy Act, the Archives Act or other legislation.

68. Dissemination limiting markers (DLMs) are markings for information where disclosure may be limited or prohibited by legislation, or where it may otherwise require special handling.

WhatsApp does not provide for DLMs.

This is all following a decision in September this year by the Hamburg Commissioner for Data Protection and Freedom of Information, which said Facebook, the owner of WhatsApp, was infringing data protection law and had not obtained effective approval from WhatsApp's 35 million users in Germany to store user data. There was also an allegation in April this year that, in the UK, anti-Brexit policy advisors to David Cameron were using WhatsApp to subvert FOI requests made pursuant to the equivalent UK legislation.

David Stewart is an IP Lawyer; Trade Mark Attorney; Lecturer and Principal at law firm Williams + Hughes.

Will you be ready for PDF 2.0?

Since 2010, an International Organization for Standardization (ISO) Committee of volunteer industry experts, has been working on the next generation standard PDF 2.0.

Wyatt, a researcher and manager at Canon Information Systems Research Australia (CISRA), the Australian R&D Centre for Canon Inc., is Project Co-Leader of the group developing the PDF 2.0 standard, known as ISO 32000-2.

"ISO 32000-2 PDF 2.0 is backwards compatible with PDF 1.x as well as having many sections rewritten with clearer, fully described and less ambiguous descriptions," said Wyatt.

"Only technologies incompatible with the philosophy of open standardisation have been removed from PDF 2.0, with confusing features deprecated (e.g. where there were two ways of doing things) to make PDF 2.0 truly an open vendor neutral standard.

"This makes for a level playing field and thus will provide a choice of vendors for businesses, which must understand that ISO 32000-2 PDF 2.0 is a fully open, vendor neutral standard developed over 9 years.

"Many that I talk to in government seem aware of this, but there are many in business who still refer to PDF as a proprietary technology."

To be able to assess the impact on their business processes, Wyatt recommends that all organisations should understand what questions to ask of their technology providers in relation to being ready for PDF 2.0.

Of particular interest should be the following:

- new digital signature features;
- Unicode passwords rather than ASCII;
- the ability to attach metadata to individual elements such as charts in PDF documents;
- richer semantics of the content enabling intelligent access and reuse; and
- better handling of digital rights management.

Some businesses may already be aware of the ISO 19005 series of standards for long-term preservation of documents - or known simply as PDF/A. PDF/A was initially published in 2005 to capture and preserve the static visual representation of page-based electronic documents over time.

"There is a misunderstood view of PDF/A from the past as simply the output of a process. Later PDF/A standards, driven by the needs of business, have evolved to allow PDF-A documents to be much richer, and PDF/A can now be used as inputs to other processes," said Wyatt

"As an example, the German ZUGFeRD standard utilises PDF/A-3 (ISO 19005-3:2012) with embedded XML data to facilitate automated electronic invoicing – providing both a pleasing visual appearance for humans, and machine-readable data in a single file. This makes a fascinating case study of what is now possible."

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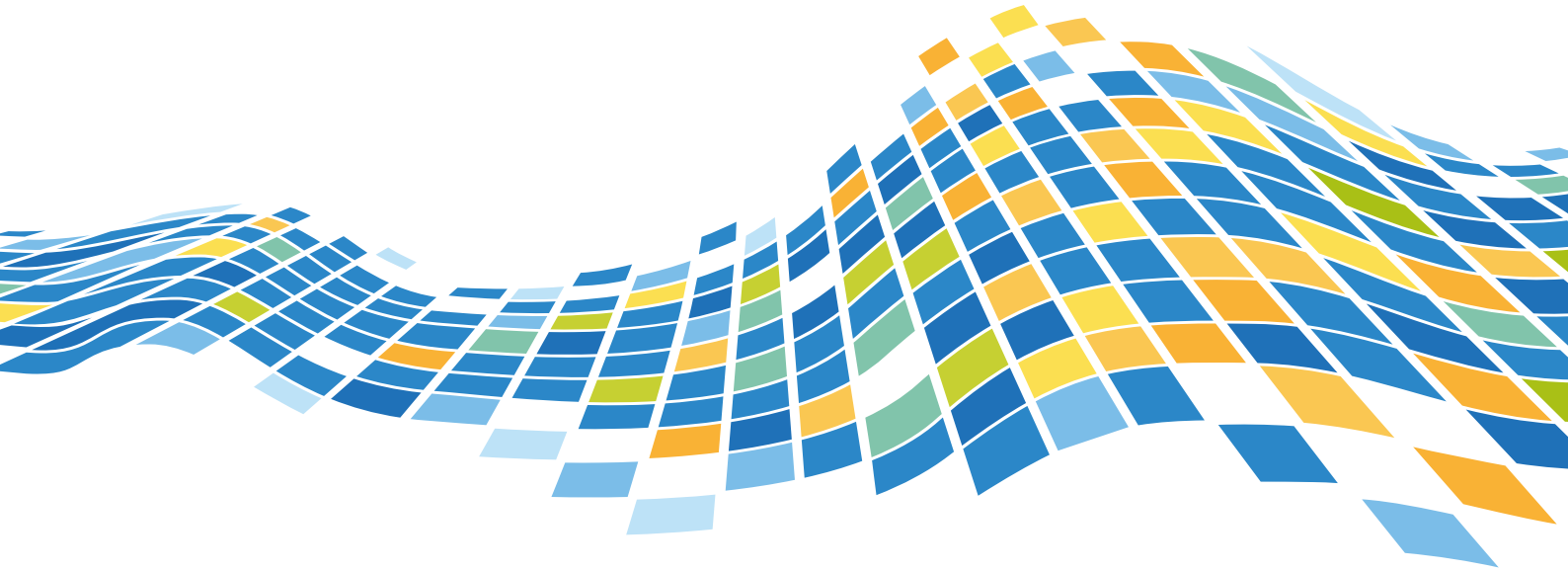

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The risks of accepting electronic signatures

By Paul Cullen - Partner, HopgoodGanim

The recent decision of the NSW Court of Appeal in *Williams Group Australia Pty Ltd v Crocker* **(handed down on 22 September, 2016) involved the common situation of a trading customer making a credit application to its supplier (Williams). The supplier required directors' guarantees and a guarantee document was attached to the credit application.**

The directors of the customer had established an electronic signature system using "HelloFax". The particular director, Mr Crocker, lived and worked primarily in Brisbane, whereas the company's premises were in Murwillumbah. The credit application (including the personal guarantee document) was returned to Williams with the electronic signatures of the directors attached, each of them having been purportedly witnessed by the customer's administration manager.

The customer defaulted and Williams looked to enforce the guarantees. Only Mr Crocker resisted the claim against him, on the basis that his electronic signature had been added to the credit application and the guarantee without his knowledge or authority by "an unknown person" (in the Murwillumbah office).

Much was made of the fact that Mr Crocker had been given a user name and password when the "HelloFax" system was established, but he had not changed the password to one of which only he was aware. He therefore left open the possibility of what actually happened here – the misuse of his signature by someone who was aware of the original login details.

Points of interest

There was no dispute that Mr Crocker had accessed the "HelloFax" system before the claim was made against him under the guarantee. Each time he did so, it would show a list of documents where a request to add his electronic signature had been made. Mr Crocker could have accessed the listed documents if he wished to do so. It was important in this case however, that the list of documents only showed that Mr Crocker's signature was applied to the credit application – there was no mention of the guarantee which accompanied it and which gave rise to his personal liability.

The decision was principally concerned with the issue of "ostensible authority" – namely apparent rather than actual authority. It was accepted that Mr Crocker had not given any actual authority to the "unknown person" to add his signature in this case.

On this point, the Court found there was no ostensible authority because that would require the "principal" (Mr Crocker) to have made a representation to Williams of his authorisation of that other person to affix his signature and for Williams to have relied on that representation. The Court found there had been no representation here. Williams simply assumed that the affixation of the signature was genuine and authorised. That assumption was aided by the fact that it had been apparently witnessed by the office administration manager.

The Court found it to be irrelevant - in the absence of a representation of authority - that it may have been reasonable for Williams to make this assumption. It was also made clear that a representation sufficient to establish ostensible authority need not be communicated directly – it could arise from an omission. The Court made the point that a direct communication of authority of another to sign would probably amount to actual, rather than ostensible, authority in any event.

The mere use of the "HelloFax" system was not enough in this case, particularly where:

- Mr Crocker did not himself put the system in place, but merely used it; and
- the evidence showed that Williams did not even know that the system was used.

Nor was Mr Crocker's failure to change his password sufficient to establish the necessary representation. The Court was not prepared to find (as was a necessary element) that, by this failure, Mr Crocker had "armed" anyone from his company with a document which would bear the "hallmark of authenticity" or with the means of affixing his signature to documents. Williams also argued that Mr Crocker had ratified (i.e. adopted) the guarantee by his subsequent conduct after accessing the "HelloFax" system, seeing the list of documents and effectively "shutting his eyes" to the obvious fact that his signature had been applied to the guarantee.

The Court held that for someone (here Mr Crocker) to be held to have ratified a document executed by someone else (but in his name), there must be "full knowledge of all the material circumstances". Mr Crocker did not have that level of knowledge.

The mere fact of the email listing the documents from "HelloFax" was not enough to establish ratification for the reasons mentioned earlier (namely, the fact that the personal guarantee was not mentioned as opposed to the credit application itself). There was nothing in the listing to indicate that a personal guarantee had been signed at all, much less one by Mr Crocker.

Nor was the Court persuaded by the fact that Mr Crocker had previously provided, in very similar circumstances:

- a personal guarantee to Williams (presumably in similar terms); and
- personal guarantees in conjunction with a credit application to other creditors.

The claim that Mr Crocker was estopped by his conduct from denying liability under the guarantee was also rejected by the Court having regard to the absence of any representation to Williams on Mr Crocker's part as to the genuineness of his signature on the guarantee or his authorisation of the "unknown person" to affix it. The Court found that, at best, there was a representation by the customer (in the witnessing by its administration manager of the improperly affixed signature) rather than by Mr Crocker.

What to do?

On the face of it, this seems a harsh decision from Williams' perspective and (as it submitted) a potentially dangerous precedent in the context of the effective use of electronic signatures to facilitate transactions. The Court elected to leave that as an issue for the legislature to deal with. The case highlights the need to take steps to ensure that an electronic signature has been affixed with the necessary authorisation. How that is done, in any case, is a more difficult question. To require additional proof from a signatory of the valid affixation of an electronic signature may defeat the purpose of adopting that protocol in the first place – i.e. speed and convenience. Would a confirmatory email by the signatory be enough? Possibly not, because if someone improperly applies an electronic signature, then it may be reasonable to expect they also have access to the signatory's email account so they could also send an unauthorised confirmation.

Much will depend on the security of the system used to apply the signature. There would be much less risk of a similar outcome if the system involved the use of dual factor authentication – e.g. if the system were configured to only apply a signature if, in addition to a user name and password, it was necessary to confirm a unique number sent to a mobile phone number of the intended signatory which was previously authenticated (by ID verification done at the time the user account was set up).

Only time will tell if Parliament takes up the Court's invitation to deal with this dilemma.

Paul Cullen is the head of Australian law firm HopgoodGanim's Banking and Finance practice.

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Governance vs Adoption

By Stephen Duncan

There's no prize for those who believe they know the winner of this contest, but does it really need to be policy over productivity? In this digital age is there a new perspective that can bring together these seemingly opposing fronts? One that delivers benefits to user, IT and records management.

When it comes to information governance policies, AIIM survey data indicates that a mere 15% of organisations have actually established mature policies.

Although a majority are on the right path, are they doing this at the expense of everyday users? Speaking to a number of government regulated organisations it's apparent that their users want to do the 'right' thing, for example know they're accessing the most relevant document or simply adding in relevant metadata when uploading documents.

Let's explore some of the common bottlenecks facing many organisations and how they might be overcome;

Issue #1 – Sourcing Information

Many users from executive levels through to knowledge workers will claim that managing information located within their compliance driven information management systems is simply too difficult. It's no wonder why AIIM's research has uncovered that the average user adoption is only hovering around 21%. Let's assume for a moment that as individuals we use productivity applications, such as Microsoft Office to uniquely tailored software solutions, such as a property and rating system, to do our daily tasks. From an everyday user's perspective, the information that is contained within our document management system is there to underpin the productivity application.

This means that uploading, retrieving and managing content should be as 'seamless' as possible, with limited interaction to the content repository in order to achieve our primary goal of productivity.

Modern ECM has been merging the world of content and application for years and next generation solutions are now embedding the document management context directly within applications such as Microsoft Word and Outlook.

Even SharePoint is getting a rework from 3rd party applications that makes it more intuitive, providing access directly to relevant folders within the business classification scheme.

Issue #2 – Access where it's required

As we move into an activity based workforce, everyday users of business productivity applications are more mobile than ever. IDC predictions claim that mobile workers will account for nearly three quarters (72.3%) of the total U.S. workforce.

Where this becomes a concern for regulated organisations is ensuring that mobile access to relevant content is made available, but not at the expense of governance policies.

A social worker, for example, requires supporting information about a specific case when onsite to make informed decisions, particularly where there are lives impacted. A

s information starts to move outside the domain of the governance platforms it's imperative that it's easily accessible without placing the organisation at risk. Modern ECMs are developing mobile access to their productivity applications and in turn the document management repository that underpins them. The goal is to make information governance as seamless as if the user was within the corporate domain. Locking down

remote access to specific folders, redacting sensitive information and comprehensive audibility are key to ensuring that remote workers and their clients are protected.

Issue # 3 – Defined business processes

Lack of clearly defined, manual or poorly governed business processes (workflows) with inadequate access to the document management repository. Government regulated organisations rely on a series of business processes to drive daily operations and deliver services to constituents and citizens.

These processes should be managed by a framework set out by the organisation that is aligned with the governance policies. When there's inefficiencies, the impact ripples across the entire organisation affecting organisational results, impacting efficiency gains and opening up the organisation to the risks associated with shadow IT.

The fact that Forrester Research discovered that only 33% of government services were meeting citizen expectations is alarming. Mission critical processes require a secure, robust solution, built on government best practice principles if they are to be successfully adopted. In addition that require easy access to supporting documents throughout the various decision points to ensure the most appropriate decisions are made. This might also involve secure inter & Intra-agency sharing of information. Providing business users with a secure workspace that respects the information governance and enables content to be accessible in the cloud by other agencies to facilitate collaboration is one step to increasing efficiency without impacting governance policies.

In a perfect world organisations would build all their information based policies with the goal to support future initiatives. This is not always practical, although many modern ECM solutions are adapting to respond the changing needs of the digital ecosystem alongside the need for good governance.

Other options include adopting process governance frameworks or collaboration platforms that extend the capabilities of the existing information governance platforms to increase efficiency without impacting governance policies.

Stephen Duncan is Product Marketing Manager at Objective Corporation.

Mainframes keep on keeping on

A survey of 1200 executives by enterprise IT solutions provider BMC Software claims to have found that mainframes remain a critical core IT platform supporting the volume and velocity of data and transactions being created by digital business

With nearly 60 percent of companies seeing increased data and transaction volumes, and a growing number of databases, companies continue to select the mainframe as a key platform. The mainframe is a highly secure, superior data and transaction server, particularly as digital business adds unpredictability and volatility to workloads, says BMC.

"The 2016 BMC Mainframe Research Report presents compelling data about the current demand and future outlook for mainframes in digital business. With 89 percent of survey respondents projecting continued strong support for the mainframe, it is clear that companies view the mainframe as a long-term platform," said Bill Miller, president of ZSolutions Optimisation at BMC. "BMC helps customers transform their mainframes for digital business by helping them optimise their systems, data, and costs."

Respondents surveyed fall into three groups based on their mainframe investment strategies:

- 58 percent of companies surveyed are in the increasing group and looking to grow their investment and use of the mainframe.
- 23 percent indicate they will keep a steady amount of work on the mainframe.
- Only 19 percent plan to reduce the usage of the platform.

Executives planning to grow their investment see value in the mainframe for its availability, performance, and security strengths. These respondents often have growing revenues and are focused on modernisation and taking advantage of technologies such as Java, advanced automation, and lower-cost specialty mainframes. Respondents who plan to remain steady, view mainframes as a secure and highly available engine for running their businesses, but are not looking to add new workloads. Many companies surveyed are concentrated on addressing increasing demands, including the rapidly growing speed of application requirements, and higher levels of volatility and workload unpredictability.

Mainframe organisations manage these challenges well through various strategies and innovative technologies. Eighty-eight percent of companies in the increasing group indicate they run Java applications on the mainframe, primarily to address new digital requirements from customers.

"IT departments are moving toward centralised, virtualised, and highly automated environments. This is being pursued to drive cost and processing efficiencies. Many companies realise that the Mainframe has provided these benefits for many years and is a mature and stable environment," said Frank Cortell, director of Information Technology, Credit Suisse.

"Companies are considering the Mainframe an integral part of their IT strategy and one that will help them reach their future financial and business goals."

In the year ahead, respondents also plan to take actions that help optimise their data, systems, and costs. Cost optimisation, compliance, application availability, and application modernisation were indicated as top priorities, which can be associated with the impact of digital business.

To read the full 2016 BMC Mainframe Research Report, visit http://www.bmc.com/mainframesurvey

The Ransomware Hit Squad
coming soon to a screen near you

Ransomware is sinking its teeth into business data everywhere, with the threat continuing to evolve in new more sophisticated variants that encrypt individual files or even entire disks. To learn more about the challenge of defending against one of the fastest growing threats online, both for businesses and consumers, IDM spoke with Dr John Selby, a member of Macquarie University's Cyber Security Hub established this year in Sydney in a $10 million joint investment with Optus Business.

Dr John Selby

IDM: It seems there are reports almost every day of new varieties of ransomware, has the problem reached epidemic proportions?

JS: It's an area where we're seeing rapid evolution of the attacks. US victims of Ransomware paid more than $24 million in ransoms in 2015. Cryptolocker had a 41% success rate and earned its operators up to $27M. The criminal growth has been aided by a combination of technologies including Crypto-currencies such as BitCoin, the Dark Web, TOR and VPNs.

Over the last five years, it's evolved from very simple straight-forward ones that ask you to pay by credit card to unlock data stolen from your PC, through to the next generation starting to emerge which is going after Internet of Things (IOT) devices such as your television and your mobile phone.

And the challenge with a lot of Internet of things devices, particularly for the cheaper ones, is they either have default user-name and passwords that you can't easily change, or they have a default firmware that you can't update, so that once a vulnerability is identified within it, then the attacker can keep coming back again and again and again.

You may not be too worried about your TV but it can open a backdoor for people to go to examine your network and try to move laterally across it to get into other devices as well. IOT devices are often inadequately secured and that's a backdoor that organised crime has been exploiting with ransomware because it's much more efficient for them, much lower risk. Instead of having to send some 300lb muscle-bound thug to demand money from you, one store at a time, they can attack via ransomware, exploiting small businesses' lack of sufficient backups.

If you have sufficient backups of your data, a ransomware attack is an annoyance, but you format your computer, you reinstall off your image, and maybe you've lost a day's work. It's annoying, it's a nuisance, but it's not fatal. But a lot of small businesses don't have those adequate backups and they don't have multiple backups from different days or weeks, and even offline backups every week or every month to protect themselves.

Attackers have gained the advantage with ransomware by exploiting the, I would hesitate to call it "laziness", but the lack of attention to the issue of backups and encryption in email that most businesses have engaged in. So, when there's an exploit and someone identifies it, then it rapidly spreads. And while there's money in it, then this will be a problem for the businesses in general, because the attackers are motivated by their return on investment.

IDM: In a recent presentation on ransomware trends in the future you talk about crypto-ransomware as a service. Could you explain that a bit further?

JS: Criminals are always looking for new business models and ways to make money. So, ransomware developers have now started to offer for sale, or for rent, their ransomware toolkits. Criminal gangs in Russia, Ukraine, Eastern Europe and China are now renting access to their Ransomware toolkits for hundreds

of dollars per week. Now if you have a particular entity that you want to attack but you don't have the skills yourself and you don't have the ability to craft your own ransomware, you can effectively hire them and they will take a percentage of the ransoms you receive. The danger with this is that it is rapidly expanding the capabilities of the people who want to attack you, so all they need to do is cut a cheque to a "ransomware as a service" provider.

The ransomware providers are even offering customer support so their victims can contact them via an email address or Skype to ask for advice, and they'll walk the victims through the steps of how to buy Bitcoins and how to send them. They want to make it as easy as possible for people to pay.

IDM: Do we need to be that worried about malware on a smartphone?

JS: You will if it's denying you the use of the device, if it's locked up and you can't use it, then that's a frustration that people will often be willing to pay to unlock, because they need their phone. Now, they could pull the SIM out and put it into another phone if they've got one handy. It is always helpful to keep your previous phone when you upgrade if you can, because then you can just keep it in the bottom drawer and have it as a reserve in case of emergency. But for people for whom time is more important than money, then attacks on mobile phones are a way of, again, exploiting that urgency and extracting money from people without their consent.

IDM: You have suggested one strategy for businesses to prepare for a successful a ransomware attack is to buy Bitcoins in advance. Isn't this just waving the white flag?

JS: Having the Bitcoins purchased in advance is just a precautionary measure. You're not talking about many Bitcoins, maybe half a Bitcoin or a Bitcoin. It's just a convenience factor that for some businesses, if they were particularly concerned and they didn't want to spend the money on backups, they might find that a cheaper option, just to reduce the time in which their business is interrupted.

People have negotiated with these ransomware providers and there's been substantial discounts. One LA hospital paid a $17,000 ransom to regain access to its computer systems (the original ransom demand was for $3 million). Shortly after they paid up that ransom, two more nearby hospitals were hit by ransomware. Victims usually pay $300-$2000 per computer

The danger is that if you pay such a ransom, you're rewarding bad behaviour. Your may get put onto a "suckers list" and then just be attacked again the next week, by the same attacker or a different attacker; they know you'll pay. The more profit that criminals can get out of ransomware, the more they can reinvest a portion of that into developing newer and more sophisticated ransomware to attack more people.

IDM: What is being done internationally to fight these threats?

JS: The EU has put up a website, the nomoreransom.org website, which is designed to help people when they've been attacked by a flawed ransomware that has already been defeated by security researchers. Those experts are trying to identify flaws in the ransomware, particularly in the way in which the encryption has be implemented, so that if they can reverse engineer it and identify a weakness, a vulnerability in the ransomware, then it may be possible to remove the encryption on the files without having to pay the ransom.

Flaws have been identified in some earlier generations of ransomware, and the EU website is designed to assist people who can check there first, and you may be able to get help without calling in a consultant. But if you are hit by one of the newer varieties using 2,048bit encryption and it's been properly implemented, good luck. Short of having a super computer working for months or years to get access to your data, it's much cheaper and more efficient to have backups.

New Mamba virus encrypts hard drives

A new strain of ransomware, called Mamba, is circulating through multiple industries and crippling computers by encrypting entire hard drives. So far, there really isn't much that can be done except pay the ransom to gain a key to decrypt the hard drive, experts say.

Ironically, Mamba emulates protections found in commercial data security products, but uses the protections against the victim, says Keith Fricke, a partner and principal consultant at tw-Security. In the past, ransomware has targeted individual files or folders. If an organisation was victimised, it could still boot up the computer, open Windows, log into Word or some other software program, and access or create files - access was only restricted to files or folders that the ransomware encrypted.

Now, it's the entire hard drive that is encrypted "and that's a lot more crippling because you don't have access to Windows or files," Fricke warns.

Mamba totally disables a computing device because it won't even let Windows load until the ransom is paid, Fricke explains, "So your machine is completely disabled."

For now, it isn't known to what extent Mamba affects network servers, but if it does or soon will, that would be even more painful for victims, he notes.

"At least with conventional ransomware, the computer is still usable; the encrypted data is what is unavailable. With Mamba, the infected workstation is rendered inoperable. If Mamba were able to apply full disk encryption to a network server, all the users of that server would be impacted."

Infected computers will display a message demanding ransom along with a web address to a site that explains how to pay the ransom.

IDM: Is there's a risk of email becoming untenable due to the concentrated attacks appearing every day via your inbox?

JS: There are a number of things that people can do to reduce the threat. The first one is to shift towards encrypted email with, for example, PGP, so that there's a level of authenticity. So, a person had to use their private key to sign the email that they're sending to you. Although, that only tells you that it's come from that person's machine; it doesn't tell you whether someone might have got access to that machine and then can get access to the email and use the key as well.

What we're seeing today, particularly in large companies, in the financial markets and law firms, etc., is a shift towards back channel or offline channel confirmation, so people saying, "If I send you a request for data or I'm sending you a big file, I will call you as well, or you call me to confirm it before you respond to send anything through by email." Particularly for what's known as the "Presidents scam" in the US, or "CEO scam", where the fake email comes from the President of the company to someone underneath reporting to them, or reporting to someone who reports to the CEO, saying, "Send me this data quickly." Most people will comply with their boss's demand, rather than verifying first. Companies must work to set up a culture of, "If you have any suspicions, it's okay to confirm before you click." It's a little bit of an efficiency loss, but that's a much lower cost than the risk of a data breach or an attack.

