Creating a Scalable and Extensible On-Demand Customer Communications Management Platform

To convert the promise of CCM into more flexible customer communications and revenue growth, organizations need to recalibrate their thinking and capabilities; here’s how.

Executive Summary

To deliver an integrated and personalized customer experience that is cost-effective and secure, many organizations are gravitating toward a model known as on-demand customer communications management (CCM).

Apart from facilitating flexible and scalable customized communication and cross-channel delivery, on-demand CCM supports a nonlinear and dynamic growth model for organizations looking to rationalize cluttered application platforms (across LOBs) and to reduce time-to-market.

As the number of customer touch points has increased, on-premises infrastructure has been unable to cope with demand variability. Cloud technology enables organizations to deliver an integrated customer experience through a virtual on-demand CCM infrastructure that can accommodate spikes in CCM transactions.

For a successful transition, organizations have responded by reassessing their traditional CCM processes and enterprise content platforms to rationalize delivery of customer communications. Taking this approach allows for a phased reengineering to on-demand infrastructure and provides greater sourcing flexibility to organizations that want to optimize the CCM sourcing mix and to convert on-premises infrastructural expenditure from Cap-Ex to on-demand Op-Ex budgets.

However, like any new technology, this type of transition should be preceded by the development of a systemic transition roadmap and informed technological choices.

This white paper presents our views on CCM on demand and explores the capabilities organizations need to make a successful transition to its delivery. Moreover, this paper presents a new operating model for delivering CCM services via an on-demand platform and highlights our proprietary CCM on-demand framework.
Apart from meeting spikes in demand through infrastructural scalability, on-demand application services allow organizations to reduce Cap-Ex investments related to on-premises infrastructure since individual software setup is no longer required.

CCM: A Definitional View

CCM is defined as a refined derivative technology of enterprise content management that facilitates targeted, personalized and cross-channel communications creation and delivery to customers in batch, on-demand and interactive modalities.

Cloud technology enables organizations to place their applications, infrastructure services and platform services in remotely hosted on-demand infrastructure (hardware and software) and, in turn, allows various organizational stakeholders to access applications services via a Web interface.

Apart from meeting spikes in demand through infrastructural scalability, on-demand application services allow organizations to reduce Cap-Ex investments related to on-premises infrastructure since individual software setup is no longer required.

CCM applications facilitate consistent branding by central template management functionality through which vital legal communication terms and brand elements such as template visuals (brand logos, images, etc.) and content (headers, footers, personalized fields and office addresses, etc.) are enforced centrally.

Apart from the need for consistent branding, various drivers behind cloud CCM adoption are as follows:

CCM Framework

Figure 1
CCM Process

| Data Acquisition (From Back-end Systems/Inbound) | Data Transformation (Parsing/Clean-up) | Communication/Document Composition (In Template) | Communication Dissemination (Multichannel) |

Figure 2

- Consolidation of disparate applications/multiple platforms to leverage economies of scale.
- Strong internal demand for an on-demand model.
- Faster time-to-market.
- Increasing engagement of systems integrators as on-demand customization partners.
- Distributed and flexible CCM sourcing.
- Rapid evolution of customer touch points and expectations.
- Reduction in TCO.
- On-demand scalability for season-specific marketing campaigns.
- Obsolescence of existing communications platforms.
- Developments in customer communications technology.
- Need for scalable communications platforms for tactical campaigns.

Understanding the CCM Platform

Effective customer communication is a critical strategic element. One of the key elements to operationalize this strategy is to have a cohesive customer experience management strategy - rather than merely depending on an application platform. While this is true, CCM's techno-functional schematic is depicted in Figure 1, previous page.

Elementally, CCM is a four-stage process as depicted in Figure 2.

After dissemination, generated communication is archived for retention and/or tracking purposes. Such communication dissemination, however, happens in three modalities, as depicted in Figure 3.

Modalities of CCM Output

- High-volume document generation (in a batch) such as annuity statements.
- User-customized data in preset templates such as policy holder welcome kits.
- Output triggered by system/human-led events such as online premium quote.

