Information Management

ECM's Move to the Cloud: Good News for Business, IG Pros

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The evolution of enterprise content management (ECM) to cloud-based content services alleviates the high costs and long implementation schedules that have prevented ECM from becoming the enterprise solution for creating, processing, managing, securing, and governing unstructured content.

In 1995, events transpired that fundamentally changed the way businesses engaged in commerce: Amazon opened as the first online bookstore, and shortly after that eBay launched as an online auction house for goods. Internet business was here to stay. The emergence of the World Wide Web as a platform for engaging in commerce has made the greatest impact on business since assembly line manufacturing.

Follow that in 2007 with the launch of the Apple iPhone, the first commercially viable smartphone. The youth that were able to obtain these clever devices became especially obsessed users, and now, as many of them have entered the workforce, they are ushering in the next big fundamental business change – the "app" culture!

The app culture is defined as efficiency. Everything needed for personal or business needs is in the palm of

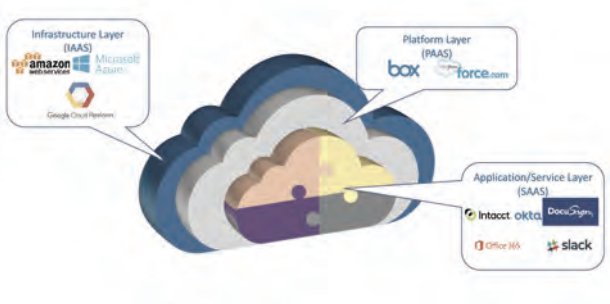

Figure 1: How Cloud Services Work

the hand and a swipe or two away. The smartphone has ushered in more efficient code, software, and processes. To support and augment this efficiency, cloud-based computing has emerged and grown significantly.

Cloud Computing Models

Cloud computing, as defined by the Oxford Dictionary, is the practice of using a network of remote servers hosted on the Internet to store, manage, and process data, rather than a local server or a personal computer.

The National Institute of Standards and Technology defines three models for cloud services:

Infrastructure as a Service (IaaS) – IaaS provides storage, networks, and other fundamental computing resources. Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform are the main IaaS vendors on the market.

Platform as a Service (PaaS) – PaaS provides the runtime environment, databases, development tools, and application program interfaces, and web/application servers.

Software as a Service (SaaS) – SaaS provides the applications, virtual machines, storage, and load balancing.

A simple explanation of these models is shown in Figure 1.

Cloud computing also offers three main deployment models:

1. Private Cloud – A private cloud system is operated only for a single organization. While it is hosted in the cloud, it is cordoned off for a single organization and may be managed by internal resources or a third party.
2. Public Cloud – A public cloud system is open for public use. Technical differences between public and private cloud may be the same, but security needs separate the two.
3. Hybrid Cloud – A hybrid cloud system uses the foundation of a private cloud, but integrates with public cloud services.

A simple explanation of these is in Figure 2.

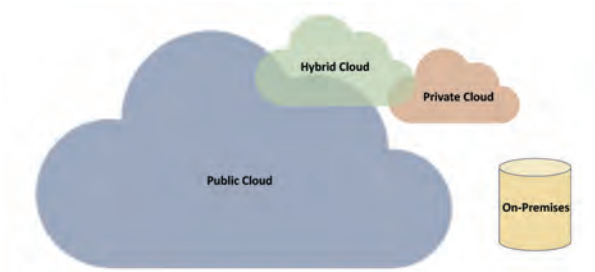

Figure 2: Cloud Deployment Models

The Present State of ECM

So, what does cloud computing have to do with enterprise content management (ECM)? Let's look at the present state and future of ECM, as well as its impact on information governance technology.

Since its inception, ECM has had noble goals, and organizations have tried to achieve those goals – the main one being to serve as a single platform for creating, processing, managing, securing, and governing unstruc-

Figure 3: A Common ECM Infrastructure

CREATE	CAPTURE	AUTOMATE	DELIVER	SECURE	ANALYZE
Content creation & authoring	Multi-channel capture	High volume process optimization	Customer experience management	Records & disposition management	Semantics & text analytics
File sync & share	Data recognition, standards & extraction	Case Management	Electronic bill presentment & payment	Compliance – government & industry	System auditing & monitoring
Social & Collaboration		Content-enabled SaaS processes	Web content management	eDiscovery & legal	Content & process analytics

Figure 4: Intelligent Information Management roadmap. Source: AIIM International. Courtesy AIIM.

tured content (e.g., scanned documents, e-mail, word processing documents). Unfortunately, high implementation times and costs, the need to create dedicated teams to manage the applications, and ECM's lack of mobility have caused ECM to be more a departmental solution than an enterprise solution for most organizations.

Also, because these systems are deployed on-premises, requiring large infrastructure investments in hardware, databases, operating systems, backup protocols, security suites, and customizations, ECM has mostly been a tool for medium to large organizations. And those organizations have ended up with large infrastructures to support point, vertical solutions and have had to invest heavily to maintain these systems.

Often what is seen on-premises is a mixture of multiple ECM systems serving different department needs, enterprise resource planning systems, collaboration tools, and FTP applications for large file transfer – and all while trying to integrate with office productivity tools, as shown in Figure 3.

The result is a large investment, unhappy users, and an underlying *shadow IT*: applications that are unnoticed and unaccounted for by internal IT that are being used by end users to efficiently perform their jobs.

The ECM-Cloud Relationship

In the market, ECM systems are undergoing radical change. In December 2016, Gartner Research announced it was abandoning the term "enterprise content management" and replacing it with "content services." In his March 2017 PHIGs blog post "The More Things Change – ECM Isn't Really Dead," Christian P. Walker writes that his view of content services is ECM activities as services being provided to customers on demand, including to capture, store, manage, preserve, and deliver. So, think of content services as componentized ECM in the cloud with each activity being provided as a service to organizations, as needed.