A digital revolution in PNG

The Remington Group is PNG's best known technology and service led organisation. Servicing PNG since 1948, it provides PNG businesses, governments and AID organisations with business services, document solutions, printing, business equipment and after-sales support.

The Group also includes a range of subsidiary business with a total of over 250 full-time staff. With multiple outlets across Papua New Guinea, Remington Group is a reseller of many global brands including Konica Minolta, Fuji Xerox, Fujitsu and Brother. The organisation is now moving to help accelerate a digital transformation of traditional paper-based workplace practices in government and business within PNG.

In addition to offering the FileBound EDRMS in on-premise or hosted configuration, Remington has had to assemble some of the basic building blocks that can be taken for granted in other countries, such as broadband access.

With connectivity challenges throughout the country a subsidiary of the Remington Group has taken up a transponder lease on a regional satellite to offer network connectivity. Most organisations with regional branches throughout PNG have been restricted to local, manual processes as network interconnectivity was cost-prohibitive or just not available.

"Cloud computing is not a reality unless its Web-based. This country does not have reliable fibre infrastructure readily available yet so as well as offering the ability for companies to use our hosted EDRMS offering we need to provide the means for them to deploy it," said Scott Horniblow, Chief Information Officer at the Remington Group.

There is some deployment of TRIM for records management in government departments in Port Moresby, but this is still generally paper-based as there is no particular agenda for digital transformation.

"We are the first to do this in this marketplace. It's been a long time coming but we have taken the leap. Real Estate values here are extremely high so having a couple of containers full of paper sitting on some block of land somewhere is not good use of resources" said Horniblow.

"Many organisations here are still working with manual processes, but we are looking to begin by enabling those in the financial sector the ability to accept digital workflows for loans and approvals. The superannuation industry here is also keen to make changes to the way things have traditionally been done. But wherever their network of locations has extended beyond Port Moresby, regional processing has just been too expensive to consider."

In order to build its own internal expertise, the Remington Group has adopted FileBound internally for its group operations, beginning with a rollout in HR and Accounts. It has also deployed high volume Xerox scanners to offer bureau services to PNG organisations, including document preparation.

"Remington PNG are a great partner for us" said Lee Bourke, CEO of FileBound Australia. "They have tremendous relationships with corporate and government organisations as well as having all the skills needed to deploy complex solutions into challenging environments."

"Remington are setting themselves up for success as they have chosen to use the technology to start a digital transformation themselves. We find our partners win more work and deliver much better outcomes for their customers when they have been on the journey themselves" said Bourke.

"We are very excited to see what the future holds".

The Remington Group has already sold its first significant project. A major Finance Company based in Port Moresby has chosen to digitise and automate their loan approval process. They will be using PSIcapture to extract data from branch submitted loan applications as well as applications submitted via their purpose build consumer banking App.

Phase one of the project will include document capture and workflow routing in FileBound that is built to their exacting risk management standards. In a secondary phase of the project there will be an API based integration done with the institution's credit report provider so that the credit check component of the workflow can be automated. Remington are determined to be the leaders in digitisation throughout PNG.

Gartner survey finds many not digitally "ready"

A recent Gartner survey found that just 41 percent of surveyed IT professionals believe their IT organisation to be ready for the digital business of the next two years. Twenty nine percent of those surveyed said that engagement with the demands of digital business would be their primary duty or a significant part of their duties.

In the first quarter of 2016, Gartner surveyed 948 Gartner clients across 30 countries.

"IT professionals indicate that their investment priorities, infrastructure changes, skills development and business-IT interactions are in flux, and that they are unsure how their IT organisation will make it through any digital transformation," said John Hagerty, vice president and analyst at Gartner.

"For some, change is coming too fast. For others, it's not coming fast enough. Many know they need to change, to think and act differently, but they struggle with these shifts.

"Many find it hard to balance today's demands — including simply keeping their organisation running — with tomorrow's must-haves."

Ninety-one percent of the surveyed IT professionals are in no doubt that they have a role to play in their organization's digital transformation. However, 59 percent added that their IT organisation is unprepared for the digital business of the next two years.

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Dark data startup raises $US1.1M

Heureka Software, a US developer that specialises in unstructured data collection, has successfully raised $US1.1 million in seed funding and expects to raise that figure to $US1.8 million in angel funding by year's end. To date, Heureka has raised a total of $1.95 million.

"This funding is helping us make significant investments in the product development team, so that we have the architectural rigour and engineering craft necessary to develop and release new features very rapidly," said Heureka's VP of Product Development Mark Minehart.

"Heureka Software Version 2.3 clearly demonstrates these investments are already helping accelerate our product momentum and speed to market."

Founded in 2014, Heureka is an enterprise software-as-a-service (SaaS) offering that provides organisations with surveillance over the increasing amount of dark data that is prevalent in the workplace.

Dark data represents all electronically stored artefacts and files that are outside of core transaction-based systems and is growing at a rate of 62 percent per year. This unstructured data includes email, presentations, spreadsheets, word processing and a myriad of other electronic files stored on endpoints such as desktops, laptops and servers.

Heureka helps clients meet corporate information governance policies and regulatory mandates and also allows them to mitigate the risks associated with dark data, including the vulnerability of personally identifiable information, intellectual property, corporate strategic information, privacy policy compliance and health records.

www.heurekasoftware.com

Autonomous agents may aid research

Researchers could soon enlist help from digital assistants to review vast swathes of literature, according to a new report on artificial intelligence. In tests run by academics at the Universities of Strathclyde and Glasgow, simulated search agents went head-to-head with humans in a computer search challenge – and won. They were found to be considerably more effective than human participants, and, while they differed significantly in behaviour, they could be configured to offer a credible and realistic simulation of a human researcher.

Dr Leif Azzopardi, a Senior Lecturer in Strathclyde's Department of Computer and Information Sciences and a partner in the research, said: "There's currently a great deal of discussion about artificial intelligence and the role it could play in the future.

"An autonomous search agent could be useful for researchers reviewing vast amounts of literature in subjects such as law and medicine. In this type of information-intensive review, it could read through and assess information while the researcher is working on other things, then suggest other sources of information that would be relevant.

"Previously the simulated users we created were unrealistic and lacking in agency. Their decisions were made stochastically - by the 'roll of dice' – rather than based on the actual information found and the underlying need for information.

"The model we have developed takes account of what the autonomous agents knows, has done and has seen, along with what it considers to be relevant. It is constantly evolving."

David Maxwell, a PhD Student from the University of Glasgow's School of Computing Science, said: "We conducted a series of experiments where 48 people were given two search tasks to complete; we then set the autonomous agents the same search tasks, under the same conditions, and they significantly outperformed the human searchers.

"Our findings are very promising and show that it is possible to create realistic simulations of how humans search. Now we can look to apply this technology to augment the search capabilities of humans to help them process more information and find more relevant material."

The initial findings provide the infrastructure and models that could help automate the evaluation of search engines and lead to the development of collaborative search agents, which help researchers and information workers process large amounts of text.

Why scan to email is a risky undertaking

Employees who mindlessly scan to email may put organisations' security at risk and fail to comply with privacy requirements according to Y Soft. Scanning to email eliminates the need to use a computer to send a scanned document to a recipient. Instead, the scanning device itself sends the document.

This provides a fast, easy way to distribute printed information electronically but it also carries security risks.

Adam O'Neill, managing director - Australia, Y Soft, said, "The scan to email functionality is great in the right scenario but it's important to remember that it doesn't enable encryption, so the scanned document won't be secure.

"That may be acceptable in some cases where employees are transmitting innocuous documents. However, if the documents contain any business-specific information or information that could be considered private under Australian legislation, then using the scan to email function isn't the right move."

Y Soft recommends scanning to network folders and then emailing the documents from an email client, as this provides greater security and the ability to encrypt the contents of the email.

Adam O'Neill said, "Better yet, take advantage of the advanced technology available with document workflow systems and implement a workflow. In fact, workflows can be customised for particular tasks by user or groups of users. This approach takes the complexity out of scanning and eliminates the extra step of emailing without compromising security."

There are five key benefits to using a workflow to distribute scanned material digitally, according to Y Soft:

1. It meets digital security requirements by providing end-to-end encryption and PDF security via a password.

2. You can set up custom workflows with one-click to scan to reduce errors and automate processes such as invoice scanning. This saves time and lets administrative staff focus on value-adding activities.

3. You can also track and analyse what's been scanned by user, departments or locations, and you can audit it for security leads and, to understand overall usage trends.

4. It's easier to search and retrieve items that have been scanned, which saves time if you need to access them again.

5. You can set a predefined workflow that sends the document to cloud or on-premise systems including file servers, Microsoft SharePoint and Dropbox for businesses.

Cloud push for SharePoint worldwide

An industry survey conducted in July 2016 to gain insight into SharePoint and Office 365 usage and deployment worldwide, found momentum building for cloud deployments.

It found that while most organisations are still using SharePoint 2013 (82% to be exact), there are signs of a shift in momentum towards the cloud. In fact, 61% of organisations are running either a hybrid or full cloud environment.

On the other hand, while Office 365 is gaining users on a consistent basis, those still adamantly clinging to on-premises versions, 36% of surveyed organisations to be precise, seem to be doing so based on concerns over cloud security. That speaks

volumes about the future of SharePoint On-Premises and Office 365. In collaboration with Nintex and Hyperfish, the survey was undertaken by Sharegate, developers of an Office 365 & SharePoint management tool. On the importance of this survey, Simon De Baene, CEO at Sharegate, says: "At its core, it tells us that the industry needs to help users understand that moving to the cloud is the safest move they could make."

The full results are available at share-gate.com/global-sharepoint-industry-study

Digital excellence awards for agencies

Commonwealth agencies with innovative digital projects are invited to nominate them for the National Archives of Australia 2017 Awards for Digital Excellence. The awards celebrate the positive changes and progress to making digital information more robust, fit-for-purpose and available.

'Complementing the recently announced chief information governance role, this year an additional award category will recognise an outstanding individual within the Australian Public Service who has championed information management reform,' said David Fricker, Director-General of the National Archives.

Award winners will be selected from case studies that demonstrate significant advancement towards meeting Digital Continuity 2020 policy targets.

Digital Continuity is an approach to creating and managing information that can be trusted and used for as long as needed despite technological change.

Last year's winning entries included a process for gaining significant business benefits through digital transition and the development of a smartphone app for 6,500 Australians with bleeding disorders such as haemophilia. The awards program is open until 28 February 2017

Only 5% of UK businesses have fully automated AP processes: survey

Ninety-five per cent of UK organisations are still using paper and manual data entry in their finance function, with only 5% describing their accounts payable (AP) processes as 'fully automated', according to a new survey by business automation software provider V1.

V1 surveyed senior finance and IT professionals across a range of industries to find out about their use of technology. While the vast majority said that their AP processes were still paper-based (48%) or semi-automated (47%), this figure looks set to shrink as 58% are planning to increase automation with a further 39% considering doing so.

According to APQC, a research firm that specialises in benchmarking and performance improvement, labour costs typically consume 62% of total AP costs, due to the need for manual intervention and posting and printing documents. Organisations that automate these processes typically achieve savings of 60-80%.

Janette Martin, Managing Director – V1, says, "Automating tasks such as data capture and invoice approval is proven to generate substantial time and cost savings for businesses, allowing staff to spend more time on adding value.

"With the technology available today, there is no reason for businesses to still rely on manual, paper-based processes, so it is encouraging that 97% are planning on or considering increasing automation in AP processes to unlock efficiencies."

The survey also revealed that the majority of organisations have yet to introduce mobile technology into the finance function, with only 22% having the capability to perform tasks such as authorising invoices on mobile devices.

Mercy Health Victoria in EMR rollout

Mercy Mental Health service in Victoria has signed a three year deal with software vendor Global Health to deploy its MasterCare electronic medical record (EMR) system along with the ReferralNet secure messaging platform and the ReferralNet e-switch enterprise integration broker.

Mercy Mental Health provides services to people in the western metropolitan region of Melbourne. It will represent Global Health's second area mental health service in Victoria following the successful rollout of MasterCare EMR across the South West Area Health Service.

Out-of-the-box, MasterCare supports the Victorian state data capture and reporting requirements as well as a range of assessments. The subscription agreement will see the deployment of the company's MasterCare Electronic Medical Record – a comprehensive electronic client management system designed to support multidisciplinary teams across various healthcare organisations and settings.

The subscription agreement includes the Company's ReferralNet Secure Messaging platform and ReferralNet eswitch Enterprise Integration Broker with the full suite deployed on Global Health's Cloud hosting service.

Mercy Mental Health is a 24-hour, seven-day-a-week mental health service which provides information, assessments, referrals and care for people at every stage of life.

Services include a mental health triage hotline, emergency department and acute community mental health, psychiatric units at Werribee Mercy Hospital and Footscray Hospital, residential and subacute mental health facilities, community mental health services and a specialist perinatal mental health service.

Global Health CEO, Mathew Cherian, commented: "Mercy Health is an extremely well-regarded national healthcare organisation. Securing this contract enhances MasterCare's reputation as the leading choice for organisations that support people with significant levels of disturbance or psychosocial disability due to their mental illness or mental disorder.

"The company looks forward to working with the team at Mercy Mental Health to maximise productivity and deliver improved patient outcomes for the people in the western suburbs of Melbourne."

DAWR signs up for OneGovernment

Australia's TechnologyOne has increased its footprint in federal government, signing an $A6.2 million deal with the Federal Department of Agriculture and Water Resources (DAWR).

DAWR will implement TechnologyOne's OneGovernment solution, providing an end-to-end enterprise system that will underpin the entire organisation.

The OneGovernment solution, which meets the procurement objectives of DAWR, is a practice enterprise solution which manages corporate, operational, stakeholder and strategic management processes.

The solution supports the current trend towards flexible work patterns, decentralised operations and geographically disparate offices, providing a device agnostic environment allowing staff to access the application on any device, anywhere, anytime.

"Our OneGovernment solution is a proven fit for the requirements of federal government agencies and departments, reducing the time, cost and risk associated with large enterprise implementations," TechnologyOne's Executive Chairman, Adrian Di Marco said.

"Our deep understanding and engagement with the government sector means we can deliver integrated, preconfigured solutions that provide proven business processes, streamline implementation and reduce associated time, cost and risk."

The deal with DAWR builds on TechnologyOne's continued momentum in the government space, with the tech giant recently signing the Federal Department of Treasury and the Australian Bureau of Statistics.

The departments have implemented TechnologyOne's enterprise SaaS solution in a shared services arrangement which is expected to eventually include upwards of 25 government departments.

The implementation at Treasury also marks the first government customer on TechnologyOne's newly-developed industry specific cloud platform, which was built to cater for the unique security and operational requirements of federal government.

"The TechnologyOne GovCloud implements the detailed requirements surrounding the Australian Government's Information Security Manual for Unclassified Data.

"Through our industry cloud solution, all agencies and departments on Treasury's shared services arrangement will use a single version of the software," Mr Di Marco said.

"We believe our SaaS model will serve the Australian government far more effectively, by simplifying the implementation process and its IT infrastructure, optimising the performance of its enterprise systems, and delivering enormous economies of scale and a future proof solution in a way that hosting providers will never be able to do."

BOSSnet EMR rolls out across the Grampians

EMR vendor Core Medical Solutions (CMS) has announced that its clinical information system BOSSnet will expand across the Grampians Rural Health Alliance (GRHA) footprint in Victoria.

More than 100 hospitals across Australia, including some of the country's largest, now rely on BOSSnet. CMS Managing Director Dr Rohan Ward said that BOSSnet was installed by Ballarat Health Services in 2009 and has steadily increased its footprint in the region.

"The installation of BOSSnet across this region is significant as it will create unprecedented access for clinical staff to patient medical record data, including radiology and pathology results, patient alerts, clinical protocols and electronic orders and referrals, as well as enabling hospitals to move to paperless documentation across all departments," commented Dr. Ward.

"Clinical staff will be able to access a single view of a patient's record which is rare in an Australian setting and is in the best interests of patients as it enhances clinical efficiency."

"It also removes the need for hospitals to store and retrieve huge amounts of paper records," added Dr. Ward. "Many of the GRHA sites intend being 'paper light' from go-live day which means eForms (direct electronic entry) will be preferred over scanning paper documents to electronic format."

Grampians Rural Health Alliance Chief Executive Officer Mike McDonald said a fully-integrated EMR system will mean an enhanced and connected system for patients and their health care providers, which is a "win for the community and patient care."

"BOSSnet has proven itself over many years at Ballarat Health Services and we were very eager to have all health services in our Alliance with the same unified view of the patient's medical record, and the many capabilities facilitated through this unique EMR," Mr McDonald said.

The Grampians Rural Health Alliance comprises 12 health services, which includes up to 25 hospitals, four bush nursing centres and two community health centres. It supports improved regional health outcomes by providing technology, application and communications solutions to connect the region's health services.

TechOne ECM lands in Port of Townsville

Queensland's third largest seaport, Port of Townsville, has implemented TechnologyOne's Enterprise Content Management solution (ECM), adding its existing erp suite.

"There were a number of key features that we were looking for in a new system," says Port of Townsville Secretary & Legal Counsel, Esther Slocombe.

"It was important for employees to find, share, and access information and also to achieve compliance to appropriate legislative requirements for government-owned corporations."

Following a review of options, Port of Townsville opted to implement TechnologyOne ECM to alleviate issues of duplication, streamlining information into a centralised, easy-to-use search capability.

"We were able to implement and licence TechnologyOne's ECM very cost effectively, and are now benefiting from increased mobility and functionality," Ms Slocombe says.

"We have quite a number of the workforce working out in the field using iPads which is another reason TechOne ECM provides benefits and efficiencies for Port of Townsville."

Port of Townsville also benefits from dealing with one vendor across business operations.

Melbourne port gets paperless terminal

The first fully automated terminal operation in Australia is being promised by the developers of the Victoria International Container Terminal (VICT) in Melbourne, a subsidiary of Filipino company International Container Terminal Services Inc. (ICTSI)

The $A550-million, 26-year concession to build and operate the Webb dock east terminal downstream from the West Gate Bridge and the new empty container park, which ICTSI won in 2014, will be completely paperless, from the gate to the quayside, once operational by December 2016.

"It will be the only terminal in the world without a human being on the land," said Christian Gonzalez, ICTSI senior vice president and head of Asia-Pacific.

"Nobody can sustain the same level of efficiency as us. This is going to be quite disruptive in the Melbourne waterfront, nothing that has ever been done before," he added.

Using a one-stop booking system and traffic analytics that allocate booking slots to minimise traffic, VICT will be the first to use the optical character recognition (OCR) among all three existing port operators in Australia.

The OCR scans the license plate of the truck and all other information relevant before it gets inside the yard. The OCR links that information to the terminal operating system interfaces which will identify and validate the transaction, instructing the truck driver where to proceed.

The yard is managed by an automated stacking system (ASC) that requires no manual interference.

The ASCs handle the interchanges between trucks and the container stacking blocks both on the land side and the quay side.

Containers from ships are carried by automated container carriers (ACCs) which provide the horizontal transport of the container storage blocks and the ship-to-shore cranes. The operations are fully controlled by the terminal operating and logistics system or TLS.

Alcidion secures $525K contract with NT Health Department

The Northern Territory Department of Health has signed a $525k contract with Alcidion Group to utilise the company's technology across the Royal Darwin and Alice Springs Hospitals.

The Northern Territory Department of Health employs 6,323 staff and manages five public hospitals, and is presently constructing the new Palmerston Regional Hospital, the Northern Territory's most technologically advanced facility.

The Miya platform collects the necessary data and builds the clinical intelligence to best manage patient care, from the Emergency Department through to the hospital wards. Clinicians can access individual patient information on a myriad of mobile devices and view clinical information such as pathology and radiology results as well as access clinical documentation. Furthermore, the platform identifies emerging clinical risk and highlights at risk patients.

In the Emergency Department, clinical staff can quickly identify those patients nearing the National Emergency Access Target (NEAT) and plan care accordingly.

The solution provides an overview of capacity and demand at both the ward and unit level, providing real time information about open and available beds, patients coming in (together with the admission source) and potential and confirmed ward discharges.

In the May 2016 Budget, the Northern Territory Government committed $186m over five years to renewal Core Clinical Systems. According to leading market research firm, Markets and Markets, the global patient flow management solutions market is estimated to grow at a CAGR of 22% from 2014 to 2019, to reach $678.4 million by 2019 from $251 million in 2014.

www.alcidion.com

Waverley Council takes HR digital by esigning with DocuSign

Sydney's Waverley Council is accelerating its move to the digital age with the help of esignatures, as part of the 150-year-old council's Digital Waverley program.

Rolling DocuSign out across its internal HR training processes, Waverley Council has digitised the last mile of its compulsory learning modules.

Previously, the process was paper-intensive and management heavy as the council's 600 plus staff had to provide written signatures.

Paul White, Executive Manager for Digital Waverley said, "This often took weeks to turn around but now our employees can manage these forms, from signing through to approval, in up to 25 per cent less time.

"Additionally, DocuSign's digital audit trail combined with a reduction in errors ensures we are even more secure and compliant with local government regulation." said Mr. White.

"Waverley Council is well underway to building a digital local government model and positioning itself as a digital city. DocuSign plays an important role in driving this model forward by drastically cutting the time of internal form turnaround and establishing a strong foundation for future transformation without sacrificing on compliance," said White.

A Legal Hypothetical

Can we get rid of paper processes?

Document automation is commonly applied in the legal industry for the assembly of contracts and letters, however one Australian law firm CIO recently contacted IDM with a query on how it could be applied to large sets of documents regularly received from its clients.

He outlined the dilemma as follows:

"Put simply, when we receive a matter from a client, it will come in as a large bundle of paper (up to 1000 pages). It could also come in as a USB key with hundreds of 30-100 page documents in various formats.

"Our clients don't seem to be able to name these documents, classify them or supply any metadata. There are often duplicates. It's a bit like they are handing a big unstructured bundle to us. We receive 50-100 of these a week nationally.

"The most efficient method so far to digest, cull and categorise this information is (sadly) to print it out, have a human sort into date order, categorise and throw out irrelevant work. We then either file it in paper form or scan it back in again as a set of categorised and named documents.

"We are looking for a solution that will digest the big set (as one big pdf, or many common file formats), analyse the documents, weed out duplicates, order by date, categorise, apply metadata like matter numbers etc. we would like it to store the results in our document management system - iManage - and let the users know it is ready. We would love this to be automatic and to learn over time.

"When it doesn't get it right we would like to provide an interactive experience, perhaps on a large touch screen, for people to work with the remaining unclassified docs, classify, name, cull etc so the interface is like they would work on paper. We would like it to learn from those actions and apply the logic to future ingestion operations."

While there are some parallels with AP invoice processing and routing, the fact that these documents are much more variable vastly increases the level of complexity.

It is possible to train capture software to get better over time at recognising invoices or standardised forms, but can this apply to a motley collection of wills, correspondence, financial statements, stat decs, birth and marriage certificates, etc?

This is without accounting for the problem of problem of documents as attachments in emails embedded in emails sitting within .pst files.

Document imaging specialist Garry Stephenson observes that these types of classification jobs are only viable with document separation.

"It could be on screen separation in the case of PDFs with embedded attachments however there must be separation," he said.

Eddie Sheehy, CEO, Nuix, says the technology his company has developed for ediscovery provides an answer.

"The question your reader describes sounds like a tiresome, tedious and almost soul-destroying task. Fortunately, most of the problems have already been solved. Understanding and classifying huge dumps of unstructured data – in various digital

"Understanding and classifying huge dumps of unstructured data – in various digital and paper formats – is something legal discovery teams and litigation support providers do every day." - Eddie Sheehy, CEO, Nuix.

and paper formats – is something legal discovery teams and litigation support providers do every day.

Normalise the documents

Sheehy suggests the first step should involve normalising and indexing the data. This would require scanning the paper documents and using optical character recognition to extract the text content of all image files and scans. This extracted text could then sit alongside an index of digital document formats such as Microsoft Word documents and PDFs that have digital text content.

"It sounds like your reader receives these documents in a fairly small and predictable set of formats. Even so, it's worth ensuring the indexing technology can handle rarer and more complicated data formats such as double-byte character sets for some Asian languages.

"Next, they could remove obvious duplicates – for example, the same Word document stored in multiple places – using deduplication based on matching the hash values for each file. eDiscovery technologies can do this automatically.

"However, this method would not identify the exact same document stored in two different formats, such as Word and PDF, which would have different hash values.

"Two scans of an identical document would not have the same hash value because of the vagaries of making a digital representation an analogue piece of paper. Even OCRed versions of those scans would be very unlikely to have identical text, because no OCR technology is 100% accurate.

"For these reasons, you would also need to apply near-duplicate analysis, which gauges the similarity between the text content of documents by comparing overlapping multiple-word 'shingles' or phrases. It would take some fine-tuning, but setting a high threshold would make it possible to identify documents that were almost certainly duplicates."

Sheehy notes that it is reasonably straightforward to use named entity recognition to extract dates from documents.

"Dates follow a series of predictable sequences of numbers and letters, which can be captured using regular expression searches. It's likely some documents, such as contracts, would contain many dates. It would be a matter of fine tuning to see if the earliest date or the latest date, for example, would be most appropriate.

