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TRANSFORMING CUSTOMER COMMUNICATIONS:

A NEAR REAL-TIME E-MAIL MARKETING SOLUTION



With the help of Covalent Marketing, the insurance carrier was able to overcome their data mart limitations and moved their campaign management efforts towards a near real-time stream of more relevant, meaningful marketing e-mail communications.

BY AMOL POTDAR

EXECUTIVE SUMMARY

This white paper describes how Covalent Marketing designed and deployed a near-real time (NRT) customer e-mail marketing methodology for a major insurance carrier, allowing them to keep in constant and relevant communication with their customers. The client, a large home and auto insurance provider, would send periodic marketing messages to their customer base; as is the industry standard still today. This calendar based marketing environment was driven on the backend by a standard relational data mart architecture with a two day data lifecycle lag; i.e. it would take two days from the time a customer transacted with the insurance carrier till that customer's data was available for marketing purposes.

With the help of Covalent Marketing, the insurance carrier was able to overcome their data mart limitations and moved their campaign management efforts towards a near real-time stream of more relevant, meaningful marketing e-mail communications. This new near real-time e-mail contact stream's clock started the second the customers purchased a policy. In fact, new customers received their first email confirmation within 15 minutes of the transaction. Covalent Marketing launched this new communication methodology by enacting the following measures:

- **Implementing a new Customer Lifecycle Architecture -**
 - o A new customer lifecycle strategy was implemented that guided customers along a dynamic set of segmentation criteria in near real-time based on the recorded actions by the customer.
- **Designing and deploying a new Data Lifecycle Architecture -**
 - o The systems that encompass the data lifecycle of data cleansing, processing, analysis and segmentation from point of capture to customer contact were re-designed to accommodate the 15 minute service level agreement (SLA).
- **Integrating a hyper-fast non-relational data structure backend in the Enterprise Marketing Management (EMM) Software application -**
 - o A novel non-relational backend data store was created to serve as a data platform for the EMM software suite, thereby allowing it to execute campaigns on-demand in a matter of minutes.

The client had a run-of-the-mill relational data mart which they wanted to enhance with a near real-time marketing e-mail solution as well as a whole new customer lifecycle management strategy. The crux of the problem lay in functionally integrating all three environments without sacrificing their existing marketing capabilities.

BACKGROUND / PROBLEMS:

The client had a traditional marketing environment with a leading EMM software suite which executed on top of their marketing database. This marketing database was a standard relational data store and, therefore, was a derived data subset of the enterprise data warehouse. The data lifecycle lag of this architecture was generally two days; i.e. it took about two days from the time the customer data was captured, cleansed, loaded into the data warehouse, transformed and organized in the marketing database for optimal consumption by the EMM application suite. The EMM application would apply the required business rules and segmentation criteria to the data, output the segmented/analyzed data, which would then be transferred to the external fulfillment vendor.

The client wanted to transform their marketing environment into a new near-real time e-mail environment. The client wanted to be able to react to customer interactions as they occurred, instead of being hindered by the two day data lifecycle lag. Specifically, the client wanted to roll out a new customer lifecycle management strategy that would guide the customer through a series of client driven milestones - customizing their new customer accounts and enrolling them in to relevant offerings provided by the client. For example, a policy purchase by a consumer would jumpstart this new customer strategy by sending a purchase receipt and confirmation to the new customer within 15-minutes of purchase and then help the customer fully setup their policy account online. This new customer lifecycle management strategy, when combined with a near real-time communications capability, would place the client at the leading edge of the industry in customer communications.

However, the current database environment could not be completely phased out since there were a core group of marketing campaigns that generated significant revenue and would need to continue to run within the existing marketing database infrastructure. These select marketing campaigns ran on a sophisticated event driven model and thus were inherently incompatible with a near real-time communication methodology.

Thus, the challenge lay in implementing the new customer lifecycle management strategy with the near real-time communications capability in addition to, and alongside with, the current marketing environment utilizing the same EMM application suite without overstraining the available marketing system resources.

