MADISON ADVISORS

Cloud Impact On CCM Offerings Study

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INTRODUCTION

Madison Advisors has recently completed a study of cloud delivery strategies in the Customer Communications Management (CCM) marketplace. Madison Advisors assessed overall cloud delivery market trends, as well as the strategies, solutions and core capabilities for cloud-based delivery among eight participant companies in the CCM solutions delivery market. A summary of the companies participating in this study is shown below and on the following page:

PARTICIPANT	DESCRIPTION
Broadridge	Broadridge is a leading global provider of investor communications and technology-driven solutions to banks/broker-dealers, mutual funds and corporate issuers. Our systems and services include investor communication solutions, and securities processing and operations outsourcing solutions. In short, we provide the infrastructure that helps the financial services industry operate. With 50 years of experience, we provide financial services firms with advanced, dependable, scalable and cost-effective integrated systems. Our systems help reduce the need for clients to make significant capital investments in operations infrastructure, thereby allowing them to increase their focus on core business activities.
CEDAR Document Technologies	Issue Resolution at the CORE - Replacing "end of life" production processes for core servicing documents and communications. CEDAR Document Technologies is a leading provider of Enterprise Class, Multi/Omni-channel Customer Communication and Servicing Solutions. Our services are deployed and delivered on a highly integrated technology backbone, and hosted in a secure, dual site, private cloud. Our technologies and services focus on reengineering "end of life" production processes to support the requirement of highly variable document/ communication output for Multi/Omni-channel presentation and delivery. This focus is driven by the need to manage enterprise communication content to support compliance, marketing, increasingly complex service interactions, and most importantly, customer expectations.
Doxee	Doxee delivers cloud-based solutions and services for customer communication management and document process outsourcing for business enterprises and service providers worldwide. Doxee's mission is to enable enterprises to build long-term and mutually beneficial relationships with their customers through consistent, compliant and proactive communication. Doxee is a leading multinational with offices in Europe and North America. Over 200 enterprises in banking, finance, telco, insurance, and utilities sectors employ Doxee solutions and services to process over 2 billion documents every year reaching over 100 million end users across the globe. Doxee Enterprise Communication Platform is an end-to-end Software-as-a-Service solution for managing all customer interactions across all channels. Doxee platform offers enterprises the choice between a private cloud (on-premises) vs. a public cloud deployment. With collaborative processes, enterprise-grade security and a highly scalable service architecture, Doxee platform comes ready for mission-critical applications.
DST Output	DST Output, LLC and its subsidiaries and related affiliates, including Lateral Group NA, LLC and Newkirk Products, Inc., are part of DST's Customer Communications Segment. We combine consumer insights with analytics and multi-channel delivery to engage customers with relevant content that moves them to action. Our strategies, tools, and cloud-based services help our clients address cost, workflow, and regulatory challenges while providing exceptional customer experiences and simplifying the management of customer communications. Last year, the Segment produced more than 3.5 billion transactional communications that were received via postal, e-mail, web, and mobile applications. For more information, visit www.dstoutput.com.
FIS	FIS Output Solutions has provided document solutions to financial services, insurance, utility and government organizations for over 40 years. As the world's leading technology outsourcer for financial service providers and billers, FIS delivers customer communication design and management (license, SaaS and ASP models), print and mail, electronic presentment/payment and archive solutions. The CSF Designer CCM suite includes role and skill specific web interfaces to truly offer an enterprise document solution. The unique architecture of CSF eases integration into the corporate environment and adheres to stringent security protocols.

PARTICIPANT	DESCRIPTION
Level One	In the simplest of terms, Level One is a single-source provider for document management solutions. It provides CCM solutions for the development, deployment and integration of multi-channel document delivery serving key vertical markets (utilities, healthcare, financial and insurance). Level One believes its success in delivering cloud-based CCM services will be a result of delivering the right mix of technology, people and processes to achieve deeper client integration, superior customer service and ability to respond quickly to changing market conditions.
NEPS, LLC	NEPS, LLC is recognized as an innovative leader in the document process outsourcing (DPO) industry, developing and integrating hosted Customer Communications Management (CCM) technologies and services. NEPS provides a complete cloud based, end-to-end CCM technology platform that empowers customers to create and deliver relevant, engaging and compliant communications. Combining industry-leading third party technologies with proprietary offerings and in-house expertise, NEPS cloud delivery strategy is predicated on meeting the growing demand for hosted CCM applications and related services in the financial services, insurance and healthcare industries. NEPS' speed and agility in delivering high-value solutions has resulted in winning new business from well-known national and global corporations. All NEPS systems and technologies are up-to-date, and the company can scale its hosting platform as necessary to support the unique requirements of each NEPS customer. Regardless of size, no organization matches the breadth and diversity of NEPS cloud based CCM offerings. Because of our size, no organization can match NEPS' agility and flexibility in delivering timely solutions.
Standard Register	Standard Register is a publicly-traded company that began operations in 1912 in Dayton, Ohio. Our common stock is traded on the New York Stock Exchange (NYSE) under the symbol SR. Standard Register is a recognized leader in the management and execution of mission-critical communications. Our mission is to be trusted by the world's leading organizations to build and protect their reputations. We use a century of industry expertise, leading technologies, and a compelling portfolio of solutions to help companies advance their reputations through expert management and flawless execution of critical communications. Many of our traditional printed documents and administrative forms are being replaced by digital technology advances. Our expertise in operational workflow and specific experience in key market segments where these products have been used is enabling us to create innovative solutions and access new opportunities. With a unique mix of technology, services, and a robust national print network, we are supporting the migration of print to an on-demand and digital media network that optimizes our customer's brand touch points and lowers their overall total cost of impression.