"Named entity extraction could identify other useful information such as matter numbers and invoice numbers – anything that follows a pattern you can turn into a regular expression. While your reader is at it, they could extract names of people and companies, email addresses, sums of money and plenty of other potentially useful named entities.

Review the exceptions

Despite the best efforts of technology, there will always be some exceptions. There are a number of legal review platforms that could be used to cull, tag and classify the documents left over. The the idea of teaching technology to automate some of the culling tasks – specifically, to identify and cull irrelevant documents, is already being applied in the legal industry as 'predictive coding'.

"It may be possible, using the same statistical analysis techniques that form the basis of spam filters, to identify relevant documents or winnow out certain predictable types of irrelevant ones. Like spam filters, these automated classification systems improve over time as they get larger numbers of seed documents from which to make decisions," said Sheehy.

"However, an awful lot depends on how different the good documents are from the bad ones. It may not be possible to get a computer to do all the hard work, particularly because your reader says the documents are "more variable" than a standard invoice processing workflow could handle. However, it may be possible to combine autoclassification with keyword searches, near-duplicate clustering, other analytics techniques and manual reviews to make the process a whole lot easier."

Intellectual property cyber theft expected to rise

The number of intellectual property (IP) cyber theft incidents in the next 12 months is expected to increase, according to 58 percent of respondents to a recent Deloitte poll. When asked which category of potential adversary they believe is most likely to attempt theft of their organisations' IP, the prevailing percentage of respondents (20.1 percent) answered "employees or other insiders." Yet, only 16.7 percent of respondents said access to IP is very limited, on a need-to-know basis only.

"While many of us know — or have experienced firsthand — how a cyberattack can severely disrupt business, loss of an asset as critical as IP can be crippling for most organisations," said Don Fancher, Deloitte Forensic leader, Deloitte Global.

"Managing risks to trade secrets, drawings, plans or proprietary know-how that drive your organisation's revenue and competitive advantage often includes quantifying how loss of that IP would impact the business, preparing to identify and pursue adversaries, and building a defensible chain of data custody to counter future IP cyber theft threats."

As cited in the Deloitte Review article, "The hidden costs of an IP breach: Cyber theft and the loss of intellectual property," IP can constitute more than 80 percent of a single company's value today. And yet, 44.1 percent of respondents to the Deloitte poll collectively feel that assessing the impact of IP loss and managing relationships would be the largest challenges faced by their organisation.

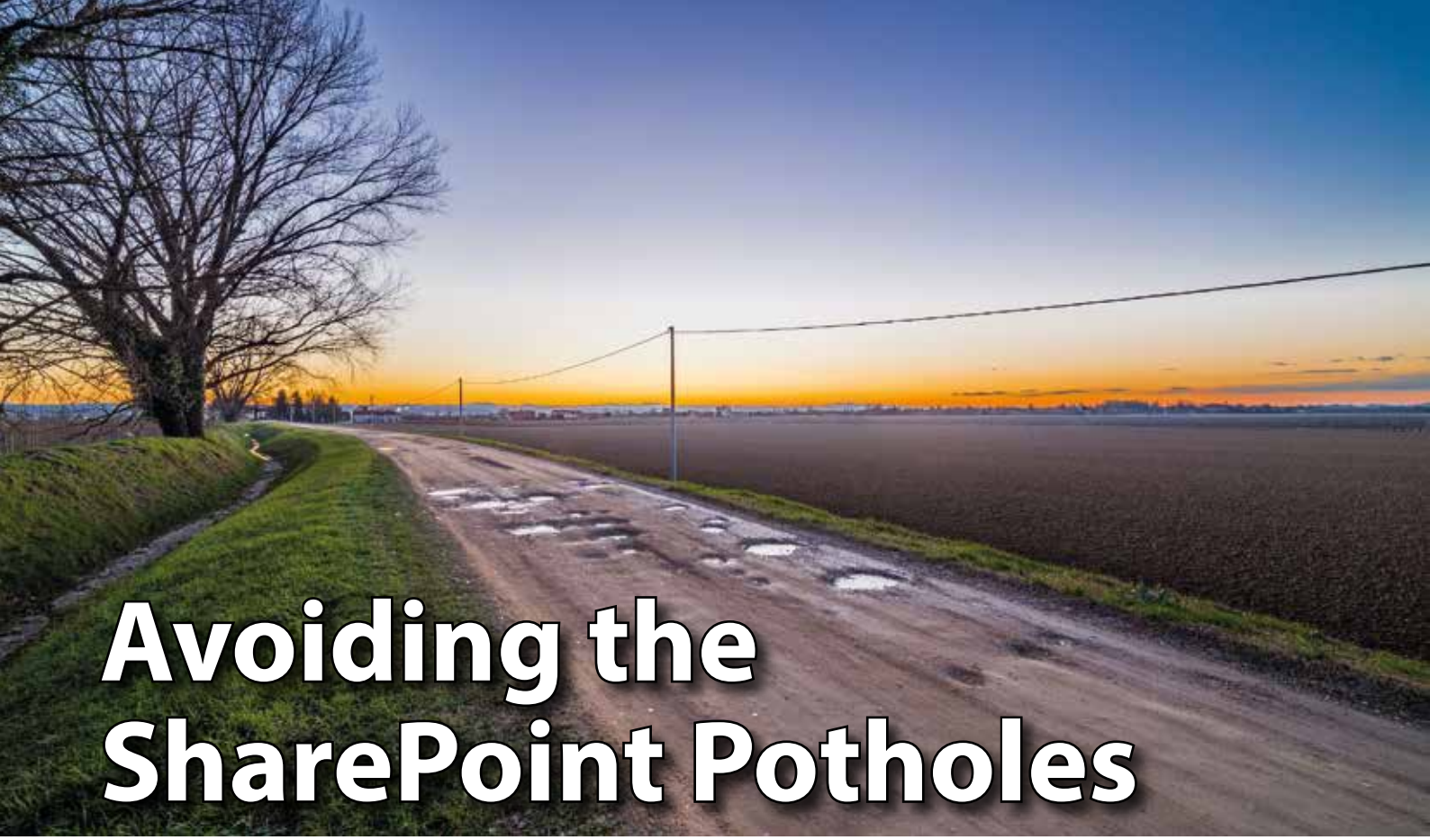
Sectors expecting a higher than average increase in IP cyber theft in the next year included: power and utilities (68.8 percent); telecom (68.8 percent); industrial products & services (64.7 percent); and automotive (63.9 percent).

Tips for assessing the potential impact and protecting against intellectual property loss include:

- Define the critical assets (e.g., facilities, source code, IP and R&D, customer information) that must be protected and the organization's tolerance for loss or damage in those areas.
- Validate that any partners or suppliers involved in IP creation or utilization collaborate with the cyber risk program.
- Evaluate whether exposing some IP in the public domain may make the organization more subject to attack.
- Consider whether the competitive landscape points to new cyber threats to IP protection.
- Improve cyber resilience to manage brand impact and market position in the event of IP theft.

Taking a holistic approach toward cybersecurity isn't just about balancing technical expertise with information technology investments, or about contingency planning.

Organizations need to define their cyber risk, up front, in conjunction with their strategic priorities when making decisions on protecting their most critical assets because they recognise what the adverse consequences would be otherwise.



Avoiding the SharePoint Potholes

By Michael Elkins

SharePoint is a word that often elicits a strong reaction; sometimes good and sometimes bad. For some, SharePoint is a solid information management platform that's widely utilised by major companies around world. For others, SharePoint is a four-letter word, spoken with disdain and frustration.

In over 25 years in content management, I've had the opportunity to deploy solutions on most major platforms, including many on SharePoint. Sometimes, we're brought in to fix things. As a result, I've seen some great deployments and some not so great. In the ones that have failed, there are common bumps in the road.

In this article, I look to highlight common potholes, and how to avoid them. In the end, it is important to remember, SharePoint in itself is not a solution. It is a platform; a system on which solutions can be deployed. How you approach your deployment will likely determine not only your short-term success, but also the long-term value you will realise.

Most organisations implement a content management system because their folder-based shared file systems fail miserably as a viable solution. Folder structures are unwieldy and, due to their organic growth, quickly become a maze of content that leads to new structures of duplicate content.

In short, folder structures are usually great for the person who created them, and awful for everyone else. Why then, do so many companies that deploy SharePoint continue to rely on folders? As Einstein said, "the definition of insanity is doing something over and over again and expecting a different result."

If your information is truly an asset, it's important to treat it as such. If finding information is such a problem, we need to make that a major focus.

Start with Search

Sadly, for most SharePoint deployments, search is nothing more than that box at the top of the window, marked by the magnifying glass icon and a source of frustration. Most companies don't take advantage of the search capabilities that SharePoint has to offer. Things like Promoted Results (formerly Best Bets) are rarely defined and Search Result Sets (formerly Search Scopes) are not deployed to drive the search process. Even when taxonomies are utilised, it's rare that they get applied as search refiners on search result pages.

Successful deployments are designed with findability as the primary objective. They are designed around a successful search strategy that incorporates security, information architecture, and the broader search experience.

Out of the box, SharePoint captures the document Name, and allows you to change it from the normally cryptic original name if you'd like. It also allows you to optionally enter a document Title, but that's about it.

There are a few attributes created by the system, but those are relative. For example, the system captures the document's Created Date, which is just the date the document was added to SharePoint, and not necessarily the date that the document was actually created. With so little useful information about the document available, users resort to adding folders to be able to categorise their content which can only result in the same chaos as before, but with a better search engine.

A well-developed information architecture that captures the core information necessary to search and filter on the content is a necessity for successful information management.

Rather than adding folders to visually classify a document, making every user an "information hunter," utilise a well-defined information architecture that incorporates metadata standards that align with master metadata models or source application data.

Add standard industry and corporate taxonomies to improve the search process. Some companies may also want to augment manual tagging with auto-categorisation to automatically tag content using those industry-focused taxonomies.

Active Directory (AD), is Microsoft's solution for managing user profile data and access to data and applications. If you're like most companies, you've got an existing AD deployment that has been evolving through the years.

It was likely designed for access to applications and file shares and, just like the folders in your file share, it's probably quite a mess by now.

The user profile information is most likely badly in need of cleanup and often, system accounts are blended in with user accounts. One things SharePoint deployments do very well is point out just how bad the AD design and data have become. With that said, a well-designed and clean AD configuration can provide a lot of value down the line.

One of the strengths of SharePoint is in its ability to enhance collaboration, but that demands clean user profile data that can be easily leveraged by the organisation. For example, finding users with a specific skill depends on having a standard list of commonly used skills from which to choose. In order to implement knowledge networks effectively, you'll need to have clean, consistent user profiles.

Having well-defined security models also helps to ensure that the right people have access to the information they need. It allows content to be created, managed and accessed without the consuming users needing to know or care where it resides. Separating access from creation will provide a much better overall experience, improve solution adoption and greatly increase findability.

As part of any SharePoint deployment, a good review of the AD implementation is a must. A standard, structured approach to AD groups and SharePoint groups allows you to best leverage the pre-defined permissions that SharePoint offers. To gain the most out of new features such as Delve and user profiles, governance around how information is entered into AD and where that information is controlled is critical to keeping the information clean and useful.

The Wild West is not a Success Strategy

Along with the lack of information architecture and the non-standard security models, SharePoint is often deployed using the "let them do what they want" or "throw it over the fence" method. If everyone gets what they want, generally no one gets what they need. The lack of a true blueprint for things such as security, metadata standards, search standards and even a common user experience will prevent the deployment from ever reaching its potential. Even collaboration and knowledge management solutions benefit greatly from a bit of standardisation. The solution is a well-defined governance program that identifies which aspects of the solution will benefit from standardisation and the implementation of change control. Enforcing information architecture standards in the near term improves findability in the long term.

Leveraging security standards ensures users will have access to what they need, even if it's read only. User experience standards ensure that each site doesn't become an eye chart where users perform a visual scan to determine where things are located "this time." When possible, templates for team collaboration sites, project sites, and sites for document and records management should be defined so that users can quickly comprehend them rather than re-learn each time.

Michael Elkins is President of Denver, US consulting firm KeenIM, which offers a suite of products to provide turnkey portals, collaboration and content management capabilities.

http://www.KeenIM.com

Governing Office365 as an objective

Can information and process governance be improved without the traditional pain and angst of implementing or replacing an EDRMS? Objective Corporation believes it can, with a new set of offerings for users of Office 365, known as INFORM and PERFORM.

Built in partnership with Microsoft and optimised for Microsoft Azure, INFORM and PERFORM are designed to work with existing information repositories, such as HPE Content Manager (HP TRIM) and Microsoft SharePoint, to add value to records-in-place.

INFORM provides for surfacing and management of enterprise content within applications such as MS Word and Outlook, removing the need to leave your working environment of choice to interact with an ECM.

Objective PERFORM is a separate but integrated platform for initiating digital workflows and process governance.

Objective technology is still at the heart of these new platforms, although they can function with HPE Content Manager, SharePoint or Office 365 as the underpinning repository.

Objective CEO Tony Walls explains the new offerings are meant to counter the traditional perception that well-managed digital workflows and process governance can only be implemented following a disruptive enterprise-wide deployment of a single ECM.

"We respect the fact that many organisations already have an information governance solution of some sort, whether it be Objective or a different platform.

"What we are doing is taking the business processes that are document-centric in an organisation, and creating value through the digital transformation and automation of specific business processes.

"INFORM and PERFORM can actually deliver a short, sharp business improvement that doesn't require a year's effort and necessarily hundreds and hundreds of thousands of dollars."

Objective now provides preconfigured workflows for INFORM and PERFORM based on its long heritage in delivering Content Management solutions for all levels of government. Specific processes include Ministerials, Freedom of Information and correspondence management as well as the more generic HR staff onboarding for federal government and development applications and asset management in local government.

"We are really a domain specialist with specialist capabilities. We are not focussed on being a technology tool platform for everyone. We are specialists in information and process governance and in solutions that involve process governance for what has historically been the public sector".

"That has since broadened to include other vertical markets which are being increasinglyregulated by the government," said Walls.

"As a company, we are growing away from the term ECM to some extent, as we are really an information and process governance solution specialist.

"With INFORM and PERFORM we are aiming to provide more cost-effective solutions to customers and provide value proof points, where they might do multiple projects with us over a longer period of time, rather than saying "Hey, you need to do this large, big bang approach".

Tony Walls believes that while there is a massive continuing ongoing opportunity for digital transformation at all levels of government in Australia, there's not a lot of appetite for rip and replace of existing document management solutions.

INFORM and PERFORM are designed to leverage the investment that government agencies and government regulated industries have already made in information management, so they can better meet governance obligations in the most efficient way.

Michael Gration, Public Sector Director, Microsoft Australia, said, "Objective's strong reputation in the public sector make it the ideal partner to bring together productivity benefits and cloud resilience through the delivery of a new suite of solutions for our local and state government customers."

ECM innovators recognised at Collaborate 2016

Victoria's Wyndham City Council took out the first of four inaugural customer Innovation Awards presented by ECM solutions provider Objective at its at its annual Collaborate 2016 user conference.

The local government authority's Planning Approval Automation project was recognised. It incorporates Objective Trapeze extended to Objective ECM Workflow and Objective Connect, enabling electronic submission of planning applications and a seamless electronic workflow across all departments in the referral process.

This also enables customers to have immediate access to electronic plans rather than waiting for hardcopies. The project highlights a true collaborative effort between multiple departments and their customers while ensuring full information management governance.

Wyndham is now achieving large reductions in printing volumes and electronic document management has been introduced for large scale documents that were previously stored as hard copies, as well as achieving reduced postage, storage and printing costs. Overall efficiencies have increased and the volume of plans being processed has increased by 400%, with the ability to accurately stamp a 90-page document in just 30 seconds.

In recognition of the partnership between Objective and Microsoft, Michael Gration, Director, Public Sector, Microsoft Australia, presented Wyndham City Council with its second award, the Microsoft Award for Excellence, for building its centralised Project Management Office (PMO). Wyndham had already begun to utilise Microsoft Office365 to build dashboards and reports for other applications, with positive feedback from customers. The project team saw an opportunity to leverage technology they already owned in Microsoft and Objective. Project Governance benefits are already evident including increased time efficiency, enhanced consultation and decision making, improved risk management and greater accountability. The council's Engineering Development team has already reported an increased processing capacity, managing 300 customer requests to over 1000 approvals for the month of June alone. Time spent processing building applications has reduced to just 40 hours annually, down from 640 hours per year.

Also recognised at the customer Innovation Awards night was Queensland utility Unitywater for its Information Management Project and the Australian Navy Fleet Air Arm (FAA) for its Information Governance and Reporting project.

The Process Governance award was presented to the Department of the Premier and Cabinet (DPC) South Australia for its Parliamentary Briefings project.

Process improvements have allowed greater time to concentrate on quality control with a fully automated and digital process and an audit trail for document movements and accountability. The State's lead agency for innovation has been able to save time and improve efficiency rates with a paperless process in line with the SA Premier's Digital by Default declaration.

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A.I.

Threat or Opportunity?

By David Yang

As a youth, my friends and I read magazines like "Young Technician", "Quantum", "Science and Life", along with sci-fi novels by Sheckley, Bradbury and Asimov. Even so we could not imagine how quickly artificial intelligence (AI) would become such an integral part of our daily lives.

I always liked to do something with my hands, and once in grades 4-5, I decided to build a robot. It was made of plywood, and almost my height. The robot was equipped with a vibration motor (brushes for clothes as his feet plus eccentric motors), so that he could move. His eyes were light bulbs with a conical reflector made from a tin can. He raised his hand when you came closer to him, thanks to a photo diode reacting to changes in lighting which was built into his chest.

And most importantly, he was able to speak - with my voice! To do this I disassembled my parents' state-of the-art cassette recorder, a Sputnik 401 (terribly expensive and scarce in those days) and embedded it into the robot. When I recall how I sawed and soldered, I wonder whether the thought occurred to me that I would be involved in the creation of artificial intelligence technology when I grew up?

The world's first tentative steps in artificial intelligence - technology that thinks and makes decisions like a human - were made in the middle of the 20th century. Today, AI is present in many and various forms: speed cameras, robotic vacuum cleaners, voice assistants, sensors for unmanned vehicles, text and voice recognition software.

The Associated Press, the international information and news agency, is already making 3000 financial statements per quarter with the help of AI. Analysts estimate that by 2025 robots that act as financial advisors, and will manage a budget of 7 trillion dollars. More and more technologies are emerging each day based on neural networks and deep machine learning.

Progress in the field of deep learning, deep neural networks and parallel computing has played a major role in the breakthrough development of artificial intelligence. Since 2010-2012, the development of deep neural networks has been skyrocketing. Hundreds of scientific articles are published on a daily basis, and technologies which only appeared 6 months ago are already considered obsolete.

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AI: Threat or Opportunity?

New achievements in AI are announced literally every month. More recently, Google AlphaGo beat the world champion in Go, a very complex ancient Chinese board game. 10 million people professed their love for the girl, Xiaoice, a chat-bot created by Microsoft, which was later invited onto China's Morning News TV show.

It is believed that the desktop PC will rival the human brain for its productivity by 2030–2040. The technological singularity will be achieved, when a computer will become smarter than a human, and therefore will begin to improve itself faster and better than a human.

A reasonable question that worries many people is whether there will still be a need for human professions, when AI learns to perform more tasks and takes over many roles? According to scientists at Oxford University, about 47% of US jobs are at risk of being fully replaced by technology by 2025.

White House financial experts forecast that AI will replace all workers that make less than $20 per hour. Thus, it seems like there will be 350 million production or warehouse employees out of work. There are already 30,000 robots working in Amazon's warehouses, saving the company both time and money.

The American bank Merrill Lynch predicts that automation will reduce labor costs by 9 trillion dollars. Another 8 trillion will be saved in the processing industry and healthcare; autonomous vehicles and drones will bring 2 trillion more. In general, the influence of AI on the economy due to production automation is estimated at $US33 trillion . According to report from Bank of America (http://bit.ly/2a42LiQ), robots and AI may increase the productivity by 30% in many industries, while reducing labour costs by 18-33%.

Even more AI

All of the above excites one's imagination. Currently, there are hundreds of thousands of engineers all over the world working to improve machines and AI technologies. In Silicon Valley, investor interest in these technologies is unparalleled.

In the second quarter of 2016, the share of investments in AI increased in comparison with other major areas of focus (e.g., digital medicine). By June 2016, more than 200 companies focused on AI had attracted more than $US1.5 billion. The number of investment transactions funding such startups has increased 6-fold over the past few years, from 70 in 2011 to 400 in 2015.

AI technology is encouraging the creation of a vast number of brand new products and markets.

Examples are easy to find. Thanks to Realty Editor *(http://www.realityeditor.org/)*, we can control physical objects, such as lighting devices, technology, or a vehicle, with our smartphone. All we need to do is point the smartphone camera at an object created on the Open Hybrid platform.

One very interesting project, The AIVC *(http://www.theaivc.com/)*, is actually the first venture investment fund that evaluates start-up ideas using AI technology!

Another example, Kensho *(https://www.kensho.com/)* responds to financial questions and analyses the market. IBM Watson analyses patient data, compares it with the accumulated medical knowledge base and helps doctors determine the correct diagnosis. On 05 August 2016, the Japanese Cancer Center reported that Watson established a diagnosis of a rare form of leukemia, a task that professional doctors failed to accomplish.

Api.ai *(https://api.ai/)* is a service that provides all the tools for implementing communication platforms to third-party applications. Alterra *(http://alterra.ai/en/)* chooses a country for your next vacation, while startup Luka *(https://luka.ai/)* generates a dialogue with users on the basis of neural networks. Cubic robotics (http://cubic.ai/) is an intelligent butler for house management.

The hugely popular Prisma app *(http://prisma-ai.com/)* stylises photographs as if they were made by famous artists, and has won the hearts of 50 million users around the world in just a few months.

My company, ABBYY, is also into AI development. Text recognition technologies are already being used to extract relevant data from documents and speed up the filling in of fields. ABBYY Compreno is able to understand the meaning of text. It allows banks to receive a borrower's information and make sound credit decisions. It speeds up the technical support process and can respond to a client directly (or direct a client to a proper tech support engineer). It helps HR with routine work such as reviewing CVs, extracting required potential candidate information and matching data with job descriptions.

The Findo project, one that I am working on currently, is also AI-based and helps to find necessary files, letters, and personal documents based on their description in natural language (for example, "find me a healthy diet presentation from the person I met in Boston").

The system aims to solve the eternal problem: you know you have a file, yet cannot find it. Findo is an intelligent search agent that will not just recognise language (at the moment, it is English only) but also act as an assistant, for instance to notify you that you received an urgent request from your boss and haven't responded to it yet.

David Yang is a co-founder of ABBYY, the leading developer of document recognition, data capture and linguistic software. He holds an M.S. in Applied Mathematics and Physics, is the author of a large number of scientific publications and holds many patents.

A place for humanity?

So, is it likely that half us will be unemployed in less than 10 years? I don't think so. Even if machines take over some of the current functions performed by humans, the demand for labour will remain. In the 1980s, the United States introduced barcode scanners and POS terminals. This reduced labour costs in stores, but the cashiers are still around. Between 1980 and 2013, their employment grew by more than 2%.

There is still a huge gap between what many people are doing at work, and what robots and AI can do. It is relatively easy to automate everyday tasks, but there are many non-standard challenges which machines cannot manage.For example, there are many routine tasks which seem easy for humans, but are impossible for a machine. This phenomenon is known as Moravec's paradox. To fold a towel, a person needs only a few seconds. In 2010, a robot performed this task and it took nearly 25 minutes. From this we may conclude that that cooks, gardeners, plumbers, and dentists won't be replaced by AI in the near future. All of these jobs are associated with sensorimotor skills and many of them require brainstorming, recognition of huge volumes of images, and making insights.

It is quite difficult for AI to perform work that requires the development of interpersonal relationships. Machines have weak social skills. They will not be able to perform tasks associated with human interaction, such as, for example, motivation, psychological support and care. This means that the jobs of sales staff, managers, and entrepreneurs, nurses and kindergarten teachers are probably safe.

Mankind has always been distinguished by the ability to think creatively, a difficult quality to teach to a machine. While AI technologies may take on mundane tasks, we will continue to think creatively and, for instance, write poetry. Digital technologies may complement this, but in no way will it supplant it.

According to Eric Brynjolfsson, an MIT economist and one of the authors of *"The Second Machine Age"*, these are the best of times for creative people, those who develop something innovative, whether it's a song, film, service or software.

AI may automate routine tasks but it also opens up new markets which previously could not be imagined.

The US Labor Department predicts that 1.2 million new jobs will emerge by 2020, related solely to computer technology. Someone needs to develop and maintain these machines. The Harvard Business Review has named data scientist as the most attractive and in-demand profession of the 21st century.

In addition to industry-specific professions, new jobs will add to the technological ecosystem. For example, a lawyer in robo-ethics, a human body designer, an engineer for natural environment restoration, a space guide, and many others.

Today, teachers train humans in programming and development, but there will also be a need for those who train machines. It is not enough to train a machine to use AI to perform the work of a human. New operating instructions must be thoroughly described – a task that can only be performed by those whose jobs will be subsequently replaced by robots. So new roles will evolve.

According to McKinsey Global Institute (MGI) analysts, society will develop 10 times faster and 300 times more extensively in the near future, thanks to achievements in AI development.