Figure 3
CCM On Demand: Value Proposition

Due to its inherently ever-changing nature, CCM is the key technological domain appropriate for on-demand technology due to the variance in communications requirements by companies across industry, which can be addressed by a more scalable infrastructure. The value proposition can be assessed by comparing how a typical batch CCM process is addressed with a traditional on-premises solution and the way it is accommodated via the on-demand model (see Figure 4).

The traditional model is fraught with some disadvantages, namely:

- **Reduced speed-to-market:** Due to a distributed communications landscape, organizations are not able to respond to rapid changes in customer/regulatory demand in a timely fashion. Despite a sound CCM-enabled infrastructure, and as a result of unique LOB requirements, organizations face challenges to deliver personalized, platform-specific experience to customers. In the absence of a CCM platform, changes in a typical communications template would require significant lead time and effort for enterprise-wide replication.

- **Disparate and LOB-specific models of customer experience:** The traditional model encourages disjointed CCM deployment, specific to each LOB. This propagates a disjointed,

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**CCM Model Comparison**

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Figure 4
LOB-specific customer experience, which dilutes the intended branding. Add to this platform obsolescence, and upgrading disparate platforms is typically prohibitively expensive in an on-premises model!

- **Lack of scalability:** For batch communications specifically, the rigid traditional model fails because existing on-premises infrastructure is limited in terms of transaction handling capacity. For seasonal or/and tactical marketing campaigns subject to sudden demand spikes, on-premises infrastructure cannot be ramped up to meet the ad hoc requirements.

- **Higher total cost of ownership (TCO):** On-premises infrastructure involves significant Cap-Ex to meet demand spikes, requiring organizations to acquire more physical/software infrastructure. This results in higher TCO compared with the on-demand CCM model, where infrastructure costs are accrued on a “per use” or “per transaction” basis.

- **Rigid sourcing models:** Various product lines/LOBs function as “sourcing silos” where parts of processes are outsourced to different vendors and optimized by different enterprise content management (ECM)/CCM products.

**On-Demand CCM Model**

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Besides incubating a disparate technological silo, this asymmetrical model prevents economies of scale. Due to the rigidity of on-premises infrastructure, organizations are not readily able to switch suppliers (such as printing/shipping vendors), due to vendor-lock in.

An optimized on-demand CCM model confers the following benefits:

- **Application (multi-departmental) rationalization and leveraging economies of scale:** In contrast to the on-premises model where organizations have limited scope to optimize CCM services, the on-demand model enables organizations to rationalize the disparate communications application silos in a unified function. As a consequence, multiple cost centers are consolidated and the organization can optimize its CCM operations through cross-utilization of the on-demand virtual apparatus.

- **Faster time-to-market:** Due to a consolidated on-demand setup and resultant cross-utilization of CCM infrastructure, it is easier for each LOB to have a rationalized and simpler environment that can be rapidly developed to offer a dynamic multichannel experience at relatively faster speeds. Processes such as template management are centralized and lead to exponential reductions in turnaround time (from weeks initially to days or hours). Central template management eliminates the need to make changes in templates on multiple platforms.

- **Usage drives cost, converting Cap-Ex into Op-Ex:** CCM on demand enables organizations to phase out a bulk of their physical infrastructure. Therefore, organizations do not incur significant Cap-Ex for a green field infrastructure setup. Instead, they can utilize on-demand-based virtualized infrastructure on a pay-per-use business model, where usage drives cost. In essence, on-demand CCM infrastructure utilization is based on an Op-Ex rather than a costlier Cap-Ex model.

- **On-demand scalability:** Sudden spikes in demand in an in-premises model may lead to

### CCM On-Demand Considerations

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<th><strong>Costing</strong></th>
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<tr>
<td>- Commercial model development – for CCM vendors (shipping/printing).</td>
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<td>- Cost per transaction, per “ramp up” computation.</td>
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<td>- Single tenancy vs. multi-tenancy – base charges.</td>
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<td>- “Lock in” costing by cloud vendors.</td>
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<td>- 3-5 year projections of TCO in premises vs. cloud.</td>
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<td>- Provider’s role restricted to infrastructure provider.</td>
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<td>- 99.99% availability guarantee – sufficiency analysis.</td>
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<td>- Technology considerations: migration strategy, integration and bandwidth.</td>
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<td>- Future interventions by government.</td>
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<td>- Liabilities of cloud vendor – restricted to hardware and ensuring availability.</td>
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Figure 6
issues such as infrastructural unavailability. On-demand vendors can provide extra bandwidth for handling operations such as sending batch e-mail. Once the demand is normalized, the on-demand infrastructure is scaled down automatically. In this model, usage drives cost as the consuming organization would be billed for additional bandwidth consumed for the said duration, before reverting back to the old billing pattern. On-demand CCM provides tremendous horizontal and vertical scalability.