This study draws on general research in the enterprise cloud delivery market as well as the new research provided by participating companies. It is not intended to be a company-by-company evaluation or a ranking of each participant against a set of criteria. This study is an evaluation of the CCM cloud delivery market overall, and the impact of the general enterprise cloud delivery trends on the CCM marketplace.

STUDY SCOPE

This study focuses on CCM service providers who deliver primarily "transaction mail" capabilities via cloud-based delivery models, where the primary focus is on the Software as a Service (SaaS) and value-added components of cloud delivery. Madison Advisors recognizes that web-to-print marketing applications have been available as a SaaS solution for some time and that these applications are well understood. They are not within the scope of this assessment. A key characteristic of the study participants is that they all provide a strategic, managed service relationship to their customers along with the cloud-based delivery of CCM products & services.

Madison Advisors also recognizes that there is an emerging marketplace for "pure" CCM technology providers, who are focused primarily on Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) delivery models with little or no focus on managed value-added services and output delivery. While this is a growing and important segment of the CCM market, very few pure technology providers are currently offering a broad set of CCM capabilities via cloud delivery models direct from the technology vendor. Generally, the managed service provider market has encapsulated the cloud (and non-cloud) offerings of the pure CCM technology provider, and extended them to include other SaaS and managed service capabilities, such as design-time template control, online proofing and approval, interactive document portals and operational status reporting offered by print service providers. Madison Advisors will provide a deeper analysis of these technology providers in future cloud studies.

EXECUTIVE SUMMARY

The Madison Advisors' Cloud Impact on CCM Offerings Study examines the market, technologies, opportunities and challenges associated with cloud-based delivery models in the Customer Communications Management (CCM) marketplace.

Madison Advisors believes that the cloud delivery of CCM capabilities offers distinct advantages for enterprise customers including a low cost of entry, rapid scalability and elasticity, on-demand self-service, resource pooling and breadth of access. Cloud delivery also comes with trade-offs including real and perceived differences in access, workflow, security and control. This study examines these advantages and trade-offs, as well as overall cloud delivery market trends, and assesses their impact on the CCM marketplace. Key findings from the study include:

- CCM service and solution providers offering cloud-based delivery can be generally categorized into two groups:
    - CCM providers with a strong print/mail legacy, who are generally leveraging their traditional web-based offerings into a set of managed services delivered via the cloud. We refer to these providers as “print-centric” in this study.
    - CCM providers with a focus on software and solutions, who integrate the print/mail aspect of the solution through external providers and/or partners. We refer to these providers as "software and solution-centric” in this study.
- While there is certainly some variation in the core capabilities of the cloud solutions offered by CCM providers, most are offering a relatively broad array of CCM services including support for batch use cases, design-time tools, content management, composition, operational and workflow control, print/mail, multi-channel delivery, archiving/retrieval, and status reporting.
- The key differentiators between CCM providers are in the areas of self-service, ease-of-use, and perhaps most importantly, the ability to integrate, customize and aggregate cloud services. The CCM cloud delivery market is generally slower to match the expectations of the overall enterprise cloud delivery market, where these differentiators are critical success factors.
- CCM cloud service providers are actively focused on expanding and improving their cloud-based CCM solutions. Service provider roadmaps generally indicate an acknowledgement of the shift to cloud computing and the potential in the market, and providers put a high priority on closing gaps in their CCM cloud offering vs. general cloud market expectations.

- As the adoption of cloud-based business solutions exhibits strong growth, enterprises are trending towards the need to consolidate, customize and integrate these services. Larger enterprises may solve this challenge through an internal “cloud service broker” (CSB) model, while mid-sized and small enterprises may look for an external cloud service broker or strategic partner. CCM service providers need to assess their strategies in this changing market and address how they will participate, perhaps as broadly capable brokers of CCM services themselves, or within a broader ecosystem of cloud services that can be aggregated into a manageable enterprise offering by another cloud services broker.

CCM service providers need to assess their strategies in this changing market and address how they will participate.