This will provide unlimited opportunities to develop new products, services, businesses, and revolutionise workplaces since people will have new tasks and challenges.

What an interesting time we live in! We just need to adapt to modern times, prepare to adapt to new, more popular professions, and learn key competencies that no robot or algorithm can replace. Ultimately, I believe that despite all the technological advances, humans will always remain humans. Our main role is to continue our own DNA.

Automated Electronic Records Management? Are We There Yet?

By Tim Shinkle

Cloud providers have recently introduced some new and powerful Cloud Services for Big Data and Artificial Intelligence(AI). These Cloud services have the promise to finally reap the power of AI for automating electronic records management(ERM). But is the market finally ready? And will these new services finally convince the skeptics that AI can be used to effectively automate ERM?

Years ago, at the turn of the millennium I was the Chief Technology Officer at a leading records management software provider called TruArc. TruArc had recently introduced and patented AutoRecords, the first ever commercially available use of AI for ERM, and we were hoping we'd get a huge jump on our competition. Although we had some success with AutoRecords, there were also some challenges. The main challenges being, it didn't always work well enough to convince the skeptics, and the market wasn't ready.

One of the things we discovered with AutoRecords was, it is sometimes too risky to be a leader in emerging markets when the market might not be ready for new technology.

This is especially true when the industry isn't mature enough, as we found when leveraging AI for ERM.

Although AI had been around for some time (back in 1996 IBM's Deep Blue became the first machine to win a chess game against the reigning world champion, Garry Kasparov), AI was still not in mainstream use.

This was especially true in the Records Management industry, where paper records were still being perceived as one of the primary challenges faced by records managers.

AI for ERM just wasn't ready. Yes, AutoRecords could at times classify (or categorise) records with a high degree of accuracy, but other times it couldn't. To complicate matters further, retention schedules sometimes contained hundreds or even thousands of record categories, where most record series were developed for paper records.

What also wasn't helpful were organisations using record categories such as "other". Records being filed in the "other" category often were based on context at the time only available outside the computer.

Implementing AutoRecords revealed that most organisations weren't ready for AI based solutions. This was evident when we ran into problems during a study on AutoRecords performed by the National Archives (NARA). The study involved using legacy retention schedules originally developed for paper and the use

of poorly suited training sets that ended up being ineffective for AutoRecords. Although some people might argue this is the flaw with AI – Isn't AI supposed to adapt to your environment auto-magically? As it turns out, like a child, AI can't just start running before it crawls or walks, it needs to be taught and prepared to run properly over time and with some investment.

But it wasn't just organisations' readiness that was the problem with AutoRecords. There were plenty of challenges with AutoRecords that we had yet to figure out. A big challenge was betting our solution on a single point of failure, being a classification (or category).

The AI was supposed to identify a classification or category to file a record under a particular record series. In the unstructured world of document management, knowing just one dimension of a document, such as classification (category or subject), might help for searching, but it isn't good enough to automate ERM. Unstructured documents tend to contain multiple categories or subjects for multiple reasons.

An example of the single classification problem can be explained with something as simple as a resumé. A resumé has a fairly distinct pattern and AutoRecords was pretty good at learning what a resumé looked like. But saying something is a résumé often isn't enough.

What if the resumé is a draft where only the final resumé is the record? How do we know which resumé is the final version? Further, what is the context surrounding the resumé? Was the resumé captured as part of a hiring process for employment?

Should the resumé be filed as part of a case file containing many different types of employment documents under a human resources classification? Just knowing something is a resumé isn't always helpful.

Then there is the problem of false positives and false negatives. A document could simply be discussing a resumé and not be a resumé, or, a resumé describing job experience might result in a classification that isn't a resumé, when in fact it is. As it turns out, people rarely depend upon a single piece of information to make a decision about a document being a record. Why should AI be any different? We needed more dimensions and guessing at the single best category was only giving us one piece of the puzzle.

Other challenges included:

• Training – Taxonomies and training sets need to be as accurate as possible for effective machine learning. Developing a taxonomy often takes a high level of expertise and it is difficult to find a good training set. Maintaining a training set, as things change over time, became too difficult, time consuming and expensive to perform with most organisations existing in-house resources.

• Algorithms – Leveraging only one algorithm or approach for the best or even top three classifications was probably doomed from the start. One algorithm producing the most likely classifications to choose from as "the" classification didn't provide robust enough results for processing thousands or millions of records automatically without human oversight and intervention.

• Scalability – When we introduced AutoRecords we were dealing with thousands of records at a time, we are now in the age of potentially billions of records at a time for some of our larger customers and data is only growing. Just recently, a large US federal agency tried to leverage in-house (non-cloud based) AI services to process their records, only to realise too late that it will take years to process the records they have and it will never catch up with the ingestion rate of new records being added.

• Change – Algorithms, technology, retention schedules and records management change all the time. AutoRecords needed to be updated, retrained, and retooled constantly to plug into many different repositories and technologies. The technology

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required extensive integration upgrades and maintenance often dealing with insufficient APIs.

With AutoRecords, we faced and fell short of effectively addressing the challenges outlined above.

In the end our company was bought for our ERM functionality, not AutoRecords. The purchasing company quickly abandoned AutoRecords, where it disappeared into the world of cool products that never succeeded (remember the dot-com bubble?).

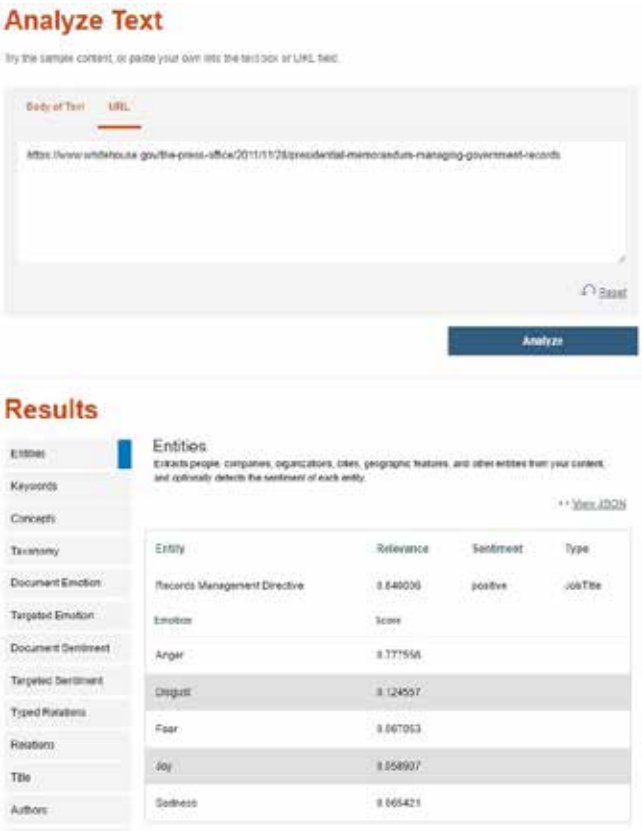
So, you might ask, has anything changed in the world of AI that can address these challenges? We at Millican now believe the answer is a resounding YES, but perhaps not how we had originally intended to use AI.

Many technology companies, including some of the world's largest, have invested billions of dollars into Big Data and AI Cloud services, where Big Data and AI are complimentary services solving the most challenging problems AutoRecords had faced.

Companies such as IBM have gone on to do amazing things with AI, winning the game show Jeopardy for instance with their Watson technology against the best human competitors. Google's AI recently beat the best Go player in the world and many others are accomplishing spectacular achievements never before thought possible.

The lessons learned from these achievements are now being leveraged in Cloud APIs available to the public for solving many real world problems. This is a perfect time to revisit AI for ERM and leverage these recent investments in cloud-based Big Data and AI services.

The latest artificial intelligence (aka cognitive computing) and Big Data cloud offerings provide a powerful assortment of services. We currently have the ability to crawl data sources found on-premises, on mobile devices and in the cloud. Via cognitive computing and Big Data cloud services we also understand this data in ways never before possible.



Cognitive APIs can return a wealth of knowledge from submitted text providing more context and requiring less dependence on a single classification for success.

This unprecedented level of understanding gives us the ability to make better decisions on how best to manage our electronic records.

To understand where we are with cognitive computing, as compared to where we were with AutoRecords, look no further than the big technology vendors such as IBM, Microsoft, Google, DeepMind, Amazon and others. These technology companies have collectively invested billions of dollars in developing and exploiting cognitive computing technology (there are some very large open source initiatives as well, with the likes of TensorFlow, H2O and others).

Cognitive computing is helping solve real world problems that humans have been unable to solve on their own. Recently IBM Watson solved a patient care problem that had stumped doctors for months. Google has even changed their approach to search. The Wired article *"AI Is Transforming Google Search. The Rest of the Web Is Next"* discusses how computers now are performing certain functions of search that, until recently, required human insight. AutoRecords, with its use of AI technology, has gone from something that was ahead of its time to something that is now mainstream and growing in leaps and bounds. There's no denying that the AI market has matured.

Training

A big challenge we faced with AutoRecords was training sets (training sets are used to train the cognitive services to learn patterns in data). Having access to large cleansed training sets is a challenge — especially as changes occur over time. Many of the available cognitive cloud services come pre-trained and ready to use. You can even try some of them online before you decide to invest. *(See http://alchemy-language-demo.mybluemix.net)*. Technology companies are training their cognitive APIs for both horizontal and vertical industries using training sets such as Wikipedia and large data sets from healthcare, banking and other industries. IBM recently bought a company that services banks in part because it can leverage the knowledge the company has on the banking industry — the knowledge can then be used to train IBM's Watson to better serve its customers. This approach is far superior to what we faced with AutoRecords, where training was a significant challenge for customers to do on their own.

Multi-Dimensions

A second challenge we had with AutoRecords was that classification was a "single point of failure". We depended entirely on the classification value provided by AutoRecords to understand the record and perform some action based on the result.

Having a single classification (or even having false positives and false negatives on a single classification) is not as challenging to address when decisions are spread across multiple dimensions, with each dimension providing valuable input for better overall decision making.

As discussed earlier, simply knowing a document is a resumé is often not enough. Cognitive services can now provide a much richer understanding of documents, providing dimensions for concepts, keywords, entities, relationships, sentiment, author and more.

As an example, for a hiring manager in Human Resources, knowing the relationship of the author, their role in the organisation and the person being discussed in the resumé can make all the difference in how the document is managed. The machine can now make these connections without having to depend upon the single classification of "resumé".

Patterns of who someone is, where they work, what they do, and the data they use, can all be leveraged when crawling and combining valuable information into large sets for cognitive processing and analysis.

Other Challenges Addressed

Today's technology can meet all the many challenges in algorithms, scalability and managing change over time:

• Algorithms – The algorithms used today are much more sophisticated, with the ability to self-train and leverage massive scale data sets not previously accessible to on-premises solutions. There also are many more algorithms for specialised capabilities such as language, speech, visual recognition, data insights and more. These algorithms can be leveraged together or separately depending upon the need.

• Scalability – Today's cloud services are more scalable than ever before. New research and development in cloud computing and cloud platforms, with technology such as Docker and containerization, are expected to keep pace with the volumes of data being produced on a massive scale. Microsoft, Google, IBM and others are even developing specialised reprogrammable computer chips to increase Cloud performance.

• Change – Change is now much more manageable for customers of Cloud services, as algorithms are improved they can be swapped out and can pick up where previous algorithms left off, using the same training data sets. Cloud vendors can change these algorithms for you without a disruption to the service as improvements occur in the AI industry over time – the Stanford report *"Artificial Intelligence and Life in 2030" (http://ai100.stanford.edu/2016-report)* covers AI over the last 100 years to today, discussing many of the changes that have occurred in the industry over time.

Putting All the Pieces Together

The combination of cognitive cloud services and Big Data analytics provides a powerful approach to understanding the value, cost and risk for optimised electronic records management. Big Data analytics provides a rich feature set for visualising data including the ability pull together multiple sources of related data, such as storage, litigation and compliance costs.

Big Data analytics is the mechanism for exploiting all the dimensions that are provided from the cognitive services for large volumes of electronic records. Big Data services are easily shared among different groups within the organisation, leveraging analytics for other use cases —Information Governance/Enterprise Records Management (ERM) is just one group of many that can leverage their organisation's investment in Big Data. Another piece of the puzzle is crawl technology. This technology can work behind a firewall to harvest multiple data sources found on-premises and pool the data in a central location for analysis (e.g., PostgreSQL, Apache Cassandra and others). Crawl technology can also be used to take the results of the analytics and execute compliance rules on the originating data sources, including decisions to manage data in-place or

Big Data analytics provides data visualization and predictive capabilities for better decision making.

transfer it to a central archive on-premises or in the cloud.

Where the three key pieces of technology — crawler/harvester, cognitive cloud services and Big Data analytics — provide a solution to the challenges of electronic records management, the final piece is cloud based storage — a place to put all this data (e.g., Hadoop Distributed File System on-premises or in the cloud). As systems expire, a cloud based 'intelligent archive' - managed by the main components of the solution - provides a cost-effective location for records to be reused and managed over long periods of time.

Future State

It is apparent that the days of the traditional ERM solution are coming to a close. The recent Wired article *"The End of Code"* by Jason Tanz suggests that soon we won't program computers; instead we'll train them like dogs. In the not too distant future we will spend our time training computers and asking the right questions to process our records instead of buying and implementing expensive content and records management solutions and scripting rules manually. This is prompting some people to proclaim it is the end of tech companies. We already are seeing a shift in the ERM industry away from big ERM software purchases and a shift in budgets from traditional IT technology investments to investments in Big Data and the cloud.

In conclusion, we believe that the world of AI has fully matured since we first created AutoRecords more than a decade and a half ago and it is now powerful enough to effectively meet the enormously challenging requirements of modern enterprise records management. AI technology is ripe for taking over the task of chasing down massive amounts of data and determining how best to manage it over time. We now are able to use cognitive services to orchestrate tremendously powerful solutions for our customers. These solutions include leveraging crawl technologies, cognitive and Big Data cloud services in meaningful and effective ways to serve the entire ERM industry.

Tim Shinkle is VP at Millican & Associates, a Florida, USA based information management services firm.

One in three Australians now using biometric smartphone security

Biometrics use is moving front and centre stage in driving trends in mobile consumer retail behaviour, according to Stuart Johnston, Partner and the leader of Deloitte's Technology, Media and Telecommunications (TMT) group, with one in three smartphone having a fingerprint scanner on their smartphone, and of these almost 70% use this capability regularly.

"Australians make an estimated 100 million imprints a day using smartphone fingerprint scanners, showing that we are becoming more comfortable with our fingerprint being used for authentication," Johnston said.

"Biometrics and smartphone adoption may provide us with an alternative to having to remember, or even write down, the multitude of passwords required by our growing online accounts, which can be relatively insecure.

"By 2020, Deloitte forecasts that users may have as many as 200 online accounts, each requiring secure controls over access. Biometrics and our smartphone can provide a simple, convenient and quick single tap solution to this challenge."

Johnston said that given the increasing acceptance of biometrics, the range of applications in which fingerprint readers are used is expected to grow.

"Initially we have seen fingerprints being used as a faster alternative to a numeric password to unlock phones, but this has now extended to unlock applications, and authorise payments for online content from an app store."

Deloitte's Mobile Consumer Survey 2016 report finds that Australian smartphone ownership has climbed again to 84% of Australians, ahead of the global average (81%) and up from 79% last year. Australians aged 18 – 24 year olds have the highest level of ownership with 94% having access to at least one smartphone.

"As consumers and business have become more accepting of biometrics, they are being used for higher-value in-store and app payment verification, and the fingerprint can now be used to authorise a transaction as high as the user's credit card limit," Johnston said.

The survey shows that awareness of fingerprints biometrics is greater with Apple iPhone 6 users (81%), compared to Android smartphone users (49%), most likely due to the more controlled experience when using and Apple device.

"Over the next few years we expect usage of fingerprint readers to increase markedly as they are incorporated into mid-range smartphone models and users become more comfortable with the authentication process," Johnston said.

"We also expect the smartphone's fingerprint reader to be used in conjunction with websites accessed by consumers' computers to authorise payments."

"However, for all its evident merits, the fingerprint reader is not infallible," said Johnston. "It is possible – albeit increasingly difficult – to make copies of a fingerprint. However, the latest fingerprint readers can more readily differentiate between a real finger and a copy of one.

"Another potential problem is that in humid or wet conditions, water on the surface of the finger may inhibit the sensor, increasing the likelihood of false negatives."

At the time the survey was taken, only 9% of Australians use their mobile for payments, either through Near Field Communication (NFC), or purchasing through apps and browsers. The primary reasons Australians are not yet engaging mobile payment are perceived lack of security and lack of benefits, but both of these perceived barriers have come down over the last year, with lack of security reducing from 44% in 2015 to 36% in 2016 and lack of benefits from 41% in 2015 to 35% in 2016.

Over the last eight years, app stores have generated tens of billions of dollars in revenues via download sales and in-app payments. The most successful apps have been downloaded over a billion times.

What might appear to be a straight forward business decision for companies wanting to jump in to the m-commerce market is not so easy. The survey reveals that, although apps are the preferred channel for most of our smartphone related 'entertainment', the browser is preferred for much of our online shopping (71% preferring to use their smartphone browser versus an app)

"Apps tend to be preferred and viewed as most successful for tasks that take advantage of the capabilities embedded in the smartphone, like location services and GPS," Johnston said. "Among Australian smartphone owners, over two thirds (71%) use an app to check the weather, rather than a browser. "Checking the weather is a simple task that can be achieved with a single swipe – with background feeds running and your location services personalising results."

"The browser remains our go-to source to search, browse and purchase most items, although an app may be suitable when confirming regular purchases, such as the weekly grocery order. Australians are three times more likely to make their mobile purchase for non-standard items in a browser (50%) over an app (15%)."

While we do have a soft-spot for adding the latest app, mobile consumers appear to be regularly curating the apps they keep on their smartphones, limiting the number to less than 25 on average. Regardless of age group, only 13% of mobile consumers have more than 30 apps on their smartphone.

About the survey

The Australian Cut is part of the Deloitte Global Mobile Consumer Survey, a multi-country study of mobile phone users and usage around the world. This 2016 study comprises 53,000 respondents across 31 countries and five continents. Data cited in the report is based on a nationally representative sample of just over 2,000 Australia consumers aged 18-75. Field work took place in June 2016 and was carried out online by Ipsos, an independent research firm, based on a question set provided by Deloitte.

The Growth of Digital Evidence Backlogs

By Adam Belsher, CEO Magnet Forensics

A recent report by the United Kingdom's police oversight body, Her Majesty's Inspectorate of Constabulary (HMIC), highlights a key issue that law enforcement agencies across the globe are facing: there is an overwhelming amount of digital evidence piling up. This shouldn't come as a surprise given the proliferation of smartphones, tablets, drives, computers, and other connected devices. Some estimates show that there will be 6.1 billion smartphones alone in the world by 2020.

Unfortunately, these devices not only make our lives more convenient, they have also helped to enable criminals. It's easy to imagine that almost every criminal case could involve some form of digital evidence. Each device confiscated as evidence comes into a police lab to be imaged (making an exact copy of the device data). The investigative work is done on that copy, so it doesn't contaminate the original piece of evidence. With the volume of storage on our modern devices, it can take hours to get a copy of the device in to a decipherable format for a specially trained investigator to start reviewing the evidence.

The number of crimes involving digital devices is growing while the staff numbers performing the imaging, searching, and analysing can often remain limited. Twelve years ago, the backlog for cases involving digital evidence was 6-7 months. Our partners in policing tell us that in 2016, the backlog could be upwards of 2-3 years.

This type of backlog could easily lead to cases being thrown out of court as many jurisdictions have provisions for expedient trials. This means criminals could be walking free with the potential of committing more crimes.

The days of looking at a phone and trying to find text messages and photos are long gone. We live in a world of expanding digital storage and data; whether it's Facebook Messenger content, WhatsApp content, Uber information, Snapchat, geo-tagging locations, time stamps, and more – not to mention people who are savvy enough to try to hide it all.

There is a certain path of due diligence required for processing a murder case, versus a terrorism case, versus a child exploitation case, versus fraud and so on. With the number of different scenarios, technology can be aligned to work with the unique needs of each type of case. We're developing our technologies to fit these unique workflows and leverage automation so that the more tedious and repeatable tasks are handled quickly while time-consuming tasks or those requiring technical expertise are handled at the appropriate moment by the appropriate person. We believe that forward-leaning police agencies around the world want to get ahead of their digital evidence backlogs and ensure criminals do not walk free because they could not get to the evidence in a timely fashion. This is no small task and will require strategic thinking and leveraging of all assets.

We at Magnet Forensics are ready to roll up our sleeves and work with any police agency who is committed to making digital evidence backlogs a thing of the past.

ZircoDATA writes a new beginning

Dennis Barnedt, a major figure in the global records and information management industry, has founded, acquired, managed and developed leading companies in the sector across the United States and Europe.

He founded Access Information Management Inc. in 2004, now the largest privately-held records and information management company in the US and second largest in the world.

For the past nine years Barnedt has been based in Ireland initiating a string of acquisitions that has made his OASIS Group the fastest growing records and information management company in Europe.

New he is turning his attention to Australia and the APAC region as Executive Chairman of the ZircoDATA Group, a totally new entity created from the acquisition of the Australian operations of Iron Mountain.

Ahead of his planned relocation to Melbourne, Barnedt sat down with IDM to discuss his present and future plans.

IDM: Firstly, why the name ZircoDATA, where does that come from?

DB: We wanted to find something that was dynamic and unique. Also we always felt that we wanted the term Data instead of archive, instead of file, instead of box. And so we tried to find a very unique name for a search engine, but also something we can brand, that we felt people could understand quickly and remember. And that's how we came up with it. We hired a local Melbourne company to assist us with this process.

IDM: Why turn to Australia and the APAC region now, what are the opportunities?

DB: Well it was a unique opportunity with Iron Mountain. Firstly, because it was already very well run, and also it was a larger size, it's difficult to move into a new market with a small size acquisition. Australia is a mature market in the records management space, but there's still a need for quality players that can provide the full suite of services within the lifecycle of information management. The bottom line is we analysed the current client base and decided that there are surrounding areas of information and data that are not being met. Only a handful of clients actually understood that, or utilised that. So there was an opportunity to not only grow outside of the current client base, but also to expand significantly with the current client base.

IDM: What is the main area of business for ZircoDATA, is it still hard copy records?

DB: Yes. We're known predominantly as a hard copy records management company now, and the majority of our current revenues actually come from this service line. We'll continue to expand on that service line, but also look to additional services that we can offer. It's our estimate that most of our clients don't even know all these services, and we're looking to add to their knowledge to assist them with their work flow of information. There are also opportunities with disposal, and of course we do quite a bit of that already although it is not one of our major revenue lines at this stage. In the Data Protection space, we went from having a significant revenue base to zero, and so we're re-building that (Iron Mountain was able to retain its existing data storage clients as part of the requirements from the Australian Competition and Consumer Commission). On the digitisation side, we all know it's happening, and we're part of that. Having the client base helps us, because we have a market that is open to new and emerging technology solutions.

IDM: Is hard copy storage market still growing? Will it plateau?

DB: The hard copy market still grows, and there'll be continued growth for the foreseeable future. I've operated in multiple countries, and none of them so far have had a negative growth in hard copy. The annual growth has reduced over time, but it actually picked up this time last year for us in Europe. And if you read Iron Mountain's most recent public report, their last quarter picked up also. What's changing, albeit slowly, is the way our customers produce, or manage their information. That's why we'll introduce them to smarter ways to manage their existing and future needs for information.

IDM: ZircoDATA has about 30% of the market in Australia, do you expect that share to grow?

DB: We expect it to grow. We believe that we can grow out organically, and through acquisitions. We aim to continue to be the preferred supplier to our current and valued customers, but we think that we'll be looked at as a new, maybe fresh addition to the community. People need to understand who we are, and right now we're working on training and implementing the ZircoDATA way.

IDM: Is the drive to Digital Transformation of business processes having an effect?

DB: It's part of our business already. It's something we embrace as we grow, and we inform clients of our capabilities to help them with this. It is definitely a service line we want to be more active in. But we have a reputation for developing very strong relationships with our customers, and we think this will allow us to partner with them as these needs evolve. We are very open and actively looking for acquisitions that are not hard copy based, that we can add to the suite of services for our clients.

IDM: Freightways acquired Iron Mountain New Zealand in October 2011. Do you have plans for the New Zealand Market for ZircoDATA?

DB: I actually knew about that deal back in 2011, and there's a great example of where we didn't feel it was a large enough acquisition for us to move in to the market by itself. Without going into the specifics at this stage, we are looking at several countries in the region in which we'd like to expand but Melbourne would remain the headquarters for ZircoDATA. We already have a very good structure and very good service offerings here that we could leverage to expand into the other countries.

IDM: What kind of businesses you are looking to acquire?