Major ECM vendors are being acquired or have separated. To expand their offerings for efficient, cloud-based collaboration and mobility, other ECM vendors are partnering with enterprise file sync and share (EFSS) vendors – those defined by Gartner as offering a range of cloud-based or on-premises offerings that enable individuals to synchronize and share files among mobile devices and personal computers.

In addition, most ECM vendors have moved their on-premises ECM platforms to virtual cloud instances, providing the same overall functionality, yet hosted for each customer.

EFSS vendors are trying to become more ECM-like, expanding their content management and governance abilities to relying on vendor partners to provide other services like workflow and capture capabilities. This is happening while customers are looking for this "componentized" approach, along with ease of use and mobility.

ECM's Impact on Information Governance Technology

Following a content services model, cloud-based information governance tools for e-discovery and records management are beginning to enter the market. Throw in cloud-based analytics offerings, and this model is very close to having technology stacks that resemble AIIM's new Intelligent Information Management roadmap, introduced by John Mancini in "The Next Wave: Moving from ECM to Intelligent Information Management" and shown in Figure 4.

The Internet of Things, which is bringing a whole new set of data challenges to organizations, is also bringing opportunities to ECM. Data from devices can launch or feed ECM-based business processes, providing a level of business efficiency never seen before. This will provide unique opportunities as well for information governance.

The Future of ECM

So, where is ECM (content services) going from here? First, content services components (including analytics) are being embedded into existing office productivity platforms. Providing this functionality within cloud-based platforms provides a sound baseline with minimal investment by customers. In addition, these platforms will provide leaner, more stable applications.

As a records and information management veteran, you likely can name someone who was particularly instrumental in your professional growth. Now it's your turn to pay it forward – and we're here to help you make a connection for sharing your knowledge and expertise.

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For more details, see ***http://discoverarma.org/mentorship*** and the mentor FAQs at ***http://discoverarma.org/mentorFAQ.***

Second, EFSS vendors will continue to expand their functionality to full ECM while also partnering with other cloud vendors to provide full content services solutions to customers. With an 80% to 85% user acceptance rate in organizations, EFSS offers the ease of use, clean user interfaces, and mobility younger workforce members are requiring for their productivity. With millennials becoming the largest segment of the workforce, the "app culture" will take hold and vendors will have to build to this new, fast change.

Third, information governance applications will continue to grow as cloud-based content services, providing *lightweight* – relatively simpler and faster – integrations into cloud ECM platforms. This will require ECM vendors to have a clear cloud strategy for their customers and to re-build their legacy systems to a more cloud-friendly code base. E-discovery tools will need to become more robust to handle the large data culling necessary, but from the cloud instead of from within the customer data center.

Finally, service providers will become nimbler for customers, providing custom cloud applications and user interfaces built on the lightweight cloud platforms. ECM solutions will become faster to deploy given the lighter platform and the lack of need to build a three-tier infrastructure. This represents cost savings to the customer. Content services will be affordable for all size businesses and will bring ECM capabilities to a broader customer base.

ECM's Future Impact on Organizations

So, why would an organization move in this direction, other than that this is where the market is going? If organizations are "not interested in moving to cloud" now, why will they soon be interested? Very simply, they will move for the organizational efficiency it offers and because they need to compete. By moving to a cloud content services model, organizations will be able to lower costs, increase security, gain mobility and share-ability, dissolve the need for shadow IT, and quickly transform business processes.

Pooling infrastructure with a cloud approach means these organizations won't have to invest in an army of IT staff for upgrades, systems administration, database administration, security, lightweight directory access protocol, and other IT services.

They also will not have to continue investing in new storage and hardware or upgrading server hardware because cloud providers handle this as part of the monthly fees they charge, and these costs are lower because they are spread among the entire customer base.

Software updates will be transparent to users. They will go home on Friday, arrive Monday morning to new version 2.0, and continue working seamlessly for their enterprises.

The organization's information will be more secure; IaaS vendors have an army of security specialists protecting users' information because their brand reputation depends on it! At Microsoft, for example, blue and red hacker teams are employed: one team tries to hack into Azure while the other team works to keep the hackers out. It is a scale no individual organization can match and it benefits the customers.

ECM's Future Impact on IG Practitioners

What does this all mean to information governance practitioners? With this new model, proper governance will still be required, as will practitioners' flexibility. They will need to spend time to research and understand how to exercise governance programs in this new paradigm without causing delay. To paraphrase Randy Kahn, they will need to learn to work better, faster, and cheaper in their programs, while still being legally compliant.

Although this new reality will take information from within organizations and store it on external hardware, it will still be the information governance practitioners' responsibility to properly govern it. With the EU's General Data Protection Regulation going into force on May 25, 2018, they will need to make sure they have inventoried and are governing all their organizations' data holdings, structured and unstructured. Knowing this data will help them to better leverage their ECM/content services platform, ensure compliance, and help align information governance with their organizations' mission and strategy.

Finally, they will need to learn about their organizations' strategy for the cloud. When and how will the stategy be defined and implemented? How can they help effect its implementation while ensuring compliance and governance?

The future looks bright for ECM and information governance. Don't fight it…embrace it! E

About the Author: John P. Frost, CRM, FAI, serves as vice president of sales for Integro, a products and services firm specializing in information governance, entrprise content management, and content security solutions. Previously, he was IBM's worldwide practice leader, Watson Explorer Solutions. A past president and current Fellow of ARMA International (FAI), he also has served in records management and/or technology management capacities for FileNet, American Airlines, Johnson & Johnson Medical, the Miss Universe Organization, and the City of Shreveport, Louisiana. Frost can be contacted at *www.Integro.com*.