Cloud Market Overview - Cloud Delivery Defined

"Cloud computing" involves the use of technology resources that are served to the user over a network, typically the Internet, where the supporting hardware and infrastructure are managed by an external provider and the enterprise is able to consume and pay for the resources on a flexible, on-demand basis. The NIST (National Institute of Standards & Technology) defines cloud computing as having five essential characteristics:

1. On-demand self-service: The ability to unilaterally provision capabilities without requiring human interaction with the service provider

2. Broad network access: Capabilities are delivered over the network and can be used by a broad range of client platforms, including thin and thick clients

3. Resource pooling: The provider's resources are pooled and they serve multiple customers in a multi-tenant model

4. Rapid elasticity: Capabilities can be quickly provisioned or decommissioned, usually automatically, to scale to business needs

5. Measured service: Resource usage can be monitored, controlled and reported for transparency and management

In addition to the fundamental CCM capabilities that a particular solution provider may offer, Madison Advisors also considers these five essential characteristics to be critical success factors in the CCM cloud delivery market.

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Cloud Market Overview - Cloud Delivery Models

Cloud computing can be categorized into three delivery models (sometimes called “service models”). Cloud delivery models are typically categorized as:

1. Software as a Service (SaaS): The delivery of complete business solutions via the cloud. This is the cloud delivery model that most CCM solution providers adopt.

2. Platform as a Service (PaaS): The delivery of a collection of tools or services that users can use to assemble complete applications and solutions, like libraries, software tools & frame works, functional modules and components. Although most CCM service providers take a modular approach to the pricing and configuration of their SaaS offering, none of our study participants deliver their services as a PaaS offering.

3. Infrastructure as a Service (IaaS): The delivery of fundamental technologies and capabilities, like storage, virtual machines, processing and network bandwidth. No CCM service providers operate in this space, but many do purchase, aggregate and customize IaaS services from external IT or telecom providers.

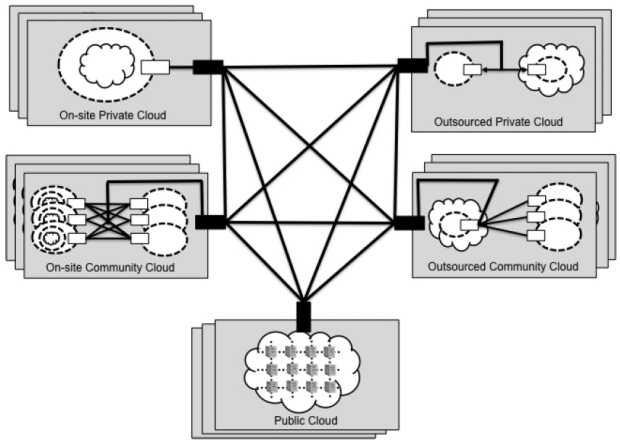
All of our study participants, and generally all CCM service providers, offer a SaaS CCM solution with varying degrees of self-service and customization capability. As noted above, none of the study participants considered their organization to be operating within the PaaS or IaaS delivery model.

In addition, all of the study participants include some level of ongoing strategic management and advisory services where the CCM service providers add important value-added services, strategies and capabilities to the SaaS offering.

None of the study participants considered their organization to be operating within the PaaS or IaaS delivery model.

Cloud Market Overview - Cloud Deployment Models

Cloud delivery models are independent of cloud deployment models, and service providers may use one or more of the following deployment models:



1. Public cloud - deploying services across networks (typically the Internet) where the service provider is not in control of how the cloud services are operated, secured, and accessed.

2. Private cloud - deploying services across networks that the service provider controls, either through direct ownership and control, or through a business relationship that provides the service provider direct access and control.

3. Hybrid cloud - combining the public and private deployment methods in a way that binds them together with unique or proprietary technology, enables application portability, and ensures appropriate business and security control.

4. Community cloud - deploying services across networks that are provisioned exclusively for a specific community with shared goals, where the infrastructure may be operated by one or more of the community members.

CCM service providers typically use a hybrid cloud delivery model, with the CCM applications and services hosted in the service provider's private cloud, and the enterprise customer accessing the SaaS solution via browser across the public cloud (the Internet). Most CCM service providers, including all of our study participants, are also capable of delivering their services via a completely private cloud including VPN or other secure connection for the enterprise users.

CCM service providers typically use a hybrid cloud delivery model.

Cloud Market Overview - Typical Incentives & Barriers to Cloud Adoption

The incentives driving businesses to cloud-based delivery of business applications typically include:

1. Lower and more predictable technology operating costs: Cloud based delivery is typically billed on an as-used basis, allowing businesses to lower their total cost of ownership. Capital investments in infrastructure and hardware are avoided and unlike software licensing expenses, cloud licensing is typically treated as an operating expense.

2. Shift of IT focus away from infrastructure and onto business objectives: Along with the avoidance of infrastructure costs, businesses can shift IT effort and budgets away from managing underlying hardware and software, and onto key business objectives like customer acquisition, retention and communication.

3. Flexibility, scalability, capacity and throughput: Cloud services architecture enables businesses to quickly expand or contract their processing capacity, storage capacity, user provisioning, network bandwidth, and other key parameters. Businesses can easily scale up to meet peaks in demand, and scale down when demand is lower.