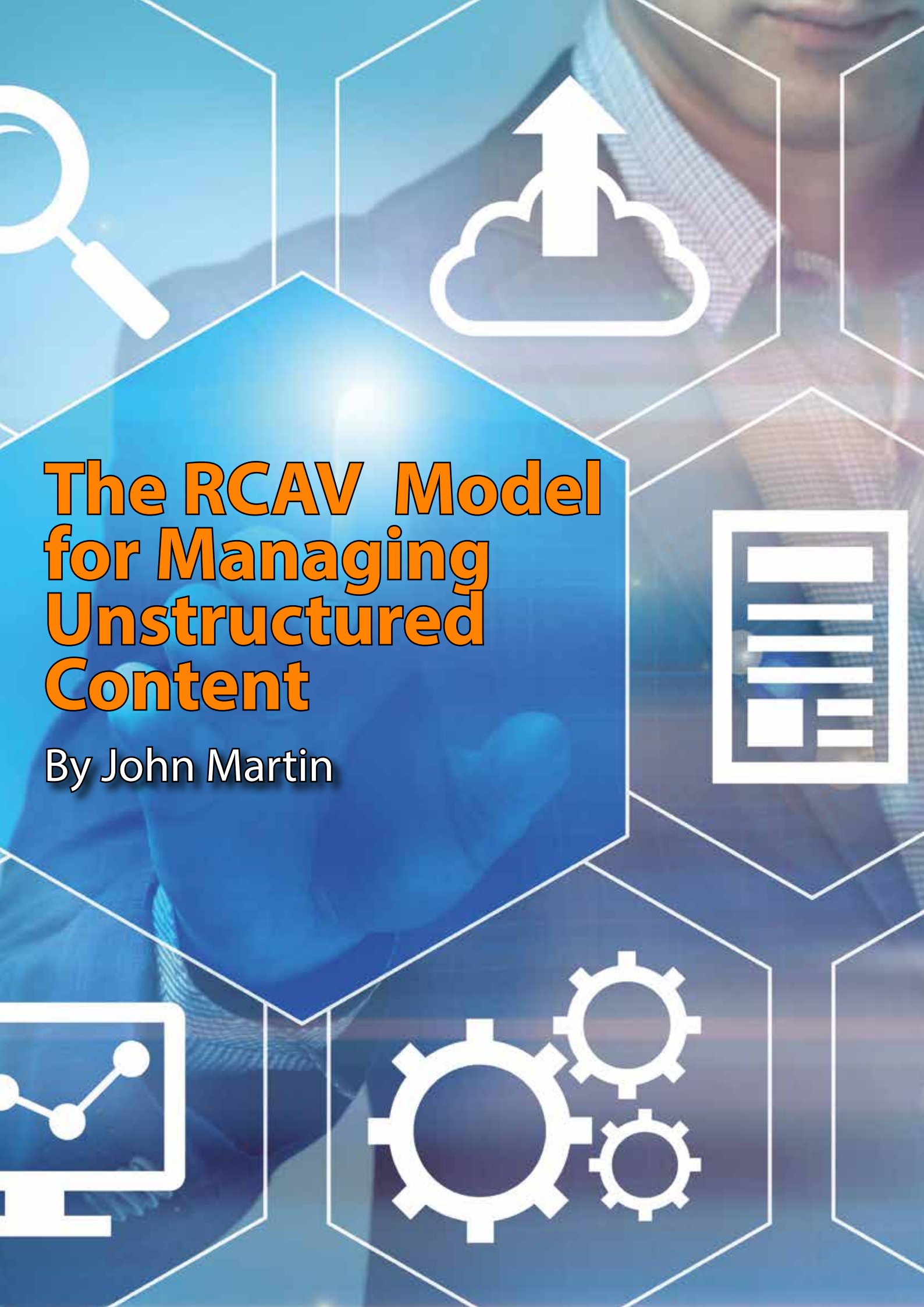
DB: I don't say we won't look at hard copy, because they blend in well with us, and give us sometimes a new location, and sometimes a client base that we can offer additional services to. But outside of that we would look at data restoration and recovery services, different workflow systems, EDRMS. And something that hasn't been done here at this company, but we're talking about it now, is the adjacent physical storage offerings, because we do have quite an infrastructure for core samples, art, research materials, things like that.

IDM: As you expand your footprint internationally, what are the key areas that you see driving growth in information and records management?

DB: Well it's increased compliance issues, and governance issues that are sometimes specific to an industry, or even a whole government. And I'm getting up to speed with some of those here in Australia right now. Information is truly becoming an asset to businesses, whether recognise it or not. Slowly but surely, they are seeing the value of this asset, and they need help managing that. They need help identifying it, maintaining their tracking net through the whole lifecycle process.

IDM: Finally, The Oasis Group in Europe earlier this year became a sponsor of Cricket Ireland. Most Americans have difficulty understanding the game, let alone develop an affection for it. Does this mean you would rather be watching a Test Match over World Series Baseball?

DB: Well quite honestly, I'm not a baseball fan, so that's not a fair question for either sport. I'm a big fan of 20/20 or the T20s and I went to the World Cup last March in India which I really enjoyed. I am planning on looking in on it here locally, as I settle in.



The RCAV Model for Managing Unstructured Content

By John Martin

There are four basic steps to managing unstructured content. They are:

- **Rationalise. This is an inventory and collection process and answers the most basic of questions:** *"How many files do you have and where are they?"*
- **Classify. This begins the process of creating useful intelligence from the content. It answers another basic question: "What's in those files?" Accurate classification enables all downstream information governance activities, e.g., assigning useful record retention schedules and performing accurate, uncluttered retrieval.**
- **Attribute Extraction. This involves a more granular determination, "What types of information do you want to pull or extract from within each classification?"**
- **Validate. This involves measuring and confirming that all files have been accounted for and that resulting classifications and attributions are valid. It's basically,** *"Do you have everything and is it accurate?"*

In the following article we provide tips or things to consider during each of those four steps.

A. Rationalise - How Many Files & Where?

Managing unstructured content begins with inventorying it. Files must be located, counted, and copied for analysis and processing.

Here are suggestions for rationalising unstructured content:

1. Anticipate Interruptions

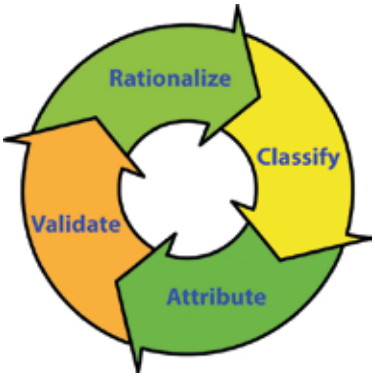
Enterprise-scale file inventorying and copying is an ongoing, resource-intensive operation. Anticipate that it will be occasionally interrupted and be sure that your process can resume without having to repeat all the analysis.

2. Beware the 260-Character Path/ Filename Limit in Windows

Software for indexing, logging or copying unstructured content files is often subject to the 260-character path/ filename limit inherent in most Windows applications.

That means that files where the path/ filenames exceed that limit will not be examined by that software - they are simply invisible to it. They won't be indexed, logged, or copied.

We have found cases where 2% of files collected had been inaccessible to normal Windows applications because of overly long file paths.



This can happen in many ways, for example:

- Zipped or compressed folders can contain multiple levels of folders that although not troublesome in their original location become excessive when unzipped or copied onto other, longer paths
- Drives or folders can be mapped to other drives or folders resulting in unexpectedly long paths.
- Users sometimes use folder names to store notes about the files in the folder, e.g., "not to be included in the survey responses." When folders get copied and moved to other locations, the total characters for all folders in the path can easily exceed 260 characters.

3. Log All Files Reviewed

All files examined during the inventorying process should be logged whether or not they are copied.

This permits audits of what was examined and can provide support for why any processing decisions were made.

Ongoing, accurate logging goes to the very heart of data integrity.

4. Calculate Hash Values and Record in Log

Hashing algorithms have long been used on the Internet to provide a way to determine if emails or files were altered during transmission (see RFC 822 and subsequent standards).If two files have the same hash values they are identical, especially if the more secure SHA hash standard was used.

Hash values should be calculated for each file and stored in the log. This is a critical data integrity requirement. By doing this the files can be rehashed later to confirm whether they have changed in any way. The hash values also enable several other important functions as described in several of the following tips.

5. Identify NIST-Listed Software Files

Information governance concerns itself with the content created by or received by an enterprise. One way to focus on content is to exclude system files distributed by software companies such as executables, help files, and templates. The National Institute of Standards and Technology ("NIST") publishes a list of known system files and their hash values, and this NIST list can be used to identify such files.

When such files are located, their presence should be noted on the log, to include the filename, location, hash value, and if the hash matched a NIST list entry.

6. Copy Only Deduped, DeNISTed Files

Hash values for content files should be compared to hash values of files already collected, and only new files that do not appear on the NIST list should be collected. Collecting only one instance or copy of each unique file minimises the number of files to be copied and permits the collection system to copy drives that were larger than those of the collection device itself because it is not copying known system or duplicate content files. Note that the detailed audit log retains all information about where the duplicate copies of all files were located; there is no need to copy bit-for-bit duplicates to track this information.

7. Use Hash Values for File Names

Managing millions of files requires that they be stored in a standard fashion, i.e., not kept in their original folder paths which may present numerous difficulties in terms of length of path, inefficient numbers of files in individual folders, and possibly unacceptable characters. Using hash values for names has two significant advantages:

- Non-collisionable Names. While duplicate file names don't present many problems if they are each in unique folders, when files are moved to new folders as happens with

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standardised storage, there can be "collisions" when two or more files in the same folder have the same name. Basically only one of them will be kept, others with that file name will be essentially lost. This does not happen if hash values are used as names.

- Self-Authentication. When the value obtained by hashing a file is used as its name it makes the file self-authenticating because the hash value can be recalculated and compared to the file's name.

8. Compress Collected Files

Collected files should be compressed when not being analysed in order to preserve data storage resources. By deNISTing, deduping, and compressing copied files, collection devices can often collect

9. Check for Duplicates in Container Files

Once copies of files have been centralised for processing, files that contain other files (e.g., *.ZIP or *.RAR files) need to be recursively opened, logging each new file or container file and its associated hash value.

The goal is to identify the set of unique, deduped content files copied from the source files.

10. Anticipate Encrypted Files

Some files will be encrypted, making it impossible to accurately classify them or search on their contents. Decisions should be made ahead of time about how to process encrypted files as there are several options, each with different costs and benefits. If files are encrypted they should be indicated on the log to be treated as possible exceptions, and the log should be updated if encrypted files are decrypted.

Here are ways to handle encrypted files when processing large volumes of data for information governance or e-discovery purposes:

- **Request passwords from users.** This is time-consuming and fraught with difficulties, e.g., when users have resigned, died, or just don't remember the password.
- **Brute force attempts.** In this approach programs try virtually all possible passwords until a successful one opens the file. Depending on the length of the passcode this can be a rather quick process or a long and resource-intensive one. If a password for one file is located it can be tried against the other encrypted file to see whether the user re-used that same password.
- **Dictionary.** Software can try all character strings found in the unencrypted files to see if the user had stored the password in one of those files.
- **Key recovery.** Rather than try to find the password that the encrypting software uses to calculate the key that opens the file, programmatically generate all the possible keys.
- **Email.** When the contents of individual emails have been encrypted, it may be possible to find an unencrypted version of the email by looking later in the thread on other custodians' files.

How to Estimate Volume of Files Not Collected Due to Long Path/Filename

Windows counts the space used by files on long file paths even if most Windows applications can't read them. To determine if any of your files are inaccessible due to path/filename restrictions, first determine the space-used metric supplied by Windows (by, e.g., right clicking on a drive and selecting "Properties") or, if you use cloud storage, obtain the space used number from your cloud provider. Next have your indexing or collection software create an audit log of all files on that drive, including the size of each file. Total the file sizes and compare that to the "size on disk" metric provided by Windows. The difference can be files hidden because path/filenames are greater than 260 characters.

Identifying Duplicate Emails

Identifying duplicate emails is complicated because different email clients can store emails in different ways and those differences result in different hashes for different clients. To use hashing, the emails should be restored to the form used to transmit them (see RFC 5322), and the hash calculations should not include metadata values expected to be different in different copies, e.g., routing information or date last accessed.

11. Encrypt Collected Files

Collected files represent potential security risks if they are stolen or unauthorised people gain access to them. To minimise those risks, encrypt the collected files. If passwords are used for both compression and encryption, security can be maximised by using different key lengths for both processes.

12. Use Hash Values to Audit Compartmentalised Storage

Many organisations have content that is so sensitive it is supposed to be only maintained on servers physically disconnected to any other network. One way to find if there's been "leakage" of this content is to calculate the hash values on the isolated or quarantined servers and when the general enterprise content is inventoried and hashed, compare hash values to see if copies of the secure content are being stored in unsecured locations or devices.

B. Classify — What Type of Content?

Consistent classification is the most critical challenge in managing unstructured content. If you can't classify items, you can't manage them.

It has historically been very difficult to achieve consistent, scalable classification. Here are just a few of the downstream tasks that become much more difficult if not impossible without consistent classification:

- Classification-based retrieval
- Setting records retention periods
- Determining user-level access rights
- Setting department or business unit level access rights
- PII detection
- Setting system security specifications for content

These difficulties also lead to end-user workarounds that defeat many of the reasons for having ECM systems, e.g., users maintaining private but duplicative stashes of content.

Note that file type is not a sufficiently useful file attribute for most information governance purposes. The file is just a container and information governance focuses on content.

For example, a PDF could be virtually anything from a spreadsheet to a presentation, Word document, or website.

Classification must go beyond file type to accurately label the type of content.

Following are some considerations when setting up automated file classification systems:

1. Anticipate Constant Change

Changing business needs and changing regulatory requirements results in a constant change in the documents used to perform business functions. Individual forms or templates change 10-15% per year on average, and many new document types are added each year. This constant change imposes the requirement that classification systems be flexible and responsive, ideally alerting administrators when new classifications are required.

2. Text Dependency has Limitations

Most automated classification systems rely on the presence of accurate textual representations of the files being classified. Classification systems must anticipate multiple problems with a text-based approach:

1. **Language.** Systems that seem to work fine with English documents may fail when presented with other languages that were not part of the original training sets or scripted rules. Multiple languages will also cause obvious problems with approaches based on taxonomies. Machine translation of content may not yield the desired classification accuracy.
2. **Non-textual files.** Many files have no text associated with them, e.g., files output as PDF or TIFF files from user software or captured as image-only documents by scanning or faxing. This may be a minor issue in some collections but in others non-textual files may account for appreciable percentages of all files. At the very least the percentage of non-text files ought to be measured to help determine what sort of remedial effort may be justified.
3. **Poor-quality text files.** Text layers can be created by optical character recognition ("OCR") software, but the resultant associated text can be riddled with errors, making text-based classification very problematic. One area of particular concern is being able to classify all versions of the same document type consistently, e.g., to classify the original Word document with the PDF version and the scanned TIFF version.
4. **Sentence dependency.** Some auto-classification systems analyse text as presented in sentences and ignore non-sentence text. This causes them to fail to accurately classify documents like check lists, spreadsheets, PowerPoint presentations, and many forms-based documents.
5. **Numeric Text.** Text analytics and text search systems may ignore numeric text strings and evaluate pages and documents without considering their numeric text.

Lotus Notes Potential Gotchas

Lotus Notes content is stored in a Notes databases that have unique characteristics that can cause problems when collecting Notes messages or attachments. The difficulties arise because Notes uses views to permit users to examine and export content, and those views can important limitations:

• **Omitted Emails:** Time to build views. When Notes content is exported to a new Notes container, it takes time for that container to build its views. If users try to export data from the new Notes container before the views are completed, not all intended records may be exported. Symptoms of this problem may include not exporting Sent emails or having missing time periods.

• **Field Truncation.** The view may impose truncation limits on content in the fields in the view, e.g., the CC list may be cut off after a certain limit is reached, or only a certain number of characters may be included in the message body.

Problems Hashing *.MSG files

Emails are often saved as *.msg files when preserved for e-discovery or other purposes, with hash values calculated and saved so to prove the files haven't been altered.

One big problem with this approach is that if that copy is later opened in some versions of Outlook, the "date opened" metadata contained within the *.msg file itself may be changed resulting in a new hash value for the wholefile.

Here are some solutions to this:

- Save the *.MSG files only on read-only media so the metadata can't be updated.
- Save the emails as PDFs, EML or some other static-format.

3. Address Document Unitisation issues

One of the most basic, and often incorrect, assumptions about file classification is that there is just one document per file. Virtually all content management systems or file search systems permit only one set of fields to manage a file, e.g., there is one document type, one author, one date created field.

Document unitisation problems can arise when users assemble multiple documents or files, possibly even those created in different applications, into one PDF. Unitisation issues are also common in files created by scanning or faxing paper documents.

The one-document-per-file limitation causes embedded documents to be "lost" in the sense they are not represented in the fielded data that describes individual documents, e.g., Date, Author, Title, etc. Having multiple document files can also cause errors in text analytics systems that depend on comparing the text in individual documents.

At the very least, sampling of the various sources and storage locations should quantify the extent of this issue. The unitisation issue impacts all later downstream functions, e.g., assigning retention periods, accurate retrieval, and extracting document attributes.

4. Anticipate Scale & Granularity

Some text analytics systems - used for instance to place a few hundred thousand files into relatively large"buckets" such as Responsive or Non-Responsive for e-discovery - may not provide the granularity and scalability to have hundreds of classifications for millions of files. Anticipate your needs for scale and granularity when comparing competing solutions.

5. Anticipate "Do-Overs"

Business environments and missions evolve over time and those changes can affect how files or documents are classified. A well-designed classification system will permit reclassification without completely reprocessing large numbers of files

6. Anticipate Multiple Classifications for Multiple Reasons

There are many reasons to classify unstructured content:

- File share remediation to identify and remove unneeded files
- Responsiveness/Relevance in discovery
- Setting retention schedules
- Setting access rights based on the work section or job classification of individual workers
- Setting storage security requirements
- PII detection/protection
- To indicate need for specific image enhancements

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Classification systems ought to permit multiple looks at the same content, otherwise the organisation may have to pay for and support multiple classification systems for multiple purposes.

7. Use Stakeholder Collaboration

Multiple heads are better than one for capturing enterprise knowledge about the business reasons behind why different documents types are created and used and what the regulatory requirements are that govern their use and disposition. Classification work flows that involve collaborative classification schemes will avoid many downstream problems later on.

For example, if subject matter experts from the business unit, finance, and records management can all consider the same documents at the same time they can help ensure that the most useful classifications for the whole enterprise are applied.

This approach also pays huge dividends in the next step of Attribution.

8. Anticipate the Awareness Gap

While using collaborative teams will help ensure that the collective wisdom of the enterprise is brought to bear on the classification task, there will still be document types of which team members are simply unaware. They may do a good job classifying files or documents presented to them, but how do you know that substantially all files being classified have been considered?

9. Use Classification Matrix Approach

A typical file classification scheme has the business unit or function as the top level with each unit or division handling for lower level classifications. This can lead to overly complex and possibly inconsistent labels for files that are for all purposes the same types. For example, Finance might call one document type "Authorization for Expenditure," Exploration & Production could call the same thing "AFE," while Engineering might call it "Expenditure Authorization." These different labels for the same type of document cause clutter and confusion later downstream.

An alternative approach is to build a matrix with the business units or functions listed in the left column and document types listed as column headers with Xs or check marks within cells to indicate if that document type is used in the unit or function. The advantage of this approach is that it minimizes the number of classifications and helps assure the use of consistent classification labels for the same documents.

Determining How Many Non-Textual Files An Organisation Has

Organisations that use text-based file classification can get an idea about the percentage of documents not classified because of text deficiencies by looking at the residual or "not classified" class of files. They may find that upwards of 40% of their files are not being classified. One potential issue here is that when text-based search is used to select files to be classified, wholly non-textual files will not even be ingested and therefore not fall into a residual classification. Another approach to estimating the percentage of non-textual files is to examine file types that are most likely to be non-textual, e.g., PDFs or TIFs. Users could list all the files in a spreadsheet or database and then use random sampling to generate a list of files to open and examine to see if they contain text.

With PDFs for example, the user can select text using the text tool to see if there is text available. Either of these approaches result in estimates of the percentage of files that will not be classified by text-based systems because they do not contain associated text.

10. Test Consistency

The top three criteria for classification are consistency, consistency, and consistency. Test and measure consistency. Do you get the same results when you reprocess the same content? When you do text searches do you find the same type of content has been assigned two or more classifications? Consider having an alternative classification technology re-classify already classified documents and determine which system performs more accurately.

11. Start-Up and Maintenance Costs

Different classification technologies involve different costs of consultants, in-house staff, computing resources, and per file or per gigabyte licensing fees. When evaluating competing alternatives, ask for explicit maximum costs and agreed accuracy levels to be included in a service level agreement ("SLA").

C. Attribute — Extract What's Important

Document attributes are things that are evident on the face of the document. Attribution involves identifying which of those data elements are significant from a business, legal, or regulatory purpose in each of the classifications, and extracting them so they can be used for retrieval, reporting, or as part of a decision management tool. They can be used to populate or to validate structured database entries.

Here are considerations when attributing files:

1. Identify Specific Desired Attributes for Each Classification

For each classification, the organisation should identify the types of data elements or attributes it wants to extract from members of that classification. This list becomes a checklist to consider when designing or performing attribution.

2. Examine Data Fields in Control or Retrieval Systems

If information from unstructured content is used to populate or to audit a process control system (e.g. the name of a loan applicant is used in a mortgage loan management system), those data elements should be considered for inclusion on the attribute list as automated extraction can speed input and auditing of such data.

3. Be Aware of Classification-Dependent Limitations

The ability to extract desired attributes often depends on the consistency with which initial classification is performed. If classes are consistent and files within classes are very much alike it will be much easier to extract data values. On the other hand, inconsistent or overlapping classifications will lead to poor quality attribution. Keep those limitations in mind when considering what to try to extract.

4. Be Aware of Text Conversion Dependence

Systems that use text conversion technology to provide textual values from image-only files will be subject to the limits of that technology. If the underlying OCR system won't recognise characters with font size greater than 24, then any text of larger size won't be available for auto-extraction, and the same will be true for minimum font size limitations.

As discussed earlier, text dependence is also a significant issue for non-textual files, poor quality text files, and foreign language files.

5. Be Aware of Extraction Tool Dependence

The ability to extract desired attributes is dependent on the tools available for the extraction, e.g. can the extraction specifications include absolute page coordinate zones or positional specifications relative to other zones? There is no point in specifying attributes that the available tool set cannot identify.

6. Consider Non-Textual Attribute Extraction

Although people usually associate attribution with text extraction, be aware that non-textual elements, such as signatures or logos, can also be extracted and stored in a properly designed system.

7. Normalise Extracted Values

When designing attribution, provide a mechanism to normalise content so terms are stored in a consistent format. For example, in the Oil & Gas industry, the Well Number is a key data element, but it can occur in many slight variations, some with spaces, some with dashes, some with spelling variations. Normalising such data elements maximises the value of the attribution for reporting and retrieval purposes.

8. Use and then Update External Authority Lists

Often management systems maintain authority lists that ideally represent all known values that can appear in a particular field, e.g., a list of the American Petroleum Institute Well Numbers from an oil & gas well tracking system that tracks active oil and gas wells. The authority list can help find in which document types those terms occur, and this can guide attribution guidelines. If references to the terms are essentially random within a type, they can be ignored. If they are consistent or largely consistent, they can be considered for inclusion. Comprehensive attribute extraction typically results in identifying a significant additional number of values for the authority list, and those will need to be reconciled.

9. Involve All Key Stakeholders

Have all significant stakeholders involved in deciding what to extract, how to label each item, and how to format it. Ideally this collaboration would take place in the same room looking at examples of the file types at the same time.

10. Build Comprehensive Logs for Full Audit & Presentation

Logging of all extracted values permits the full auditing and authentication of those values. The system should know the document, page, and page coordinates for each extracted value. This not only greatly expedites auditing any control system to see if the supporting documentation confirms the source of the entered data, but it can also be used for on-screen presentations to minimise the "stare and compare" time otherwise spent comparing data from different documents.

11. Consider Full Text as an Attribute

One of the attributes of a file may be the text associated with the entire document without trying to identify specific attributes or field values in the full text. This is sometimes called "content enablement," and it should be considered as a supplement to extracting field values. While full text can be useful, it will not provide for the precision available by searching specific fields in a database and will not provide the level of report formatting and sorting available with attributed data values.
When extracting full text, always measure the quality at the character and word level to give a sense of how reliable it will be when used for retrieval or other analysis.

D. Validate — How Dependable Is it?

Validation involves measuring how accurate and complete the resultant data is. It incorporates questions like, did we account for all the files we encountered doing the inventory? Are the files classified accurately? Were the correct attributes extracted from the files and were they properly formatted and loaded?

Here are tips or hints for this phase:

1. Automate the Validation

Whatever the process involved in validation, it should be automated so validation is consistent and results can be compared over time. An automated process should also save the time of the people doing the validation, making it far more likely that they will validate data regularly. One sign of a non-automated process is if someone must use Excel to generate a random list of files to examine or has to use Excel to tally the results of having evaluated files.

2. Validate Deadline Compliance

Besides focussing on the results of the classification and attribution, it is also important to validate that the results were delivered on schedule. Mechanisms should be in place to document when files were available for classification and when the results were received.