• **Horizontal scalability:** Customer communication campaigns are limited by storage requirements in the traditional “in-premises” model. In the on-demand CCM setup, storage infrastructure is configured to automatically replicate, thereby doubling the available storage space, catering to spikes in storage requirements associated with customer campaigns.

• **Vertical scalability:** This implies scalable processing capability. For short-term marketing campaigns, when transactions (especially interactive and on-demand) increase exponentially, the on-demand CCM processing is ramped up automatically. On-demand CCM systems have set infrastructural limits. Once that limit is “tripped,” on-demand infrastructure adds additional processing capacity to meet the demand spike. Due to potentially unlimited processing power facilitating parallel batch processing, it is easier to attain a 360-degree customer view than in a traditional model. For batch-based communications generation, cloud infrastructure can be configured to run “batch communication generation service” with a customized infrastructure configuration for several hours a day, thereby optimizing cloud utilization. This enables a scalable utilization of server capacity.

• **Distributed sourcing:** On-demand CCM implies that clients can readily switch between downstream printing/shipping vendors and can, conversely, also change on-demand vendors (globally) in a fraction of the time/effort required for in-premises "physical" transition.

### CCM On-Demand Services

![CCM On-Demand Services Diagram](Image)

- **CCM On-Demand Operations Services**
  - Governance
  - Risk Management
  - Compliance

- **CCM On-Demand Services Spectrum**
  - **Service Deployment Model**
    - Private Cloud
    - Public Cloud
    - Hybrid Cloud
    - Community Cloud
  - **Cloud Application Services**
  - **Cognizant CCM Practice**
  - **CCM Platform Services**
  - **CCM Partners**
  - **Cloud Monitoring and Management Platform**
  - **Cloud 360 (Cognizant)**
  - **Infrastructure as a Service**
  - **Amazon AWS**

- **CCM On-Demand Advisory Services**
  - Cloud Strategy
  - Business Case
  - Cloud Vendor Evaluation
  - Enterprise Cloud Strategy

*Figure 7*
infrastructure vendors based on organizational/market dynamics. On-demand CCM allows printing/shipping vendors to easily integrate with Web-based access interfaces to render downstream communications distribution. Organizations can, if they choose, reengineer their infrastructure to a different on-demand vendor (globally) in a fraction of the time/effort required for in-premises “physical” transition. On-demand CCM ensures that the CCM platform is reachable across geographies, in compliance with local regulatory requirements, removing dependence on regional print and shipping vendors.

- **Balancing hierarchy and market-based sourcing:** Flexible on-demand sourcing has enabled organizations to achieve the best of transaction cost economies. In-premises CCM implied that organizations were forced to treat CCM infrastructure as indispensable “high-specificity” assets meant to reside within an organizational hierarchy, thereby offering reduced incentives to sub-optimize customer communication processes.

The advent of on-demand CCM has caused a paradigm shift, whereby infrastructure is rendered as a nonspecific asset which needs not be on premises. Therefore, the CCM on demand model commoditizes CCM infrastructure that can be sourced from the market, enabling organizations to optimize cost, sourcing mix and eventually to sub-optimize through economies of scale.

In addition, government intervention in on-cloud CCM is an evolving consideration. Prior to transitioning to the cloud, organizations should perform compliance analysis to ascertain the potential regulatory impacts. For example, HIPAA mandates audits of physical transaction data (inclusive of communications) - which are not viable in a cloud setup. Also, some governments insist that customer communications and other customer-centric data remain within national boundaries or within region-specific cloud data centers.