4. Faster time to market: Adopting cloud delivery often removes the typically high-risk IT infrastructure component from business-driven projects, bringing new products and services to market faster than traditional development methods.

5. Improved customer experience: Cloud services increasingly raise the bar in the areas of ease-of-use and fit-for-purpose in their user interfaces, enabling business users – and the customers they serve – to enjoy an improved experience vs. their traditional on-premise and/or desktop counterparts.

6. Mobile and other device support: By their very nature, cloud services are typically designed to support a broad array of devices, channels and access methods. Adopting cloud delivery can help businesses solve numerous user and device support issues in a more cost effective manner.

Cloud delivery undoubtedly comes with some trade-offs, and there are still some real and perceived barriers to enterprise adoption in some vertical markets. Some of the typical barriers to adoption are:

1. Security and privacy compliance: Enterprises continue to rank this concern highest among barriers to cloud adoption. Concerns about the security and compliance of sensitive business and personal data within the cloud are paramount. Technology and process solutions exist to address these issues, and the cloud delivery market appears to be having some success in removing these concerns.

2. Integration with on-premise systems: Business solutions that are served through the cloud come with an inherent challenge – the integration of data, content and workflow within the core on-premise systems operated by the enterprise.

3. Control & flexibility: Historically, enterprise business and technology organizations have had full control over the business systems running in their on-premise infrastructure. Cloud delivery represents a new model of consumption which does remove some of the underlying flexibility and control offered by on-premise licensing of business software. Some enterprises view this as a critical business risk that cloud service providers must be prepared to address.

4. Management buy-in or cultural issues: Along with the technology and business control concerns expressed above, some enterprises have been unable to secure senior and operating management support for the adoption of cloud-based business systems. Providers must be prepared to build a compelling business case for those businesses that are culturally resistant to cloud adoption.

Cloud delivery undoubtedly comes with some trade-offs, and there are still some real and perceived barriers to enterprise adoption in some vertical markets.

Key Cloud Market Trends - Cloud Adoption is Strong and Growing

The adoption of cloud-based solutions is already strong, and can be expected to continue to grow rapidly in large enterprises as well as in SMB's (small & mid-sized businesses). The market trends are undeniable, with most research indicating larger and larger portions of the perpetually stagnant IT budget allocated to cloud-based solutions.

This general trend is even more pronounced in application categories like marketing automation, customer relationship management, enterprise content management, business analytics and customer-facing processes – all areas that are closely related to and deeply integrated with CCM solutions. Madison Advisors believes that enterprises are likely to demand that future CCM solutions are as easy to adopt and integrate into their businesses as the leading cloud-based solutions in the categories mentioned above.

Enterprises are likely to demand that future CCM solutions are as easy to adopt and integrate into their businesses.

Key Cloud Market Trends - Cloud Service Brokering is Driving Expectations

Madison Advisors also notes another key trend in the cloud market space – enterprises who are actively adopting cloud solutions are faced with the growing challenge of managing, integrating and using multiple cloud services. Forrester Research estimates that by the end of 2012, users at cloud-adopting organizations were using 10 or more cloud applications on their desktop, on average. Enterprises are faced with the need for a strategy to manage and optimize these relationships.

This need has created a rapidly growing marketplace of “cloud service brokers”, or CSB's, who aggregate, integrate, customize and add value or capabilities to the set of cloud services that an enterprise consumes. Leveraging their expertise and buying power in the cloud services market, the CSB can bring together the right cloud services, quickly and at a low cost, and deliver custom and integrated business solutions to the enterprise. CSB's can also provide strategic and operational guidance to their customers. Gartner estimates that the CSB market will grow from almost $2 billion in 2013, to over $10 billion by 2018. Examples of CSB’s already well-established in the enterprise market are Appririo, Infosys Cloud Ecosystem Hub, BlueWolf, Dell, Gravitant and Cloudswitch (recently acquired by Verizon).

Some large enterprises, instead of working with an external CSB, are adopting the same principles in their own in-house IT organizations, and selecting service providers based on their ability to be customized and to integrate with the enterprise's chosen ecosystem of cloud services. This addresses not only the large organization's technical need for standardization and rapid time-to-market, but also supports the growing need for governance of cloud services within the enterprise.

Whether a business uses an external 3rd party or manages their own collection of cloud based services, Madison Advisors believes this emerging trend is very important. The key enablers of cloud service brokerage – the ability to easily integrate, customize and aggregate cloud services and to do so with the same effectiveness as the established providers in the cloud market – will be primary critical success factors for cloud-based CCM solution providers.

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Impact of Cloud Delivery on CCM - CCM Service Providers Recognize the Market Need

The high rate of cloud adoption among businesses has already had a significant impact on the CCM service provider market. All of our study participants have a clearly defined cloud go-to-market strategy, and currently offer a defined set of cloud-based products and services.

Participants positioned themselves in various stages of cloud-delivery rollout, and only a few indicated that their current offering is still undergoing significant development of fundamental features and scope. Most participants indicated that their cloud services were fundamentally complete and that their roadmap was focused on additional features within the current scope of their offering.