3. Compare Before & After Totals

All files initially examined should be accounted for. The accounting should include categories like:

- Files Examined
- Files Uncompressed
- NIST list
- Content Duplicates
- Unique Content Files
- Encrypted/Decrypted
- Unencrypted
- Remaining Unencrypted

The unique content files should also be accounted for:

- Flagged for Disposition
- Number Retained

The number of files retained should be compared to the number loaded into whatever the target search or content management system.

False Positives and False Negatives

When auditing document type classifications note that any time a document is classified incorrectly it causes two types of classification errors and can also cause several attribution errors.

- False Positives: People searching for the incorrectly applied classification will have the incorrectly classified document in the search results.
- False Negatives. People searching for the correct document type will miss finding the misclassified file.
- Cascading Attribution Errors. Because attribution is linked to document type, assigning the incorrect document type can cause correct fields or attributes to be missed while extracting incorrect ones.

(Continued Over)

QA for Scanning Projects/Processes

Here are two ways to evaluate whether all the pages in a set of documents were scanned. One is to record the weight of each container prior to scanning and then estimate the number of pages based on the net weight and compare that to the scan count. This can help disclose when major portions of a container were not scanned. Another technique is to turn image capture off on the scanners and to feed the container contents a second time to just obtain page counts to use to compare with the number of saved images. Manual comparisons of images to hard copy content is very expensive and significantly increases labour costs.

4. Measure Classification Accuracy

Consistent, accurate classification is the lynchpin for practically any document-related information governance initiative so it is critical to assess the quality of the classification. This can be done in several ways:

- **Reprocess a Benchmark Sets of Files.** If classification involves writing new rules or scripts that assign classifications, it will be useful to keep a standard set of documents that are reprocessed for each new rule/script change to see if the changes have adversely affected existing classifications. Regardless of how classifications are assigned it will always be wise to periodically reprocess benchmark sets of documents or files to ensure that the system has not gone off track.
- **Peruse Files within Same Classifications.** Another way to perform ad hoc review of classification consistency is to examine sets of documents all assigned the same classification. This need not be a lengthy process as systemic errors will often be obvious.
- **Review of Randomly Selected Documents.** End users can randomly select documents, sort them by assigned document type, and evaluate whether the assigned document types are accurate. Depending on the sample size, this may not adequately assess classifications assigned to relatively few documents as they may not be included in the sample. To combat this, the process used to select the random sample should ensure that at least some minimum number of files are selected from each classification
- **Review Results of Full-Text Searches for Specific Document Types.** Finding files correctly classified when you search by specifying the class can lead to a false sense of confidence about the quality of classification for all the content. The search results don't show the files that should have been assigned that classification - it doesn't show the false negatives. One way to gauge the extent of this is to try to retrieve documents within the desired classification without using the document type as a search parameter. Use full text search to try to pull up files in the desired class. You may find files that look like they should have had the desired classification but didn't. Maybe some classifications could be consolidated. One problem with this approach is that it is text-dependent and will not work with documents with text dependency problems (e.g. no text, poor text, non-English text).
- **Search for Sets of Related Document Types.** In collections where one would expect to find a several document types relating to the same transaction, event, or item, users can search terms that describe that transaction, event or item and see if all the expected document types are represented. For example, in a loan system the user could search for a specific borrower and see if all the expected document types associated with a loan are present. (subject to the usual limitations of text-based search).
- **Evaluate Files with Residual Classification.** It can be informative to review files or documents that were assigned the "Other" or "Uknown" classification. You may find there are several files not being classified by a text-based algorithm because of text-related issues (no text, poor text, language, lack of sentences). You may also discover new document types that should be included in the overall classification scheme.

5. Measure Accuracy of Attribute Extraction

It is vital to measure the accuracy of attribute extraction so the organisation can be sure it's receiving value for the effort and funds expended on attribution and so it does not place unwarranted reliance on the results of attribution.

Here are ways to confirm the accuracy of attributed data:

- **Compare extracted data value to source document.** The best way to confirm accurate extraction is to go to source documents to confirm the data value. However, in some systems this will be a time-consuming process.
- **Compare extracted values to trusted authority list.** If an extracted value matches one of the values on a trusted authority list, the organisation may be able to assume it was extracted accurately.
- **Confirm missing values.** If the file or document classification was accurate and the attribution list identifies which values are associated with a particular document type, quality assurance efforts should involve examining fields expected to have values but don't.
- **Focus on the key data elements.** Some data elements will be more critical than others, e.g. the loan number will be a critical value in a home mortgage tracking system. Focus on the critical items.

6. Use Ad Hoc Analytics

Reviewing metrics associated with rationalisation, classification, and attribution can disclose many unexpected results. For example, document date is a commonly extracted document attribute (this is the date that appears on the face of the document, not the system date), and reviewing graphics showing volume on the Y axis and time on the X-axis can make spikes or gaps readily apparent. Analytics can also make outliers more apparent, e.g., document dates well before or after expected date ranges.

People familiar with the content should be able to explain these aberrations, e.g., a spike was caused by acquiring another company, or a gap was caused by a company-wide strike.

7. Double-Check Duplicate Tracking

Some software only tracks one location for duplicates. However, there can be many reasons to track back to all the original sources of duplicate files, and consider doing periodic audits to ensure that all copies are tracked.

8. Know What Didn't Get Captured/Extracted

Validation should include looking at what wasn't captured. For example, if the data value for Borrower's Name should have been extracted from Loan Applications, the validation should include looking at Loan Applications with no Borrower's Name listed to determine why attribution failed to provide that data value.

9. Reconcile Authority Lists

Most systems can generate authority lists which are usually alphabetically-sorted lists of the unique values that appear in specific fields. Reviewing such lists is often an easy way to spot data values that either shouldn't be there or should be there in a different format. Someone familiar with the content may also notice that terms that should be included are not on the list.

Limitations of using OCR for file classification

OCR is often used to obtain text from image-only files for use in classifying them. However, there are several limitations of OCR that can result in inaccurate or missing text which makes text-based classification difficult or impossible:

- **Font Size.** OCR may not convert characters with very large or very small font sizes. This can make the most important characters and words unavailable for text-based systems.
- **Uni-Dimensional.** With OCR, individual words have one dimension, they're either before or after other words. OCR does not catalogue page coordinate information for characters even though page coordinates can be quite useful for classification and extracting attributes.
- **Sequential Editing.** OCR errors typically have to be corrected sequentially with the same errors being repeatedly being edited. Global spell checking can introduce other errors.
- **Case Sensitivity for Editing.** The use of spell checking to correct OCR text will typically not permit the case of the letters to be considered, e.g., cat and CAT will be treated alike.
- **Languages.** Many languages have special characters, and unless the correct OCR software is loaded, those characters can be lost or incorrectly recognised.
- **Non-Symmetrical DPI for Faxes.** Faxes are often stored in files where the number of dots per inch (DPI) horizontally is not the same as the DPI vertically, and OCR engines can have difficulty with this non-symmetrical DPI.
- **Partial Text.** Document authors often incorporate graphics that have visible text. However, the OCR software may detect some text, assume that OCR is not needed, and skip processing the document leaving the text in the images invisible for text-only searching or analysis. A similar phenomenon can happen when textual headers, footers, or legends are added to previously image-only PDFs. OCR systems may detect the presence of a text layer and not attempt to convert the image layer, even though it may have the most important content.
- **Non-Textual Glyphs.** Many times there are important non-textual characters or glyphs that do not get converted to characters by OCR, leaving them invisible for text analytics or text-based retrieval, e.g., logos, or map symbols.
- **Inferring the Obvious.** Graphical elements often provide the most obvious clues as to how a file or document should be classified, e.g., placement and size of logos or text blocks. Because those graphical elements may not be directly accessible by text-restricted systems, they are left to try to infer what is most obvious to anyone just looking at the files.
- **Incorrect Document Boundaries.** Image-only files often contain multiple documents per file and OCR does not provide a way to correct document boundaries. This causes downstream problems with systems which classify files based on comparing the words that are used within documents.
- **Embedded documents can be missed and the ones that are classified can be misclassified.** There can be similar issues for single-page TIFs where document boundaries are not obvious.

A better approach to classification is to use visual classification which uses richer information about what documents actually look like than just extracted text. It provides scalable, consistent classification of all types of document files.

At the beginning of the process, domain experts should examine the new values being extracted from the unstructured content and compare those with the previous authority lists to confirm that the correct values are being extracted.

10. Compare Results

Other than not processing files that ought to be included, the biggest error that can occur is to have the wrong classifications assigned to files. This causes numerous downstream problems with classification-dependent attribution and loss of user confidence in being able to depend on classifications for retrieval.

One way to validate the accuracy and consistency of overall classifications is to apply the same rules using a different classification technology, or to apply different technology and then compare any differences in classification groupings. It may disclose that both systems have strengths or it may disclose that one is superior across the board.

11. Incorporate User Feedback

The real acid test is whether users find the classifications and attributions to be useful and reliable. If not, all the effort may be for naught. When the outputs are first loaded, users should be encouraged to share what they like or don't like about the results. Are they looking for things they can't find? Are they experiencing clutter in their search results? These are just some questions whose answers should be gathered and analysed so classification labels and attribute names and formatting can be adjusted going forward.

John Martin is the CEO and founder of BeyondRecognition, LLC, a Houston-based information governance technology company. John is a consulting and testifying expert on e-discovery and a US patent has been issued for his work in document technology. This article summarizes the first chapter of his new e-book, ***Guide to Managing Unstructured Content****, available as a free download at BeyondRecognition.net.*

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More information: contact@elaw.com.au
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Essential Imaging
20/ 52-60 Garden Drive
Tullamarine VIC 3043
Additional Locations:
Phone: 03 9335 2335
Website: http://www.essentialimaging.com.au
wmail: jean@essentialimaging.com.au
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File Scan Services
23/10 Lower River Terrace
South Brisbane Qld 4101
Additional Locations:
Phone: 0417611621
Website: http://www.filescan.com.au
More information: cath@filescan.com.au
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Filetek Imaging

37 Toby Close
Charity Creek NSW 2424
Additional Locations:
Phone: (02) 6550 6515
Website: http://filetekimaging.com.au/

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Fort Knox

22 Salta Drive
Altona North VIC 3025
Additional Locations:
Phone: 1300 360 557
Website: http://www.fortknoxrecords.com.au
More information: http://www.fortknoxrecords.com.au/contact-us.php

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Fuji Xerox

Level 5, 26 College Street
Sydney NSW 2000
Additional Locations:
Mayfield West, NSW; Moorebank NSW; Ravenhall, VIC; Melbourne VIC;
Parkinson, QLD; Barton ACT; Darwin, NT; Bassendean, WA; Torrensville, SA.
Phone: 13 000 39 367
Website: http://www.dms.fujixerox.com/en

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Gosford Micrographics

Unit 1, 5 Bon-Mace Close
Berkeley Vale NSW 2261
Additional Locations:
Phone: +612 4389 8066
Fax: +612 4389 8077
Website: http://www.gosmicro.com.au
More information: gosinfo@gosmicro.com.au

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Grace Information & Records Management

Unit 49/45 Powers Road
Seven Hills NSW 2147
Additional Locations:
Phone: 1300 788 211
Fax: 02 8824 1799
Website: http://www.graceinfo.com.au
More information: records@grace.com.au

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Harrison Data Capture

3c/10 Ingleburn Road
NSW NSW 2016
Additional Locations:
Vic/SA: 03 9681-7638 WA: 08 9421 1661
Phone: 02 96182111
Website: http://www.harrisons.net.au
More information: prof@post.harvard.edu

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Lexdata

23-25 O'Connell Street
Sydney NSW 2000
Additional Locations:
Phone: 02 9231 1440
Fax: 02 9231 1446
Website: http://www.lexdata.com.au
More information: info@lexdata.com.au

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LitSupport

Level 12, 1 Castlereagh Street
Sydney NSW 2000
Additional Locations:
Melbourne, Brisbane, Perth
Phone: 1300 LIT SUP (548 787)
Website: http://www.litsupport.com.au
More information: jerrie_vise@litsupport.com.au

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Recall Australia

697 Gardeners Road
Alexandria NSW 2015
Additional Locations:
Phone: 13 RECALL
Website: http://www.recall.com.au
More information: moreinfo@recall.com

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Scan Conversion Services

4 Nelson St
Stepney SA 5000
Additional Locations:
Brisbane, Melbourne, Perth, Sydney
Phone: 1300 SCAN IT (1300 7226 48)
Website: http://www.scanservices.com.au
More information: sales@scanservices.com.au

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Scan2Archive

Level 3, 33-35 Atchison Street
St Leonards NSW 2150
Additional Locations:
Phone: 1300 789 684
Fax: 1300 789 684
Website: http://www.scan2archive.com.au
More information: info@scan2archive.com.au

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Spielberg Solutions

Suite 34, Ground floor, 50 St. Georges Tce
Perth WA 6000
Additional Locations:
Phone: 1300 660 173
Website: http://www.spielbergsolutions.com.au
Email: sales@spielbergsolutions.com.au

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Technological micro Data

38-42 Cremorne Street
Richmond Victoria 3121
Additional Locations:
Phone: +61 3 9427 7999
Fax: +61 3 9427 7953
Website: http://www.tmdaust.com
More information: sales@tmdaust.com

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The Document Centre

17 Westbury Road
Launceston Tasmania 7250
Additional Locations:
Service state-wide
Phone: 1300 345464
Fax: 03 63443595
Website: http://www.thedocumentcentre.com.au
More information: info@thedocumentcentre.com.au

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TIMG

PO Box 251
Alexandria NSW 1435
Additional Locations:
Phone: 1300 764 954
Website: http://www.timg.com
More information: http://www.timg.com/get-in-touch

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ABBYY

Phone: (02) 9004 7401
E-mail: sales@abbyy.com.au
Web: www.abbyy.com.au

ABBYY is a leading global provider of technologies and solutions that help businesses to action information.

The company sets the standard in content capture and innovative language-based technologies that integrate across the information lifecycle.

ABBYY solutions are relied on to optimize business processes, mitigate risk, accelerate decision making and drive revenue.

Thousands of companies process more than 9.3 billion pages of documents and forms annually using ABBYY technologies.

ABBYY solutions and products are used by many of the largest international enterprises and government organizations, as well as SMBs and individuals. ABBYY technologies are licensed by world-leading hardware and software vendors to provide Image Pre-Processing, OCR, Data Capture and Format conversion capabilities for their products.

ABBYY technologies and products, available on a number of platforms (mobile, desktop and server) and a variety of operating systems (Windows, Linux, Mac, iOS, Android, etc.), include FineReader, PDF Transformer, FlexiCapture, Recognition Server, Mobile Imaging SDK, Lingvo, and ABBYY Compreno-based Semantic technologies.

Knowledgeone

Phone: 02 8913 9300/1800 221 061
Email: sales@knowledgeonecorp.com
Web: www.knowledgeonecorp.com

Knowledgeone Corporation has been a leader in the Australian Records and Document management sector since 1986 when the very first RecFind was released.

Our latest product RecFind 6 is a fully-featured Enterprise Content Management solution used by customers all around the world for:

- Physical/Paper Records Management;
- Electronic Document Management; Document Imaging;
- Business Process Management/Workflow; and
- A huge variety of Information Management applications (e.g., mortgage application processing and contract management)

We are renowned for the quality of our support and the robustness of our products. We believe that RecFind 6 is both the most scalable and most configurable product in the market. Using the free high-level tools supplied, the customer can change almost anything (e.g., data model and work processes) and still have a standard product able to receive regular updates from us. The user interface for each class of user is configurable such that the user only see the data & functionality

Brother

Tel: 1300 885 989
Email: corporatesales@brother.com.au
Web: http://corpsolutions.brother.com.au/

Trusted worldwide and always with a "Customer First" approach, Brother continuously meets the needs of consumers through a comprehensive range of quality solutions. Committed to the advancement of printing and scanning technologies, Brother also offer business solutions designed to fit perfectly in the SOHO, SMB, SME and corporate environments. With a skilled team specialising in assisting their customer's corporate growth, Brother's business categories such as portable printers and scanners, commercial desktop scanners and high volume corporate printers can help businesses achieve in any industry. With resellers located Australia-wide, readily available product and a locally based product support team, Brother is always 'at your side'. Contact the Brother Commercial Division today to find the best solution for your business requirements.

Information Proficiency/Sigma Data

Tel: 08 6230 2213
Email: sales@infoproficiency.com.au
Web: infoproficiency.com.au

Information Proficiency and Sigma Data specialises in Information Management Solutions, Technology and Services.

Our focus is on implementing efficient processes critical to enhancing productivity, improving transactional speed, reducing costs and achieving regulatory compliance for your organisation. We supply and support Records and Content Management software and solutions that improve business processes, as well as our range of leading productivity and connectivity tools. We work hard to understand our client requirements and implement solutions to match. Our team is made up of experienced and diverse industry certified professionals. We strive to build lasting relationships with our clients, providing continuous improvement and mature solutions which significantly improve your end-to-end business processes and outcomes.

Kapish

Tel: (03) 9017 4943
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Web: http://kapish.com.au/

As a Tier 1 HPE Software Gold Business Partner, Kapish aims to provide its customers with the best software, services and support for all versions of the Electronic Document and Records Management System, HP TRIM, HPE Records Manager (HPE RM) & HPE Content Manager (HPE CM).

We help our customers overcome the everyday challenges associated with information governance and document / records management through software and services that improve the user experience and maximise return on investment.

Focused exclusively on HPE RM / CM, our extensive range of software solutions are designed to easily integrate into existing systems or be implemented as new solutions, enable projects to be delivered faster, more effectively and with a higher degree of success.

We work with our customers to improve their everyday use and experience with the system.

Designed to bridge the gap between users and technology, our software solutions are easily integrated into existing systems or implemented as new solutions.

Quite simply, our products for HPE RM/CM make record-keeping a breeze.

Kapish is a member of The Citadel Group. Citadel solve complex problems and lower risk to our clients through our tailored advisory, implementation and managed services capabilities.

DocsCorp

Tel: 1300 559 451
Email: info@docscorp.com
Web: www.docscorp.com

DocsCorp is a leading provider of productivity software for document management professionals worldwide. Our offices and products span the globe with over 250,000 users in 32 countries.

Our clients are well known and respected global brands that rely on DocsCorp for their technology needs.

Our mission is to provide document professionals who use enterprise content management systems with integrated, easy-to-use software and services that extend document processing, review, manipulation and publishing workflows inside and outside their environment to drive business efficiency and to increase the value of their existing technology investment.

Our solutions include:

- contentCrawler intelligently assesses image-based documents in content repositories for batch conversion to text-searchable PDFs, making every document searchable and retrievable
- compareDocs delivers unparalleled levels of efficiency and accuracy in the document comparison process
- cleanDocs provides a high level of confidence that metadata is cleansed from confidential or sensitive documents before being sent externally.

Objective

Phone: 1800 065 640
Email: enquiries@objective.com
Web: www.objective.com

Designed for regulated industries, Objective's solutions extend governance across the spectrum of the modern digital workplace; underpinning information, processes and collaborative workspaces.

Solutions vary from information, records and drawings management to business process automation; from collaborative authoring through to secure collaboration with external parties.

These solutions turn the burden of compliance, accountability and governance into business opportunities by maximising the value of content to deliver operational efficiency that translates into improved services, increased productivity and reduced risk and cost.

Objective solutions have been designed to remove the friction associated with traditional information management, delivering quick and easy access to accurate information across a variety of digital devices and business applications for a diverse range of customers ranging in size and complexity, from large government bodies to local councils and any other regulated organisation.

EzeScan

Phone: 1300 393 722
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Web: www.ezescan.com.au

EzeScan is Australia's most popular production document capture software solution and product of choice for many Records and Information Managers. This award winning technology has been developed by Outback Imaging, an Australian Research and Development company operating since 2002. With 1000's of seats world-wide, EzeScan enables its clients to substantially reduce the cost of deploying batch scanning and data capture solutions for documents of all types. With "out of the box" seamless integration with many industry standard EDRMS and/or ECM systems, EzeScan provides the fastest most cost-effective method available to digitise business processes. EzeScan solutions range from basic batch scanning with manual data entry to highly automated data capture, forms and invoice processing. EzeScan provides both centralised solutions for records professionals and decentralised business process digitisation for entire workgroups.

EzeScan benefits include:

- initiate intelligent automated processes;
- accelerate document delivery;
- minimise manual document handling;
- capture critical information on-the-fly;
- and ensure regulatory and digitisation standards compliance.

Epson

Contact: Clyde Rodrigues
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Web: www.epson.com.au/products/scanners

Epson is a global innovation leader dedicated to exceeding expectations with solutions for markets as diverse as the office, home, commerce and industry. Epson's advances in scanning technology deliver the perfect balance of speed and reliability for image reproduction of unbeatable quality. From compact mobile scanners to A3 flatbed scanners that operate at speeds up to 70ppm, the range is designed for a variety of demanding organisations where fast and easy document management is required. Combine that with high productivity software that allows networking and 'scan to' options including the cloud, its versatile functions dramatically expand data usability and online document workflow. A high quality scanner is a powerful tool. For unbeatable reproduction of photographs, documents and graphics, you can't do better than the Epson scanner range - outstanding results, simple operation and value for money.

Fujitsu Australia

Tel: 02 9776 4555
Email: Fujitsu.direct@au.fujitsu.com
Web: au.fujitsu.com/scanners

Fujitsu, as one of the world's leading document scanner companies for both Desktop and Workgroup scanners, offers compatibility with over 200 different document imaging applications. The result is state of the art image solutions from innovative portable units all the way to large centralized production environments. Fujitsu document scanners are renowned for their performance, remarkable image quality, fail-safe paper handling and Fujitsu's legendary reliability.

New innovations include:

- Overhead contactless scanning of fragile documents, thick books and oversized items;
- Ability to input and sort multiple small documents, business cards, etc., just by laying them on the desktop;
- Ultra-sonic and patented ISOP paper sensing technology that prevents batched document damage; and
- Mixed batch scanning & automatic paper skew correction.

ELO Digital Office

Contact: Rainer Krause – Managing Director
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Web: www.elodigital.com.au

ELO Digital is a truly global ECM company with Australian expertise! With subsidiaries in 48 countries and hundreds of thousands of users, ELO has become the natural choice in ECM. Having been voted ECM company of the year in 2013 and 2014, ELO was officially recognised for its comprehensive functionality, user friendly design, trend-setting innovation and modern technology. The Australasian HQ of ELO was established in 2005 and has gained an impeccable reputation on all levels of Government, the Private Sector, NGOs and Not-for-Profit Organisations. The completely scalable product allows ECM implementations from as little as 5 users to solutions for many thousand staff members. With reputable certified business partners such as Toshiba Iron Mountain and AMS Imaging (Australia) or Jardine OneSolution (Hong Kong) ELO customers are assured of quality implementations, successful rollouts and continued support – 24/7/365. The VERS compliant ELO product provides solutions for Document Management, Records Management, Workflow, Accounts Payable Automation, Imaging, Contract Management and mobile applications for all industries. ELO can be deployed onsite, in the cloud or as a hybrid solution.

OPEX

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Web: www.opex.com/contact/sales-contact/

OPEX is a recognised global technology leader in document imaging, high-speed mailroom automation and material handling. Since 1973, OPEX systems have provided performance enhancing workflow solutions and cost-effective results to thousands of organisations worldwide. OPEX systems are designed for a wide variety of industries including financial services, insurance, healthcare, government, retail, non-profits, utilities, telecommunication, service bureaus, educational institutions, and fulfilment operations. OPEX has developed innovative prep reducing scanners that address the root causes of workflow issues our customers face. Minimising preparation, paper handling, and other manual tasks not only improves efficiency, but also results in superior transaction integrity and information security. As documents are removed from envelopes/folders and scanned, operators can view each image to ensure it is properly captured. This prevents time-consuming and costly re-scanning later in the process. Moving image capture upstream also reduces information management risks.

FileBound

Phone: 1300 375 565
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Web: www.filebound.com.au

FileBound is an end-to-end process automation solution for enterprises of all sizes. FileBound is a cloud-native document management system with advanced workflow capabilities that automates the flow of enterprise work. This comprehensive enterprise content management (ECM) solution features capture, document management, workflow, electronic forms, analytics, mobile access (IOS and Android) and much more. It presents in a single, easy-to-use application that manages business processes from beginning to end and reliably connects people and information. FileBound provides organisational efficiencies, drives out manual paper-based processes to decrease costs, increase productivity and support compliance with internal and external mandates. FileBound users have the flexibility to create a variety of solutions from complex AP automations to simple document archival and retrieval processes.

UpFlow

Phone: 1300 790 360
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Web: www.upflow.com.au

PSIGEN, PSICapture is an innovative document capture platform engineered to combine automation, efficiency, stability and Enterprise-class scalability. PSI:Capture provides unmatched integration with just about any ECM or ERP platform [e.g. SharePoint, Xero, Trim, Objective etc.] and allows the utmost in flexibility for deployment in large or small organisations. Whether you want a simple scan workflow or complex document capture, PSI:Capture provides a solution to meet your specific needs. Document Capture and Scanning is a challenge in any organization. With an array of scanning devices, capture needs and back-end content management systems, it is ineffective to settle for multiple applications to accomplish one goal. PSI:Capture provides a single capture platform that can meet all the needs of an organisation.UpFlow is the Asia Pacific distributor for PSIGEN, PSICapture.