**Looking Ahead**

CCM on demand promises a dynamic, nonlinear model of growth for organizations looking to provide a cohesive customer experience. However, the considerations listed above warrant an organizational assessment in order to develop a viable CCM on demand strategy. Besides viable security concerns, organizations need to assess the "compliance universe" and the impact that on-demand CCM would have with respect to meeting regulatory requirements. CCM is a unique convergence of analytics, consumer behavior, ECM, imaging and CRM technologies. CCM’s evolution as a technology would continue to absorb emerging and institutionalized technologies such as on-demand to support an increasingly nonlinear model of organizational customer communications.

**Footnote**

1 A Fortune 500 financial services organization had a disjointed customer communications landscape where CCM operations were disparately delivered by over 30 applications spread on 25 different platforms. This organization had to invest in a CCM application rationalization initiative to consolidate such operations to 15 applications, supported by five core optimized platforms in order to create a cost-effective, standardized and flexible platform. This platform is to support long-term mass marketing campaigns and ad hoc “tactical” communications initiatives.

**About the Authors**

Abhishek Kumar is a Manager within Cognizant’s Enterprise Content Management Practice. An IBM-certified information architect, Abhishek specializes in providing CCM and information consulting and business analysis services to international clients in insurance (claims payment, customer query processing and broker relations), banking (policy, customer query processing and collaboration) and other verticals. He has worked with large UK, U.S., Canadian and Malaysian banking and financial services majors in document and process management consulting domains. Abhishek’s experience encompasses landscape mapping and assessment for document/communications management, product evaluation and strategic ECM/CCM roadmap definition. He can be reached at Abhishek.Kumar@cognizant.com.
Sumit Uppal is a Manager within Cognizant’s Enterprise Content Management Practice. A solutions expert with 10-plus years of experience in the customer communication management (CCM) and content management (CM) space, Sumit has worked with multiple customers across North America and the EU to address their content management, multichannel communications, document composition, pre/post-composition solutions, enterprise reports management and document federation challenges. Prior to joining Cognizant, he worked with Cap Gemini and iGate–Patni. Sumit is currently responsible for solution design, project delivery and supporting presales activities. He can be reached at Sumit.Uppal@cognizant.com.

About ECM Group

Cognizant’s Enterprise Content Management (ECM) Practice is a “single point” practice with dedicated “Service Lines” to drive growth in various CCM/ECM product segments. With a large pool of qualified associates, the ECM Practice caters to customer communications management (CCM) business requirements by relying on its expertise in CCM products such as HP Exstream, EMC xPressions and Oracle Documaker. Over the years, the practice has helped organizations achieve competitive advantage through the efficient delivery of ECM/CCM development, support services and solutions. Cognizant's partnerships with leading ECM/CCM solution providers facilitate exclusive access to knowledge base, technology consulting, product revisions, 24x7 support and various competence development and training programs. For more information contact us at ECMBD@cognizant.com.

About ECM’s CCM Group

Cognizant’s Customer Communications Management Practice is a team comprising consultants, solution architects, technical architects, leads and developers. The team’s experience spans versatile insurance sub-domains such as application processing, underwriting, claims processing and tracking, customer interaction and query processing. The practice has undertaken challenging assignments like communications strategy, product evaluation and roadmap design, design and development of enterprise platforms for communications management, platform consolidation and product migration. This team is cross-trained and certified on multiple products and technologies. The practice has a dedicated CoE that has alliances with various market leaders such as EMC xPressions, Thunderhead, Oracle Documaker and HP Exstream. The CoE is further dedicated to developing on-demand themed proof-of-concepts, approach and methodologies, best practices and frameworks. For speedier on-demand facilitation, Cognizant has developed a reusable, AWS-hosted CCM POC. Besides validating Cognizant's credentials as an effective on-demand implementation partner, this framework facilitates batch communications processing with various leading CCM product suites. We partner with leading on-demand service providers such as Amazon to host CCM solutions. Through such partnerships, we provide quicker on-demand facilitation and service requests for CCM on demand with a guaranteed high service availability of 99.9%.

About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process outsourcing services, dedicated to helping the world's leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 50 delivery centers worldwide and approximately 166,400 employees as of September 30, 2013, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world.

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