As noted in the Study Scope section of this study, Madison Advisors recognizes that there is an emerging marketplace for "pure" CCM technology providers, who are focused primarily on IaaS and PaaS delivery models with little or no focus on managed value-added services and output delivery. While this is a growing and important segment of the CCM market, very few pure technology providers are currently offering a broad set of CCM capabilities via cloud delivery models direct from the technology vendor. However, we expect that to change in the next 6-18 months as pure technology providers ramp up their offerings and extend their capabilities into the cloud.

Generally, the managed service provider market has encapsulated the cloud (and non-cloud) offerings of the pure CCM technology provider, and extended them to include other SaaS and managed service capabilities. Madison Advisors will provide deeper analysis of these technology providers in future cloud studies.

Madison Advisors believes that CCM service providers have quickly adapted to the growing demand for cloud delivery among enterprises, indicating their clear understanding of a shift in how the market will operate. Study participants strongly reinforced this observation, indicating that cloud delivery is a priority within all of their organizations.

The managed service provider market has encapsulated the cloud (and non-cloud) offerings of the pure CCM technology provider, and extended them to include other SaaS and managed service capabilities.

Impact of Cloud Delivery on CCM - Two General Categories of CCM Cloud Providers

Study participants, and the CCM cloud service provider market in general, can be organized into two categories – providers who own their own print/mail assets, and providers who do not. This categorization is somewhat simple, but is nevertheless important in understanding some of the key strategies, capabilities and differentiators of the study participants, and of any CCM cloud service provider.

Broadridge, DST Output, FIS, and Standard Register are study participant examples of providers that come to the CCM cloud market with a long history of print/mail focus. We refer to these providers as “print-centric” in this study. These providers have had some degree of internet-based self-service for many years, for instance template control, proofing and approval, interactive document portals and operational status reporting, and are typically extending this online capability into a true cloud-based solution.

These print-centric providers have a very broad set of CCM services, with print/mail as the centerpiece of an offering that includes multi-channel output, archiving, electronic bill presentment and payment, and other services. They typically have specific vertical market focus and depth of experience, delivering relatively specialized CCM services targeted to their chosen verticals.

CEDAR, Doxee, Level One, and NEPS are study participant examples of providers that come to the cloud CCM market with a more "software or solution-centric" approach. We refer to these providers as "software and solution-centric” in this study. Their focus tends to be on “content” vs. “documents”, with a robust multi-channel offering and a stronger focus (relative to the print-centric provider) on self-service, configurability, and standardization. Many of these types of providers also take a more green-field approach, building cloud capabilities from the ground up with the most recent and cloud-capable technologies vs. leveraging legacy frameworks into the cloud delivery model.

A tradeoff for some enterprise customers is that these "software and solution-centric" providers typically integrate the print/mail aspect of the solution through external providers and/or partners, or even the enterprise's in-house print facility. By its very nature, this can introduce some implementation and operational risks. However, these added implementation risks may have a payoff in the form of the flexibility offered by the broader print network in this model. The historical practice of some print vendors who contractually “lock in” an enterprise without delivering access to new, valuable print and software technologies is certainly threatened by this broker/partner model.

"Software and solution-centric" providers also tend to have a broader vertical market focus. The relative priority they place on standard but customizable toolsets for a broad range of user roles means that their cloud solutions may have broader market application. However, there may be tradeoffs in specialized vertical depth, especially among more recent market entrants.

There is some diversity in the breadth and vertical depth offered by providers in this category. Our study participants ranged from those with a broad solution set and deep vertical depth to those with narrower solutions and/or less vertical depth and experience. NEPS is an example of a "software and solutions-centric" participant with 25 years of vertical market expertise in their chosen target markets, delivering a broad set of CCM capabilities in those markets. Level One is an example of a newer entrant, with relatively fewer years of vertical market experience, delivering a more general set of capabilities that can be adapted to customer needs.

Impact of Cloud Delivery on CCM - CCM Cloud Providers vs. Cloud Market Trends and Expectations

Madison Advisors believes that increasingly, as enterprises go to the CCM provider market to refresh or upgrade their CCM capabilities, best-in-class cloud delivery principles will dominate their expectations. Growing adoption of enterprise-class cloud solutions in CCM and adjacent categories will continue to put pressure on providers to deliver competitive cloud solutions.

CSB (cloud service broker) concepts (as discussed in the Key Cloud Market Trends section) will also be significant. Businesses will demand cloud services that are easy to implement and maintain through self-service, integration standards, and interoperability. Capabilities like aggregating service modules together into custom applications, managing security and provisioning across cloud services, and integrating with on-premise and other cloud services will be fundamental to the selection of a CCM provider.

Generally, most of the CCM service provider market is well behind general cloud market expectations in some key areas, discussed in further detail below. While some businesses will certainly choose the advantage that traditional print/mail providers offer in vertical focus, market history, and direct investment in print/mail hardware, a growing number of businesses will place higher value on solutions that simplify and even deemphasize the print/mail aspect of CCM and instead focus on content, self-service, integration and ease-of-use. The software and solution-centric providers, especially those with green-field development of modern solutions, may have a brief advantage in this area while they work to stay ahead of the providers who are reassembling their legacy capabilities into cloud products and services.