Omnipage OCR gains classification and workflow smarts

A new OmniPage software developer kit (SDK) and server launched by Nuance provides new modules and APIs to create innovative document conversion and data capture solutions.

The OmniPage Capture SDK adds new capabilities for document classification, routing and processing automation to software engineers.

New capabilities include:

- Document Classifier empowers developers to create applications that separate documents consisting of multiple types and apply different processing technologies to each document type. This helps businesses create automated document preprocesses, such as invoice sorting and document routing, within an organisation.
- Intelligent Workflow Runner features a new XML descriptor that defines the conversion processes with as many settings as required to produce the best possible format and OCR results from the original documents. It also includes a utility that converts OmniPage Ultimate Workflows into XML, and an API that connects into a COM Server to queue up and manage conversion jobs. The unmatched level of automation in this feature ensures that developers don't have to dedicate time to creating these processes on their own.
- The Mixed Raster Content compression method to create small-sized PDF files with perfectly legible textual content has been enhanced with the latest JPEG2000 compression technology and now delivers faster, more efficient PDF creation.
- Improved Logical Form Recognition technology with support for radio buttons and enhanced recognition of checkboxes. This enables more accurate conversion of scanned forms into fillable PDF forms.

OmniPage Server is a highly scalable, 24/7, industrial strength standalone server product for document conversions or for linking business applications requiring high-volume document processing and conversion.

The new OmniPage Server with APIs gives developers and business process owners a sophisticated new tool for high volume document conversion that can be run standalone as a complete solution or connected to business system applications for more comprehensive workflows.

It is designed for organisations that want to quickly and easily create automated, watched folder conversion processes with minimal effort from their local IT. The server also allows more sophisticated business application developers to programmatically connect to other applications further enhancing and advancing business infrastructure and processes.

http://www.nuance.com

Nuix Insight Analytics and Intelligence

Australian technology company Nuix has launched Nuix Insight Analytics & Intelligence, a new data analysis platform that combines the Nuix Engine's high-speed data processing capabilities with scalable and advanced analytics to correlate and contextualise information.

"The worldwide demand for expertise in cybersecurity and intelligence analysis simply can't be met by hiring more people—the only answer is to bake more knowledge and insights into technology," said Dr. Jim Kent, Global Head of Security & Intelligence at Nuix. "Nuix Insight Analytics & Intelligence brings together our global leadership in data processing and analytics with decades of experience in incident response, insider threats, threat intelligence, counterintelligence, and security strategy. This means data analysis, security, and forensic professionals of all knowledge levels can do more with less."

Nuix Insight Analytics & Intelligence correlates and contextualises data by leveraging:

• The Nuix Engine and its ability to extract text and metadata from hundreds of file formats and massive data volumes

• A high-performance distributed database and search engine

• A rich and easy-to-use graphical interface that will appeal to novice analysts and seasoned security professionals

• Intelligence filters that help analysts focus on the data most relevant to specific use cases

• A graph database that automatically finds connections between people, objects, locations, and events.

This four-dimensional analysis helps bring digital facts to a human level, providing much deeper visibility and understanding of intelligence and threat scenarios than traditional analytics products.

Users can extend the functionality of Nuix Insight Analytics & Intelligence with a series of solution packs - search criteria and linking algorithms created from the real-world experience of Nuix's subject matter experts. These intelligence filters will streamline analysis of specific scenarios including data breaches, insider threats, fraud, and counterterrorism.

Nuix Insight Analytics & Intelligence is now available to enterprise customers who join Nuix's Early Adopters Program.

Earlier this year, Nuix announced Nuix Insight Adaptive Security, the first endpoint security platform to tightly integrate cybersecurity threat prevention, detection, response, remediation, and deception in one solution.

www.nuix.com

iManage releases Records Manager 6.4

iManage Records Manager 6.4 has been enhanced with new functionality designed to increase user satisfaction and streamline multiple aspects of records management.

Part of iManage Work Product Management, one of the new features in Records Manager is a migration toolkit to assist customers that want to migrate from products like Autonomy Records Manager or OpenText Records Management, LegalKEY that have reached end-of-life or do not have a forward path of development.

The latest release of Records Manager also includes over 20 usability enhancements, and modernising the look and feel of the product so that it is more consistent with Windows 10 and other modern office applications like Microsoft Office 2016.

Additionally, the product has addressed DPI scaling issues, so that text and other graphical elements display crisply and correctly when viewed on high-resolution screens.

iManage Records Manager 6.4 also now offers external warehouse support for Iron Mountain and any warehousing vendors running the RS-SQL product from O'Neil Software.

This means that users can now perform several operations -- such as requesting a physical file or box stored at an external warehouse, or requesting to return that item to the warehouse -- from within iManage Records Manager, rather than having to use a separate software package.

Lastly, Records Manager 6.4 adds a disposition workflow module that automates the defensible disposition of records that have reached their disposition date. This functionality is available as an add-on component.

A smoother disposition workflow allows firms to better enforce retention policies around their critical work product. More than helping firms save on storage costs, it helps them reduce the risk of over-retention.

As recent security breaches have shown, holding on to sensitive data for too long can leave firms and their clients exposed to unnecessary risk that can be avoided through proper governance.

Acrobat adds document comparison

Adobe has announced updates to the Creative Cloud (CC) edition of Acrobat which includes a new Compare Files tool to view differences between two PDF files in a side-by-side view, as well as a summary view. It is hoping the new features will convince owners of the boxed copy of Acrobat 8, 9 or 10 to upgrade.

The new Compare Files tool also allows you to easily move through the document to review each difference using a side-by-side or single-page view.

It can filter changes to quickly see all text, image, annotation, formatting, header/footer, or background differences.

In addition, the Acrobat Certificates tool has been upgraded to make it easier to digitally sign, certify and verify documents with a certificate ID – something that is increasingly important as global businesses look to new regulations.

The new Certificates tool will find your existing certificate IDs and connect them to smart card readers or other hardware devices. It can also customise your signature appearance and add valuable information to your signature such as a logo, date or location.

Support has been added for Microsoft's new DirectInk technology which promises the ability to write and draw more smoothly and accurately in PDFs with the improved pen tool and delivers better results using a hardware pen on Windows 10 devices.

KM package delivers context relevant answers instead of documents

German developer Theum AG has launched Theum 2.0, the next major release of its knowledge management software that aims to deliver "answers" instead of documents. Theum 2.0 allows knowledge owners throughout the enterprise to contribute documents such as policies and procedures, human resources manuals, safety regulations, marketing and sales information, financial reporting guidelines, reports, and more to a local Theum knowledge base with a few clicks.

Document management systems and authoring tools remain unchanged, and no specialised training or authoring tools are required. This lack of complexity enables anyone to be a knowledge contributor. Theum atomises contributed documents into a thematic network of knowledge atoms and stores these in a designated knowledge base. Because all Theum knowledge bases know about each other, knowledge becomes accessible enterprise-wide without a centrally coordinated effort.

Users access knowledge using Theum's Knowledge Navigator or its answer-oriented Thematic Query function. A thematic query, which runs in parallel in all or in designated knowledge bases, dynamically assembles context-relevant knowledge atoms from all relevant sources into ready-to-use, big-picture "answers" containing the text, images, tables, and supporting information users need to get right to work. The need to scroll through pages of document search hits and scan through documents is eliminated.

New to Theum 2.0:

• Open-source knowledge bases that run on any web server and are free from platform software and CALs;

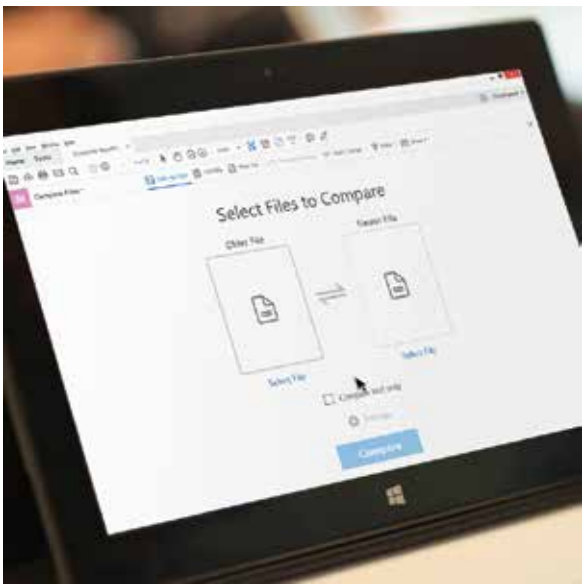
• Thematic Query technology that dynamically generates complete, "big-picture" answers from relevant knowledge atoms;

• Architecture supporting a distributed, evolutionary knowledge management paradigm; and

• Consistent user experience on every device, online and offline

"Theum is a game-changer because it goes beyond document-oriented thinking and gets right to the heart of a key enterprise requirement: knowledge," said Paul Caspers, Theum AG's CEO.

www.theum.com



The new Acrobat Compare Files tool.

New production scanners offer smart document sorting

Kodak Alaris is launching two new additions to its i5000 Series Scanner family. The Kodak i5650S and i5850S Scanners offer three-pocket sorting designed for the extreme scanning demands of service bureaus, BPOs and corporate mailrooms.

For high-volume scanning operations such as service bureaus, Business Process Outsourcers (BPOs) and corporate mailrooms, much of the document capture process is done manually. Requirements vary from one job to the next, making it difficult to automate workflows.

"Other high-volume sorting scanners on the market today can only sort using vendor specific proprietary software," said Susheel John, global category director, Scanners & Services, Kodak Alaris Information Management.

"With this in mind, we designed the i5650S and i5850S Scanners to enable most sorting jobs via standard drivers such as TWAIN and ISIS."

Applying for a loan or mortgage is a paper-intensive process. As part of the customer onboarding process, banks need to receive original documents from applicants to meet compliance requirements. To ensure originals are returned to each applicant, documents must be carefully prepared before scanning begins, then separated once scanning is complete. This manual process can be error prone, labour-intensive and costly.

The i5650S and i5850S simplify the process by reducing the amount of manual labour. Using the patch-sheet recognition feature to separate document batches, reusable patch sheets are separated and output to the rear exit tray, while original customer documents are automatically separated from the loan application pages and output to an exception tray at the front of the scanner. This significantly reduces the amount of time and labour required to complete the job.

The new i5650S and i5850S Scanners deliver the same processing speed from 180 - 210 pages per minute (ppm) as the i5000 Series Scanners. Additional features include:

· Advanced exception handling, including Interactive Multifeed Recovery, which increases hourly throughput.

· Intelligent imprinting to enable tracking of each document from the time it is scanned until it is recycled or returned to the customer.

· Three output trays (two front and one rear) to provide a separate place for collecting exception documents and reusable patch documents.

Lexmark expands robotic process automation capabilities

Lexmark International has released Kofax Kapow 10 for robotic process automation (RPA) projects aimed at automating the labour -intensive processing of digital information.

According to the Institute for Robotic Process Automation, "Any company that uses labour on a large scale for general knowledge process work, where people are performing high-volume, highly transactional process functions, will boost their capabilities and save money and time with robotic process automation software."

Kofax Kapow robots automate the acquisition, transformation and processing of information – from Web sites, portals, internal systems, including enterprise software and desktop applications, and a number of other information sources. Kofax Kapow robots can be implemented without complex coding or lengthy development cycles, which dramatically expedites project deployments and speeds ROI.

Kofax Kapow 10 adds a number of RPA enhancements to Kapow's existing capabilities:

- Robots can now be designed to automate legacy mainframe application tasks directly, via new built-in native mainframe terminal connectivity, or via existing integrations with terminal emulator interfaces such as those from Attachmate, Rumba, and Rocket Software.
- Kapow robots can interact with business applications, including Windows, Java, and Flash, and common enterprise applications such as Oracle, SAP, and Microsoft Dynamics.
- Enhanced queueing improves communication and orchestration of thousands of enterprise software robots between servers, websites, portals, and remote and virtualised desktops.

http://www.kofax.com/

Iron Mountain Analytics Dashboard

Iron Mountain has unveiled its new Analytics Dashboard, providing RIM professionals instant access to programs managed by Iron Mountain, allowing them to focus on analysing data and making changes to achieve both corporate governance and business performance goals

As the value, and importance, of effective information management continues to rise, organisations are placing greater emphasis on understanding their information as an essential business requirement. In turn, traditional records and information management (RIM) programs have been transformed into the more holistic and global category of information governance, moving beyond just compliance and security into uncovering the value of their information.

This has challenged RIM professionals to provide greater transparency into the sophistication and performance of their program, identifying actionable insights that can make information more valuable.

Using advanced data visualisation the dashboard provides organizations and departments immediate global visibility into their records and information management programs to help identify potential risk and compliance concerns, as well as opportunities to apply greater retention controls to their information. With the ability to benchmark comparisons of key metrics, customers also can see how they stack up against their industry peers. Additionally, they can use these metrics to measure the health of their programs with the Iron Mountain Risk Indicator, further demonstrating effectiveness against internal goals and identifying opportunities for building the business case for change, and then monitor their progress towards those opportunities for program transformation.

Metrics available in the Analytics Dashboard include:

- Retention Schedules – Organisations can properly manage their offsite storage inventory and associated timely dispositions in accordance with their records retention schedules, uncovering potential storage cost savings.
- Retention Tracking – Through tracking the volume of record retention holds for off-site storage inventory down to the department level, organizations can ensure they are correctly categorising and managing their information regardless of geography, helping to mitigate compliance risks.
- Improved Inventory Tracking – By providing insight into off-site storage carton inventory that may be missing required key metadata, organisations gain a better understanding of their overall storage and can better apply retention.
- Internal & Peer Benchmarking – With agreed-upon key performance indicators that demonstrate the health, effectiveness and return on investment of records and information management programs, information governance leaders can benchmark against peers within their industry, reporting the findings to leadership to bolster the business value of their organization's program.

http://www.ironmountain.com/Services/Records-Management-And-Storage/Analytics-Dashboard.aspx

The Nintex Workflow Cloud platform

Built on a cloud architecture, a new edition of the company's workflow platform is designed to automate simple to sophisticated business processes with clicks, not code.

The Nintex Workflow Cloud Advance Preview program allows users to test drive new workflow use cases and solutions across multiple content sources and cloud ecosystems.

Key benefits promised by the Nintex Workflow Cloud platform include:

- The ability to build, deploy, manage, and modify digital workflows across a multitude of cloud content sources instead of having to select one system of record
- An enhanced designer that combines sophisticated process logic with unmatched ease of use
- Visually manage process automation effectiveness from a centralised reporting console
- Quickly capture workflow data using any Nintex, third party, or mobile forms solution
- Less development time by leveraging pre-built workflow connectors to leading SaaS providers and line of business systems

By combining the Nintex Workflow Cloud platform with Nintex Hawkeye which provides workflow analytics and a view into a company's workflow portfolio, business and IT decision makers gain business process intelligence.

http://www.nintex.com

Y Soft backs up workflow solutions

Y Soft has released new hardware solutions for its YSoft SafeQ Workflow Solutions Platform. The two hardware solutions, YSoft SafeQube 2 and YSoft Terminal Pro 4, are designed to reduce costs in an organisation's print and digital transformation infrastructure. YSoft SafeQ offers Document capture with automated workflows integrated with centralised print management. Earlier this year, Y Soft announced a major update to YSoft SafeQ Workflow Solutions Platform. Now as a platform, users can implement features and modules needed today and easily add additional features and modules using the same underlying framework and architecture, including print management and cost recovery for 3D printers.

The release of new hardware solutions for YSoft SafeQ aims to remove the risk expensive servers driving up the high cost of print services. By using SafeQube 2, a lightweight appliance, typically 2-4 times fewer servers can be used to support print services. When used with Client Based Print Roaming (CBPR), a software module in YSoft SafeQ, SafeQube 2 serves as a local connection point for the MFD's user interface, to perform authentication tasks and data collection for reducing hardware costs.

While SafeQ is embedded into the MFDs of the world's most popular brands, Terminal Pro 4's large, 7-inch capacitive touch screen provides a consistent user interface when an organisation has multiple MFD brands or when the printer doesn't support an embedded solution.

The Terminal Pro 4 is also the user interface panel in YSoft's family of 3D printers, YSoft be3D DeeRed and YSoft be3D eDee.

http://www.ysoft.com

Sonasoft upgrades email archiving and ediscovery software solution

Sonasoft has announced the release of SonaVault 5.0, a major upgrade to its email archiving and eDiscovery software. SonaVault 5.0 now features a performance boost that archives email and produces complex eDiscovery searches eight times faster than previous versions.

"Sonasoft's development team figured out an innovative way to make SonaVault 5.0 archive and produce accurate eDiscovery results faster than our competitors," said Neil Kumar, Vice President of Client Services and Operations.

"Our new update has already solved one client's huge headache. In this case, a competing solution had allowed over 2.1 million emails to pile up in its Microsoft journaling mailbox. This was a serious threat; it could have made the customer's mission-critical Microsoft Exchange Server unstable or even fail.

"SonaVault 5.0 was able to clear the client's journal mailbox and safely secure all those emails in just a few days."

"Our new upgrade also saved another customer," continued Neil Kumar. "This client had installed a widely used competing solution that could only export its email into PST files that used a deprecated message class, which Microsoft no longer supports. This made it nearly impossible for the client to import its email into another archiving system.

"Our team developed a way that our upgraded PST Utility, which is included in SonaVault 5.0, could ingest these deprecated PST files into the SonaVault 5.0 archive, and the customer is no longer held hostage to its former archiving software."

http://www.sonasoft.com

Excel-based analytics tool

US text analytics firm Lexalytics has released Semantria for Excel 5.0, a text analytics add-in for Microsoft Excel which it says allows users to quickly and easily analyse both structured and unstructured survey data in one place. Lexalytics offers two main platforms for sentiment analytics, the on-premise Salience and the SaaS Semantria, for use chiefly in social media monitoring, reputation management and voice of the customer programs. Semantria takes input from third-party online survey companies, SPSS or triple-S XML, and creates reports and data visualisations with a click. The new product allows users to filter data by Net Promoter Score (NPS) based on survey responses and correlate this to unstructured data such as customer and employee comments to identify promoters and detractors, strengths and weaknesses. Clients can also import data from SurveyMonkey; classify discussion topics and determine sentiment; customise features; analyse text in 22 languages; automatically extract entities such as people, brands or hashtags; and create data visualisations.

www.lexalytics.com

AccessData updates eDiscovery and forensics suite

AccessData Group has announced the simultaneous releases of AD eDiscovery 6.1 and FTK 6.1, as well as AD Lab 6.1, the company's solution for large agencies with extensive, data-intensive caseloads. These releases feature enhanced data collection, improved automation and a 68 percent average increase in indexing speed. The performance speed improvement was an average calculated in AccessData labs when using the integrated AccessData portfolio of products and a minimum of eight physical cores for hardware.

AD eDiscovery equips corporate IT and corporate legal teams with a software platform to conduct data collection, enterprise search, preservation, litigation holds, data processing, early data assessment and complete legal review. The product is designed to help corporate customers mitigate risk, ensure compliance, improve incident response efficiency and reduce overall data processing costs.

With the new 6.1 version, users can quickly collect data in the cloud from Office 365, SharePoint and OneDrive for Business, complementing the existing capabilities of the software with Office 365 Exchange, and is equipped with faster indexing and processing speeds that can be unleashed on data.

AD eDiscovery 6.1 also automates collection refreshes, enabling users to schedule collections for specific times and identify the differences between what's already in the collection set and what has changed.

FTK (Forensic Toolkit) is a digital investigations platform built to help users find relevant evidence faster, increase analysis speed and reduce backlogs. AD Lab is a large-scale investigations and processing engine for when they need to handle massive datasets and various data types, and run multiple cases at the same time. FTK and AD Lab 6.1 speed up the transition from collection to review by deploying automated, sequential document ID numbering across data sets; this new feature also improves data integrity and defensibility in litigation. Moreover, to support growing global discovery and digital investigations, the new version now collects and processes FoxMail and FlashMail, two common email types in China. In addition, FTK 6.1 products integrate with Dell Protection (Credant), which enables customers to collect data from certain encrypted computers, and the ability to decrypt items from VeraCrypt has been added to the Password Recovery Toolkit in FTK.

http://marketing.accessdata.com/6.1

Accusoft PrizmDoc v12.0

Accusoft has announced a new version of its document viewing and imaging product, PrizmDoc v12.0. The three newest features offered through PrizmDoc v12.0 include:

- Form Field Detection: This new add-on streamlines document processing by recognizing a form and automatically creating fillable form fields. Through form field detection, organizations can reduce manual form creation and quickly embed fillable forms on their websites.
- Microsoft Office Conversion: The capabilities for Microsoft Office conversion enables customers to have compliant native rendering for all Microsoft Office documents in PrizmDoc's HTML5 viewer.
- Large document viewer and server-side search: PrizmDoc v12.0's large document viewer and server-side search tool supports conversions for large documents of more than 1,000 pages, minimises viewer load-time and optimizes view and search capabilities for large documents.

All three new features are included with the PrizmDoc cloud-hosted option.

http://www.accusoft.com

AvePoint Perimeter Bridges the SAP/ SharePoint gap

The launch of AvePoint Perimeter Service Pack 6 adds a new ability to connect Microsoft SharePoint and the SAP Jam social software platform. This integration allows groups and teams to work on projects and information from a single platform.

AvePoint has also launched its storefront on the SAP HANA App Center site, where customers can view information about the product and links to the AvePoint website to purchase the product.

As a member of the SAP PartnerEdge program for Application Development, AvePoint will help organisations make the use of SharePoint for document collaboration transparent in SAP Jam for enterprise social collaboration.

With this integration, organizations can allow SAP Jam communities to collaborate on documents that reside in SharePoint without leaving SAP Jam. Group administrators can simply "pin" SharePoint documents and folders to their SAP Jam communities, and the SharePoint documents are surfaced through AvePoint Perimeter from within the SAP Jam group interface.

Released in 2013, AvePoint Perimeter allows organisations to empower end users with mobile SharePoint access and secure collaboration while reassuring IT administrators' of content security.

Additional new features in AvePoint Perimeter SP 6 include:

- Geo-location fencing for Contact Access Control – Administrators now have the ability to control access to the Perimeter portal, which provides a single point of access to an organisation's content, based on a user's location. Now, organisations can prevent access to shared content for both internal and external users by setting coordinates for viewing only within a defined range.
- Domain Restriction – Administrators can also restrict content sharing by whitelisting approved domains or blacklisting unauthorised domains. This ensures that internal users can only share with those who are approved, preventing data leakage.

New network scanners from Kodak Alaris

The newest desktop scanners from Kodak Alaris – the Kodak ScanMate i1150WN and the Kodak i1190WN Scanners – provide wireless and network connectivity and are mobile app ready to support BYOD and mobility in the workplace.

The scanners are designed for business environments where employees need to quickly and easily share document capture devices. Users benefit from a control panel that offers custom commands and colour coded icons to make scanning quick and easy, while providing useful information to help avoid and resolve errors. Additionally, the scanners enable seamless connectivity through the office network or over Wi-Fi for a variety of office environments including bank tellers, government agencies and hospital nursing stations. Equipped with standard drivers (TWAIN, ISIS), users can integrate with their existing and legacy business applications, eliminating extra steps in the capture
process and complicated software installations, which helps reduce IT costs. IT administrators also have the ability to set security levels and disable wireless and mobile if needed, providing them with more efficient device management.

"Most wireless scanners are fine for individual users but they are not designed for sharing in a workgroup or connecting with business applications," said Susheel John, Worldwide Category Director, Distributed Capture, Kodak Alaris Information Management.

The ScanMate+ Mobile App lets users scan quickly and easily to a tablet or mobile phone from the i1150WN or i1190WN Scanner. The app also makes it convenient to share files via email and upload to cloud-based applications such as SharePoint, Box or Evernote. Organisations that prefer to scan files and documents using their own proprietary mobile app can integrate with Kodak Alaris scanners using the web application programming interface (API).

The i1150WN and i1190WN Scanners have built in image processing capabilities which lowers the PC power requirements, making them ideal for use with cloud or web-based capture applications like the Kodak Info Input Portfolio. Info Input makes capture faster, smarter, more secure and more productive. Software integrators can integrate directly to the scanners using the web API.

InfoArchive launches as a service

Dell EMC Enterprise Content Division (ECD) has announced the introduction of InfoArchive as a Service (IAaaS), the newest addition to ECD's roster of managed service solutions, as well as the general availability of InfoArchive 4.1.

InfoArchive is the enterprise archiving platform that accelerates IT transformation by securing and leveraging critical application data – both structured and unstructured. It enables large-scale application retirement, optimisation of production environments and facilitates application data integration and reuse – supporting new users, cloud applications and analytics

IAaaS powers the InfoArchive data and content management platform in cloud environments, ingesting data and content from applications of all types into a hosted environment controlled by Dell EMC – consolidating all data types, providing secure access and ensuring consistent compliance.

IAaaS enables users to get the most from their data and content - such as exposing it to end-user portals or reusing it for analytics, while maintaining regulatory compliance.