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Impact of Cloud Delivery on CCM - Cloud CCM Delivery Solutions - Additional Observations

Initial Implementation & Deployment

The typical implementation and deployment of a new CCM provider or solution remains a very labor intensive, long, and often unpredictable process. Enterprise customer communications can certainly present complex needs that require human intervention, but CCM cloud solutions are generally behind the implementation and deployment benchmarks set by cloud services such as Salesforce.com (CRM), Hubspot (Marketing Automation), Adobe Livecycle (ECM), Basecamp (Project Management), Google Apps (Desktop), and others. Depending on scope, these services can be implemented by business users and ready for business use in weeks. Templates, flexible configurations, and simple integration tools help make initial deployment much more efficient than traditional approaches.

Among the benefits organizations cite when adopting these kinds of enterprise-class cloud services is a drastic reduction in implementation time and cost through self-service provisioning, configuration, workflow and application design, testing and rollout. CCM cloud solutions will face the same expectations, and most of today's offerings fall short in this area.

The typical implementation and deployment of a new CCM provider or solution remains a very labor intensive, long, and often unpredictable process.

Self Service, Customization & Control

As one of the five key characteristics of cloud computing, self-service is a critical capability that CCM cloud service providers must deliver. Self-service at the SaaS level requires user interfaces that enable non-technical business users, across a broad spectrum of roles, to provision, configure, and orchestrate their cloud applications and services in a way that best fits their ever-changing business. For this reason, self-service capability is also a key factor in user adoption of a cloud solution – a measure that can ultimately drive the success or failure of any business software.

Madison Advisors observes that this is an area of concern for most CCM cloud solutions today. All study participants did demonstrate self-service capability in the areas of template layout and logic, data mapping and transformation, proofing of variably composed documents, control of the proofing workflow, and other key touch points. Most of these self-service interfaces allow users to take a fairly limited set of actions on existing applications that were previously implemented at the provider, with all of the challenges mentioned previously.

Many current CCM cloud solutions do not provide robust self-service interfaces for important new business provisioning steps, like the creation of new business workflows, the integration of new data sources and transformation logic, and the configuration and deployment of new print/mail output streams. Most providers engage the customer in a traditional implementation project or customer support effort to accomplish this ongoing need. While this approach is consistent with historical print/mail industry practice, it represents a gap vs. the expectations in the cloud delivery market and an opportunity for improvement in CCM cloud solutions.

Some notable exceptions to this problem area are CEDAR, Doxee and NEPS. These service providers have placed a more specific focus on self-service on-boarding and ongoing customization, configuration and application workflow tools. These providers offer capability that is above average in this area, delivering easy-to-use interfaces for on-demand, self-service creation of new application workflows, new data integration sources, completely new content and templates, and for managing complex output configurations. These kinds of tools lighten the burden of initial implementation and the development of new customer communication streams within the SaaS solution, and allow the enterprise customer to have more immediate, agile, and flexible self-service control over the deployment of new business applications within their CCM cloud solution.

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Integration & Aggregation

Integration capability in the SaaS cloud delivery market is typically driven by modular, standards-compliant and configurable components of functionality which allow the customer to make relatively granular choices about how to integrate a cloud service into their existing on-premise systems and business workflows. For example, Salesforce.com capabilities can be easily integrated into other customer-facing applications, workflow and content through the use of Force.com API's and plugin applications available in the Salesforce.com AppExchange ecosystem. Similar capabilities exist for many of the broadly adopted enterprise cloud solutions today.

CCM service providers certainly have experience with system integration, and all study participants indicated some level of support for integration through standards-compliant cloud integration technologies. However, Madison Advisors observes that many CCM cloud providers have only limited support for the level of modular, standards-compliant integration touch points that their broader cloud market counterparts provide. In addition, while many CCM providers provide integration services that support a traditional batch oriented model, robust support for real-time and interactive use cases delivered via the cloud continues to be an exception among providers rather than the rule.

CCM cloud service providers with a strong focus on “content” vs. “documents”, like CEDAR, NEPS and Level One, tend to have above average integration capabilities due to their more modular approach to CCM. Solutions which abstract and separate CCM content, logic, data and presentation are more likely to provide the integration tools that support more robust business workflows.

Aggregation refers to the ability for the customer to orchestrate multiple cloud service components together and to configure their interoperation, enabling businesses to assemble applications and workflows to meet business needs. Common standards-compliant connectors and application exchanges and ecosystems often support this objective. Aggregation is part of the value of the emerging Cloud Service Broker (CSB) market, and may be a service provided by an external CSB or the enterprise's own CSB organization. Coupled with the self-service nature of cloud delivery, aggregation capabilities can allow even non-technical business users to extend and customize their solutions through cloud service aggregation.