InfoAchive 4.1 software provides fully compatible and tested support for Dell EMC Elastic Cloud Storage (ECS), enabling greater accessibility by intelligent devices, as well as providing analytics-ready storage and near-infinite scale to match a customer's requirements for preserving and reusing information.

Synchronous ingestion functionality allows data and records to be instantly ingested upon completion, improving employee productivity by enabling knowledge workers to immediately access static data and content. The data export capabilities of InfoArchive software are also enhanced, offering greater flexibility for producing reports and content sets. Selected information can be displayed and exported in common formats, including PDF, CSV, XML, JSON or HTML.

harmon.ie Collage Add-On for Outlook

harmon.ie has announced that its Outlook add-on, Collage, is now available for free on the Microsoft Office Store. Collage is described as topic-driven interface to help users focus on what matters most, by leveraging the environment where they are most comfortable: email.

Using AI and incorporating Microsoft Graph recommendations into its patent-pending machine learning technology, Collage, promises to enable workers to concentrate on their most important activities.

The Collage Outlook add-on surfaces key topics contained in email messages and then identifies related notifications from a range of business applications, document management systems, and social tools such as Office 365, Salesforce, Zendesk, Yammer, and more. By identifying topics that span a range of information sources, the company says Collage enables workers to see the big picture. Then, it enables the workers to take action and share updates from within their Outlook window, without losing focus or context, or being forced to toggle between disparate application interfaces.

Kofax updates TotalAgility suite

Lexmark International has upgraded five software products in the Kofax TotalAgility platform: Kofax Kapow 10, Kofax Insight 5.4, Kofax Mobile Capture Platform, Kofax SignDoc 2.0 and Kofax Claims Agility1.2.

Kapow delivers robotic process automation to automate virtually any labour intensive business activity. Kapow 10 adds new capabilities that include options for legacy mainframe applications, interaction with leading enterprise applications, and enhanced queuing to improve the orchestration of software robots. These enhancements promote operational efficiency and earlier access to actionable information.

Kofax Insight is an analytics and process intelligence software that monitors, reports and helps organizations optimise their business processes to ensure better compliance and gain actionable insights to achieve operational excellence.

Kofax Insight 5.4 provides greater visibility into how process execution impacts customer experience, tighter integration with Kofax TotalAgility processes, enhanced usability and designer capabilities, and SAP Business Warehouse (SAP BW) support.

Kofax Mobile Capture Platform enables customers to embed state-of-the-art mobile capture capabilities within their own mobile capture apps, and supports both on device and server-based OCR technology to improve the customer experience. Kofax Mobile Credit & Debit Card Framework provides organisations with pre-built capabilities to easily embed the ability for mobile users to simply snap a picture of their payment card to extract the card number and expiration date. This facilitates easier payments, balance transfers and new account openings.

Kofax SignDoc software provides E-signature capabilities to offer a fully digital, streamlined and secure signing experience. Kofax SignDoc 2.0 includes in-person signing capabilities, multi-factor authentication and a new user interface for a better user experience.

Kofax Claims Agility is an extensible, smart process application framework built on the Kofax TotalAgility platform. It automates the processing of paper or electronic medical claims to lower costs, improve data accuracy and reduce processing times while improving compliance. Kofax Claims Agility 1.2includes the capture of Explanation of Benefits and Coordination of Benefit documents, exception handling workflows, an examiner interface and a biller self-service portal to facilitate the resolution of billing issues.

MetricStream partners Loop Security

MetricStream, a provider of Governance, Risk, and Compliance (GRC) Apps, has entered into a partnership with, Australian Information Security company Loop Security, to deliver software solutions and services.

"The Australia and New Zealand economy is increasingly impacted by changes in global markets, and burdened by complex international regulations and mandates which continue to proliferate in industries spanning Healthcare, Financial Services and Retail.

"As organisations look to the future, it is important that they focus their efforts now on building strong risk management, comprehensive compliance, and collaborative quality management programs," said. Patrick Butler, CEO of Loop Security.

In May 2016, MetricStream, was been granted a US Patent for "System and Method for Rule Based Classification of a Text Fragment."

The patent covers MetricStream's creation of a classification system that classifies text fragments and implements domain rules, which is different than a standard natural language processing technique that uses the probabilistic characteristics of the language. The MetricStream innovation provides a classification system that classifies text (e.g., one or more sentences) obtained from multimedia content (e.g., digitized handwritten notes, digitised spoken words, digitised audio content, texts from social media, email, etc.).

www.metricstream.com

HPE bundles backups with analytics

Hewlett Packard Enterprise (HPE) has introduced a new integrated suite that uses operational and file analytics to automate and streamline data protection, the HPE Adaptive Backup and Recovery Suite.

The suite combines HPE Storage Optimizer, HPE Data Protector and HPE Backup Navigator with additional tools designed to efficiently safeguard and backup enterprise data across disparate repositories and locations.

"Organisations are under immense pressure to manage and protect growing volumes of data that is outpacing their IT budgets," said David Jones, HPE senior V-P and GM, Information Management & Governance.

"With the HPE Adaptive Backup and Recovery Suite, IT departments can leverage analytics to optimize data management and protect what matters most while driving efficiency, system reliability and compliance across their environments."

The Suite utilises analytics to prioritise critical workloads, predict resource conflicts and expedite recommended remediation steps to drive efficiency, reliability and cost savings into the backup process.

HPE Adaptive Backup and Recovery suite is optimised for HPE's storage portfolio including its StoreOnce, 3PAR StoreServ, and StoreEver offerings.

Starting at $US6,200/terabyte, the suite will be offered at flexible pricing levels based on capacity of data managed.

OneDrive gets its Groove back

Microsoft has announced a new technology to synchronise documents within OneDrive for Business, replacing the "legacy" Groove platform it acquired in 2005.

The aim of the new release is to make OneDrive for Business a "window to all files in Office 365," according to Reuben Krippner, director of product management for OneDrive.

There have been many reported problems with synchronisation of documents between local devices and the OneDrive for Business cloud since the launch of Office365.

Microsoft has promised general availability of the new sync client by the end of 2016.

Microsoft is also planning to provide the ability to sync SharePoint Online document libraries and OneDrive folders with SharePoint Online files also able to be accessed in the OneDrive app on Android.

According to a Microsoft blog post, "SharePoint sync is being added to the OneDrive sync client, which we released last year, and offers superior levels of reliability, performance and control — including the flexibility to select the specific folders you want to take offline."

The company also promises "a seamless upgrade from the legacy sync client (groove.exe)."

"OneDrive delivers a single, consistent experience for working with all your files in your individual OneDrive, your SharePoint team sites and Office 365 Groups.

"We're bringing you rock-solid sync, a rich browser experience, highly-rated mobile apps and deeper, more powerful integration with Microsoft Office.

"And we're bringing all of this to your PC and Mac as well as all your devices."

BlackBar assists Excel discovery

Xact Data Discovery (XDD), a provider of eDiscovery, data management and managed review services for law firms and corporations, has launched BlackBar, a new Excel native redaction tool designed to improve the workflow of discovery review involving Microsoft Excel files. BlackBar allows legal review teams to redact and produce Excel files in their native format, minimizing time, cost and errors.

BlackBar offers an adaptable design, fitting seamlessly into different workflows and is completely integrated with the popular eDiscovery software Relativity to improve the entire review process.

XDD gained the foundation of BlackBar with its acquisition earlier this year of Orange Legal Technologies, which was already using the software for select applications. Further development now enables users to:

- Natively redact XLS files within the tool
- Optimize traditional workflow productions
- Produce newly redacted XLS files in their native file format
- Eliminate the need to produce XLS files as TIFF images

Robust administrative and redaction features that can define custom colours and patterns for redaction within a cell are available, and BlackBar follows a fully defensible process, with all actions tracked to ensure users are able to demonstrate defensibility if it becomes necessary.

www.xactdatadiscovery.com

TOSHIBA releases 6 new MFPs

Toshiba (Australia) has launched six new high end multifunction systems. The range consists of three A3 colour models (e-STUDIO7506AC series) and three A3 monochrome models (e-STUDIO7506AC).
All models features Toshiba's new advanced e-BRIDGE next technology, which enables complete third-party integration and support for internally driven solutions. In addition, Toshiba's standard secure hard disk drive is included.

The new 22.9 cm (9") tablet-style user interface featured on all models can be completely customised, by changing the background, image, icons and personalised messages, or creating shortcuts that can start complex document workflow processes. A Dual Scan Document Feeder (DSDF) is standard on all six models. This document feeder has a 300 sheet paper capacity, and allows double-sided scanning at a speed of up to 240 images per minute.
The print speeds range from 55 to 75 pages per minute (ppm) in colour for the e-STUDIO7506AC series, and 55 to 85 ppm for the e-STUDIO8508A series.Toshiba offer a wide range of hardware and software options to allow the creation of tailor-made document workflow solutions.
In striving for world-leading environmental standards, the series is compliant with Energy Star Tier 2 and the Restriction of Hazardous Substances Directive (RoHS). They also make use of recycled plastics and feature a low-power Super Sleep Mode to save resources.

Aid4Mail speeds up email migration

Fookes Software has announced version 4 of its email migration tool, Aid4Mail. The new release adds a new utility, as well as features enabling IT Professionals to perform large-scale email migrations quickly and efficiently.

Offered at no extra cost with Aid4Mail Migrator licenses, Aid4Mail Console Launcher offers a user-friendly interface to interact with the Console (CLI) version of Aid4Mail.

The Console Launcher can process multiple user accounts simultaneously from a single CSV file containing user information and migration settings. This saves IT professionals having to create complex batch files or scripts to perform large multi-user migrations. It also intelligently manages concurrent user migrations, which can speed up migrations by 500%*.

The full list of Aid4Mail improvements in this update include:

- Aid4Mail Console Launcher:
- Launches and monitors concurrent migrations using mail account settings stored in a CSV file
- User-friendly GUI
- Migration scheduling
- CSV support for Aid4Mail Console: easily batch processes multiple mail accounts from a single CSV file
- Encrypt and password-protect your CSV file so you can share it with your IT team without revealing sensitive user logon details.
- Email notifications: contacts you when the migration is complete or if there is an error
- Microsoft Outlook 64-bit support

The update is free to all existing Aid4Mail customers and trial users. To further enhance its offering, the company has also created several new resources to assist with migration planning.

To access these resources, and download a free trial, visit: www.aid4mail.com/large-scale-migration

Boldon James Data Classification update

Boldon James, a specialist provider of data classification and secure messaging solutions, has announced the launch of Classifier 3.9. This latest release provides a blend of user-driven and automated classification techniques.

Compliance with the forthcoming EU General Data Protection Regulation (GDPR) is also a key focus for the new Classifier release, through simplified and persistent classification tracking which is now available downstream once data leaves the organisation's boundaries.

The features available in Classifier 3.9 expand contextual and content-based awareness to deliver more granular classification handling rules and offer new ways to assist users in their classification choices.

It also allows organisations the ability to meet the emerging needs to demonstrate and report on compliance position, particular important in relation to the EU GDPR due to come into force in May 2018. In summary, Classifier 3.9 adds the following key features:

- Advanced Contextual and Content-based Awareness - Classifier is now able take into account a wider range of contextual and content-based attributes when applying rules to a message or document.
- Proactive Guidance for Users - Users are provided with proactive guidance in selecting a suitable classification through 'suggestions' based on content and properties.
- Smarter, Faster Content Checking to Support Compliance - Checking for sensitive content is now deeper and extends into embedded Office documents, supporting compliance needs around EU GDPR and other regulations. Content checking is now faster, supports more granular matching rules and is incorporated into a broader range of Classifier add-ins.
- Persistent Classification History for Simplified Auditing - For auditing purposes it is important to be able to track changes to the classification of a document. Classifier has been enhanced to apply additional metadata to a document that records all classification changes, meaning the classification history travels with the document offering an audit trail that is easy to access and helps demonstrate compliance.

http://www.boldonjames.com

DocAve speeds up Office 365 migration

AvePoint has announced the latest version of DocAve High Speed Migration for Office 365, promising a comprehensive solution from migration preparation to deployment and a simplified user experience.

DocAve High Speed Migration for Office 365 allows organizations to leverage the Microsoft SharePoint Online Migration API to migrate content from previous versions of SharePoint, file shares, and OpenText LiveLink directly to SharePoint Online and OneDrive for Business.

New features include:

- Improved Speed: With the latest release, organisations can access performance speeds of up to 10 times faster than conventional methods through the use of multithreading uploads. With DocAve, migration administrators can use multithreading to upload multiple pieces of content simultaneously and overcome technical limitations including bandwidth throttling, network latency, and information security concerns.
- Online Mode: Administrators can now seamlessly run a migration by selecting the source content, destination location, and Azure Storage location through one simple job. This simplifies user experience by eliminating manual effort for exporting and preparing content for migration.
- Azure Storage Container Support: Organisations can now use free, temporary Azure Storage Containers provided by Microsoft to alleviate the additional costs associated with cloud data consumption.

http://www.avepoint.com

Commvault expands Data Platform

Commvault has introduced the eleventh version of its solutions portfolio (v11) – Commvault Software and the Commvault Data Platform, including expanded capabilities for Amazon Web Services (AWS) beyond virtual machines to include protection of databases, further enabling enterprises to implement holistic data management strategies on premise or in the cloud.

Commvault has also announced new backup, migration and data protection capabilities for applications and workloads in Oracle and Azure clouds, with support now for more than 25 public clouds and an increasing range of cloud-based or cloud specific workloads.

To make it easier for users to quickly and easily configure, run and monitor their environment, Commvault announced a new series of role-specific user interfaces on HTML-5 including a new admin console for database and virtualisation administrators to help users run and monitor their Commvault environment. These new consoles enable users to run extensive graphical and visual representations of KPIs, utilisation, operational health and other metrics, and can be personalised based upon their role within the organization.

Commvault has also achieved SAP-certified integration with the SAP HANA platform on IBM Power Systems. As a result, customers can improve IT efficiencies and gain greater business value from their data running in SAP HANA.

Commvault delivers automated backup and recovery of data in SAP HANA, including SAP S/4HANA and other use cases and deployment types.

Users running SAP HANA can use Commvault Data Platform for rapid recovery, point-in-time recovery, fast spin-ups as well as refresh of development and test environments for SAP HANA or to create clone databases from snapshots with no production impact.

The Commvault Data Platform is also tightly integrated with the SAP HANA studio and SAP HANA cockpit to support simple DBA self-service and monitoring of data protection tasks.

Lexmark unveils Process Director 7.5

Lexmark International has announced the availability of ReadSoft Process Director 7.5, the Accounts Payable (AP) automation solution for SAP. The automated invoice processing solution has been extended with several enhancement.

Workflow approvals support for the new SAP Fiori interface to provide the ability to initiate a process on the desktop and continue processing on a tablet or smartphone, enhancing Fiori's ability to deliver a role-based user experience across all lines of business, tasks and devices.

A Tax determination and jurisdiction framework allows for the comprehensive management of tax codes by company code, business unit or document type. Tax codes can be configured or extended based on user-defined choices, ensuring maximum flexibility in addressing a wide range of global tax requirements.

Automated workflow initiation now enables workflows to be configured and automatically initiated or restarted based on criteria such as company code or document type (invoice, purchase order and receiving documents), eliminating the need to track these processes manually, thereby lowering costs while increasing productivity.

http://www.Lexmark.com

Data Modelling update for Activiti BPM

Alfresco Software is adding extensive data modelling features to its flagship Alfresco Activiti 1.5 BPM platform, promising one-click access to any connected database, and the ability to process, or "model," that data for use in new corporate applications.

Modelling data has become a key component to enabling the integration of data within key business processes. However, accessing important data from external databases and data sources for use in a business process can be complex due to wide variations in database structures.

Alfresco makes integration of BPM with external data a routine process, enabling users to model any database as an object within Alfresco Activiti 1.5. Users can then query the database to retrieve, for example, pertinent information about a customer, patient, client or employee, and the role the individual plays in the business process. What's more, in changing the data, users can "persist" that data – or write those changes back into the underlying database.

Users can also access Alfresco One's integral content rule functions to develop automated rules that will manipulate content as part of a business process under specific, stated conditions. For example, a rule can automatically convert a file into a PDF, add customer information (metadata) to the file and then declare the file as a record to help comply with information governance needs. The flexibility designed into Activiti 1.5 enables process application creators to invoke content management features across the Alfresco platform. And even casual or infrequent users can perform their own data modelling, develop and run their own content-rich business process applications, and automate repeatable business processes.

In addition, Activiti 1.5 integrates rich documentation functionality, enabling users to document the content and flow of business processes – a vital step for ensuring compliance in regulated industries such as government, financial services, healthcare and manufacturing.

Additional enhancements in Activiti 1.5 include:

- Enabling end users to process forms for inline viewing of content attachments
- Empowering groups to better manage team-based tasks and to support group-based escalation
- Extending Activiti's forms library, analytics and reporting capabilities

http://www.alfresco.com/products/activiti

Information Management bad habits begin in the boardroom

By Elizabeth Bramwell, Commercial Director, Iron Mountain UK

Employees at every level and across every industry are reminded regularly that information is vital to their business. In order to make the most of business information, easy access is critical. Whether it's an email with the latest financial figures, a marketing strategy PDF, a print out of a CV including hand-written notes or a customer contact list, having the information readily to hand enables businesses to serve their customers and employees.

Given the importance of information to business success, you would expect employees to take every possible step to manage information securely. Yet, with file servers overflowing and increased pressure on resources, it would appear that many, from the CEO to the admin team, have become complacent about information security. We may well want to question whether or not modern businesses have put good information governance practices in place.

Bad habits from the top down

Despite understanding the value of the information their business holds, when it comes to safeguarding the information, business leaders often fail to follow the processes and policies designed to keep it secure. In a recent survey commissioned by Iron Mountain, over half (57%) of the CxOs questioned admitted to having left business-sensitive or confidential information on the printer for all to see, with over a third (39%) admitting to having lost it in a public place. This admission reveals just how easy it could be for information to get into the wrong hands.

There is much at stake. When customer information is breached as a consequence of malicious intent or employee error, the organisation's reputation may be damaged and customer loyalty eroded. Seemingly small misdemeanours can have serious consequences. It's not just careless data handling that could land a company in hot water. The processes companies put in place to protect the integrity of information and ensure compliance are often not followed, leaving the organisation exposed to unnecessary risk. One in five (21%) CxOs we spoke to found the information management processes in their organisations too complicated and so chose to bypass them. A worrying 6% were completely unaware of any processes governing information security. Company bosses, more than employees in any other roles, found procedures for information filing (16%) and document retention (15%) to be overly complex and chose to avoid them where possible.

Instead of leading by example, business leaders are guilty of sidestepping company policy to get things done or are simply unaware that what they are doing goes against any policy.

Although our research found that CxOs top the list of information sinners in most information-handling scenarios, the actions of facilities managers reveal a similar story. Over half (56%) admit to taking sensitive or confidential information out of the workplace and 48% have sent sensitive information to the wrong recipient. Departments tasked with handling sensitive information are also at fault. Nearly half (44%) of HR staff said they were in possession of HR documents they should no longer hold under data retention regulations, 32% of finance managers acknowledge the same with tax records and 47% of legal professionals admit potential storage errors with contracts and other legal documents.

Administrative staff rate well in comparison but are still guilty of mismanaging information, with one in five (21%) admitting to having mislaid data or sent it to the wrong person, and 15% admitting to losing company documents in a public place.

So, what's behind such widespread mismanagement of information and how can businesses change the culture and improve information management and handling practices among staff?

It won't be easy. The rise of cloud services and mobile device usage, along with the emergence of the Internet of Things (IoT) has led to an explosion in data generation within organisations. This has put pressure on people to manage more information than ever before. At the same time, business leaders want decisions to be data driven. As a result, employees must now analyse company information and find ways to derive insight from it while still understanding and ensuring compliance with data retention and protection regulations.

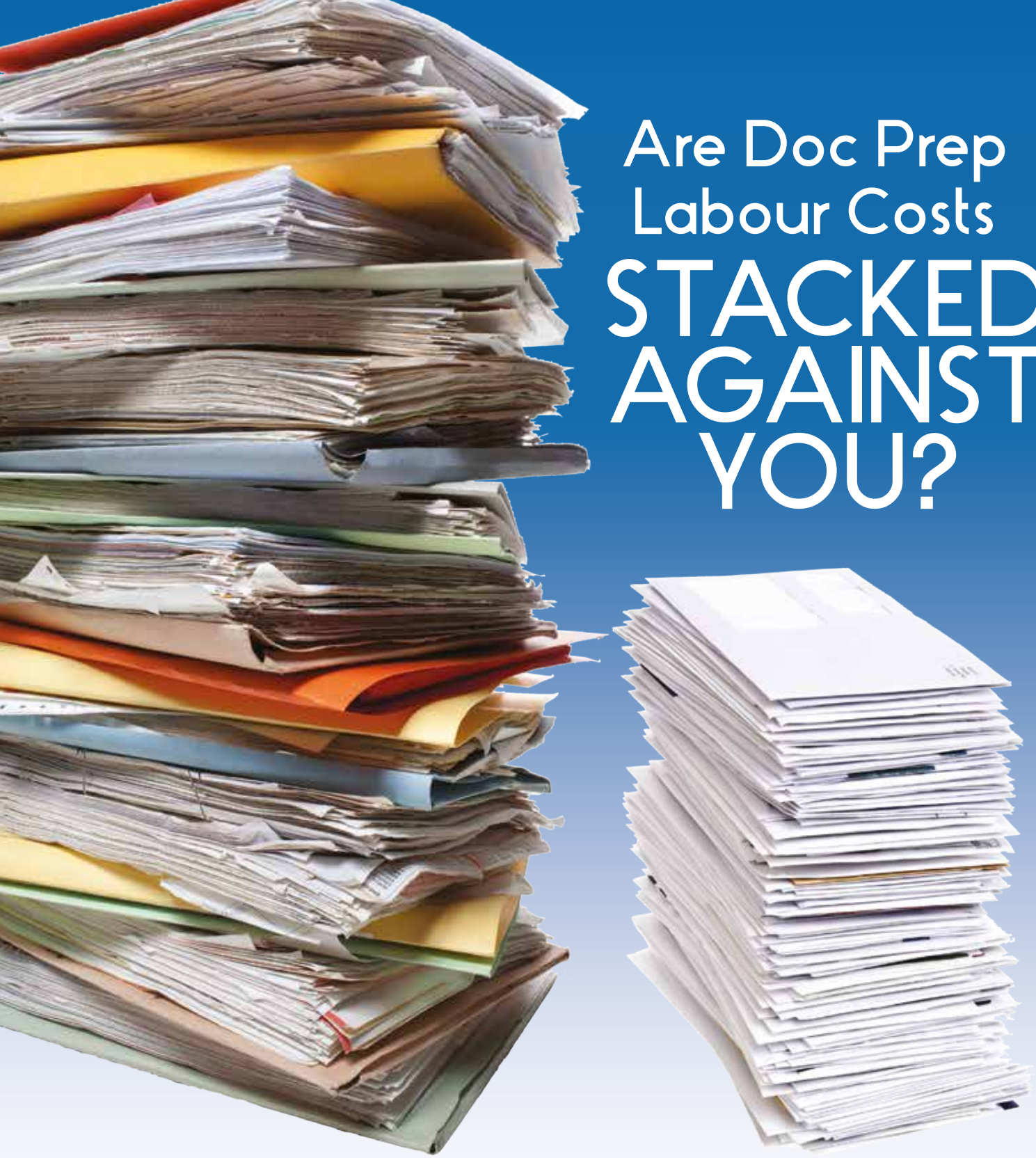
It is imperative that everyone within the organisation has a clear understanding of their responsibilities when it comes to managing the information they process or have access to – no matter what format it is in – as well as understanding the consequences for the business if that information is not managed correctly. But with time and resource pressures causing familiar strain across all sectors, good information governance is not necessarily a reality for many. Businesses need to foster a culture in which employees protect and value organisational information. This will require a continual cycle of information security training for all employees and it will need those at the very top to lead by example.

The solution should start at the top

Information responsibility is shared by everyone: from the CEO and CIO, to sales, marketing, HR and even temporary staff. The basis of good information governance is comprehensive information management policies that covers all types of information, no matter whether it's electronic or on paper and no matter where it resides, whether it's in the office or in the cloud, on a USB stick or a laptop, stored in the home office or offsite with a trusted third party. Making sure these policies are clear and easy to follow will encourage good information governance. In order to build an organisational culture that values and protects information, policy must be understood, followed and promoted by those at the very top of the business. This can be achieved through example, regular communication and training.

When it comes to paper documents, off-site storage, in conditions compliant with relevant market regulations, will help the company to follow retention rules. A digitisation programme for frequently accessed or newly created information will also help to keep track of information and ensure it is stored centrally and compliant with relevant data protection laws. Iron Mountain research with PwC showed around three quarters of companies (72% in Europe and 79% in North America) regard information as a business asset, yet on average just 35% employ data analysts to extract the value from information and many (43 per cent) obtain little tangible benefit from their information. It is clear that companies still have a long way to go before they can overcome the challenge presented by the variety, volume and velocity of today's flow of information.

Implementing a strong information governance policy requires a consistent, clear and cohesive approach to managing information in all formats. For business leaders in particular, this starts with getting their information management habits in order. Only then can they expect best practice to be followed throughout the organisation.



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