Today's CCM solutions are not providing this level of robust aggregation capability, but a few are exploring the ability to either participate in existing cloud service ecosystems, and/or establish ecosystems of their own. Madison Advisors believes that integration and aggregation capabilities will be a critical success factor for CCM cloud solutions, and that providers who can establish a strong position in the existing cloud delivery ecosystem will have a competitive advantage.

Madison Advisors believes that integration and aggregation capabilities will be a critical success factor for CCM cloud solutions.

Infrastructure, Reliability & Security

CCM cloud providers, particularly the participants in this study, are organizations that have always put a strong emphasis on the reliability and security of the business systems they deliver. CCM service providers serving the financial services, banking, insurance, billing and utility markets have been in the business of meeting requirements and regulations that exceed most of those faced by today's most successful cloud services. CCM service providers are likely to have a competitive edge vs. other cloud providers in this area. Madison Advisors believes that CCM cloud providers will need to continue their focus on best-in-class security and reliability methods. These requirements will only continue to expand in number and complexity in the foreseeable future.

Large CCM providers and providers with a legacy of print/mail assets have often been running their applications on their own private infrastructure for many years. These providers often own their own data centers and leverage these private infrastructure assets to create the private cloud platform they use to support their cloud offering. Others source their private cloud infrastructure through long-term lease arrangements with enterprise-class infrastructure providers. All of the study participants demonstrated robust, secure and scalable architectures regardless of their infrastructure sourcing arrangement.

All of the study participants demonstrated robust, secure and scalable architectures.

Price Structure

All participants who shared pricing structure information used some form of output-based pricing as their primary fee mechanism, a very common practice among print/mail CCM providers for decades. The complexity of pricing structure for fees beyond output volume ranged from simple user-based subscription fees to more traditional print/mail oriented price lists for add-on services. Measuring, monitoring and reporting of fees is commonplace among CCM cloud solutions, but self-service control of subscription, licensing and other fee-based activity is not typical.

Madison Advisors believes that simplified, user and activity based subscription fees, in addition to the traditional output-based fees, will be critical to success in the CCM cloud market. Some cloud CCM providers have already adopted this pricing approach, including CEDAR, Doxee, Level One, and NEPs, but full adoption - including the simplification and standardization of onboarding and integration fees, is rare. Simple, transparent and self-serviceable user-based fees are already the standard in the cloud delivery market even among some of the most complex applications like accounting, billing, CRM and content management. This trend will continue to put pressure on CCM cloud solution providers to offer similar, simple pricing structures.

Impact of Cloud Delivery on CCM - Cloud CCM Roadmap Trends

Many of the gaps vs. current cloud market expectations that are noted in this study are recognized by the CCM cloud service providers that participated. All participants have aggressive technology and service roadmaps aimed at their cloud offering. Among participants that shared the information, all indicated that expanding and improving cloud service offerings was a top business priority.

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Madison Advisors notes the following general themes among participant roadmap plans:

1. Self-service: As discussed throughout this study, self-service capability is recognized as a key enabler, differentiator, and current barrier to success in CCM cloud delivery. Recognition of the breadth of roles in the enterprise that must be given self-service tools is driving investment in this area.

2. Usability: Many CCM cloud solutions are arguably just extensions of Internet-based self-service portals that providers have offered long before the rise in popularity of cloud computing. These interfaces are often below current expectations for usability, and providers are devoting significant effort to improving them. Even among best-in-class providers, usability remains a priority as providers recognize that intuitive ease-of-use across a disparate user population is key to driving adoption, and therefore success.

3. Integration & aggregation: Expanding integration tools and methods and productizing these methods into reusable products and services is common on most provider roadmaps. Some providers are beginning to explore how to leverage existing cloud ecosystems and application exchanges, positioning themselves to be much more effective participants in the cloud service broker market.

4. Multi-Channel & mobile device support: Most providers are focusing on expanding the multi-channel output capability and mobile device support of their CCM cloud solution. This includes investment in new output channels and devices, but also includes investment in mobile support for enterprise customer interfaces to cloud services.

5. Security: Compliance and security objectives continue to dominate CCM cloud provider roadmaps as regulations continue to evolve, new risks are identified and addressed, and as providers expand into international businesses where data segregation and location requirements drive new complexity.

6. Business intelligence and data analytics: Demand for this capability among businesses is increasing sharply, and is another application that lends itself well to cloud adoption. Business Intelligence (BI) and data analytics are closely related to CCM, and many providers indicate plans to build or integrate some level of BI into their CCM cloud offering.

STUDY CONCLUSIONS

CCM is a deeply embedded business process, and much like other related processes – relationship management, content management, accounting, project management, and email – it is being impacted by the adoption of cloud computing. A large proportion of the content that is delivered to end customers as a result of the CCM process, from marketing to transactional, is printed and mailed. The CCM market has been the domain of large print service providers and business outsourcers for decades.

However, cloud delivery changes all of that. Madison Advisors believes that cloud computing may represent a “great equalizer” in the CCM market, where enterprises view the full range of print/mail capability simply as a required commodity, and place a stronger emphasis on the same things that drive their consumption of other cloud services like CRM, ERP, and customer experience. These business drivers, like on-demand self-service, elasticity, simple, transparent and user-controllable pricing and fee structure, integration, customization and aggregation capabilities will establish a new challenging set of requirements for the CCM cloud solutions delivery market.

CCM solution providers need to understand the consolidating cloud delivery marketplace and address their strategy for where they will compete in that ecosystem. Some providers may best fit within the ecosystem of one or more CSBs which aggregate their services along with others. Other providers may have the scale and depth to be CSBs themselves, providing a complete and competitive CCM cloud solution set to enterprises and SMBs.

As SaaS becomes ubiquitous, it becomes imperative for service providers to understand which applications their customers are using in the cloud, and why. Understanding where these applications are likely to “touch” a provider's services & products and where they might overlap is critical, and helps clarify the provider's place in the customer's ecosystem.

Madison Advisors recommends that CCM cloud service providers consider some important transformational questions as they begin to enter the cloud delivery market: Where are the touch points where your products & services can add value to your customers' SaaS ecosystem? How can you create the kind of user experience that SaaS customers expect when they integrate your services with their business? Where can you most easily separate your business systems logic from the user interface, and extend a service into the cloud? These are the kind of questions that can help a provider assess current capabilities, discover new business models, and establish plans to expand their business into the cloud.

CCM solution providers need to understand the consolidating cloud delivery marketplace and address their strategy for where they will compete in that ecosystem.

Madison Advisors recommends that enterprises considering the adoption of cloud-delivered CCM solutions ask similar questions of their potential partners, along with assessing an organization's ability to integrate with the current and planned cloud services architecture for the business. As an enterprise's cloud adoption strategy matures and is driven by fundamentally sound guidelines like those established by cloud services brokers, it will be critical to ensure that transaction-based customer communications multi-channel services can be integrated into business systems and workflows with the same effectiveness as the enterprise-class cloud services that are being adopted today.

In any case, CCM solution providers must focus their attention on improved self-service capabilities, ease-of-use, content vs. document orientation, and interfaces that support an appropriate range of roles and business process touch points. They must also focus on robust and standard APIs, faster and lower risk implementation and provisioning. Expectations for these capabilities in the cloud delivery space are high, especially among mid to large sized enterprises.

APPENDIX A - STUDY AUTHORS

Kemal Carr, President

B.B.A., Management Information Systems, University of Wisconsin-Madison, Wisconsin
M.B.A. Candidate, Marketing/Management, Texas Christian University, Fort Worth, Texas
Since founding Madison Advisors in 2001, Carr has built the company into a highly respected, independent analyst firm that provides project-based, vendor-neutral research and advisory services designed to assist clients with technology selection and business process decisions. Carr also acts as a principal analyst for Madison Advisors and leads the research and analysis efforts for Madison's ongoing market studies.

Carr is regularly engaged by leading output technology publications to write about key industry issues such as the impact of TransPromo and Multi-Channel delivery, advancements in communication technologies, and electronic document presentment. His articles have been published in The Wall Street Journal, Document, Digital Publishing Solutions, and Mailing Systems Technology. He is also a frequent speaker at trade events, including Graph Expo, Xplor's Global conference, NPES/PRIMIR Industry Summit, and DOCUMENT's Strategy Forum.

Prior to forming Madison Advisors, Carr held senior technical research and management positions at Doculabs, Fidelity Investments and Price Waterhouse.

Doug Cox, Principal Analyst

B. B. A., Accounting & Finance, Stephen F. Austin State University
M. S., Finance & Business Technology, Texas A&M University
Doug is a recognized authority in the customer experience and customer communication industry, has published numerous thought leadership articles in business publications and has presented at various technology, customer communication and customer experience industry events.

Doug has held both technology and business leadership positions with a variety of organizations. He previously held President & General Manager, and Worldwide VP of Product Marketing roles at GMC Software Technology. Doug also held executive technology strategy business leadership roles at Fiserv where he led numerous successful and game-changing enterprise-wide initiatives in the customer communication space over a 10 year period.

APPENDIX B - ABOUT MADISON ADVISORS

Madison Advisors exists to advance the print and electronic communications objectives of Fortune 1000 companies. Madison Advisors specializes in offering context-specific guidance for a range of content delivery strategies, particularly those addressing enterprise output technologies and customer communications.

Madison Advisors offers services and expertise primarily through short-term, high-impact consulting services. With no-nonsense, quick engagements (measurable in days or weeks, not months), Madison Advisors directly helps our clients achieve very hard and specific return on investment (ROI) related to their print and electronic communications initiatives.

Madison Advisors' analysts are dedicated to technology and market research that is delivered through short-term project engagements as well as articles, publications, and presentations. We specialize in customer communication technologies including enterprise output management, content management, customer relationship management, e-billing, and infrastructure technology.

For more information about Madison Advisors, visit our web site: www.Madison-Advisors.com

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