Covalent Marketing's successfully implemented a unique three part solution comprised of:

- A New Customer Lifecycle Architecture
- A New Data Lifecycle Architecture
- A High-Speed Non-Relational Backend Data Store

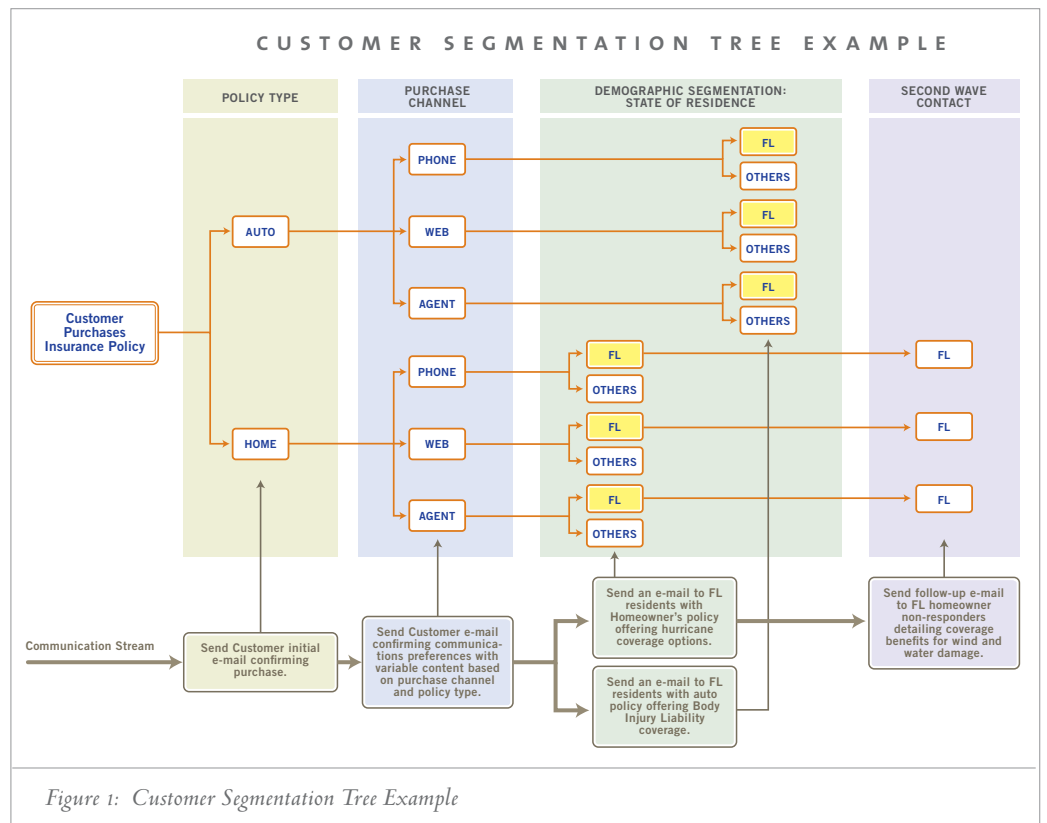
THE SOLUTION:

Covalent Marketing tackled all three issues in parallel since each had to integrate with the other. In short, the implementation of the non-relational data structure backend allowed Covalent Marketing to integrate the new customer strategy with the new data lifecycle architecture. The subsequent sections each describe the major aspects of the three part solution enacted by Covalent Marketing.

New Customer Lifecycle Architecture

The initial phase of the customer lifecycle management strategy would guide the customer through the following guideposts:

- Receipt and confirmation of recently purchased policies
- Setting up customer communication preferences
- Sending the customer new policy materials and 'welcome' information
- Communicating further savings opportunities and offers based on customer choices and preferences



The new customer lifecycle architecture allows marketers to setup a stream of relevant e-mail messages to customers. Customer choices and selections are stored as actionable data allowing marketers to target specific customer segments and thereby optimize marketing campaigns.

The main goal behind the new customer strategy was to create a customer segmentation tree where the customer is analyzed at each step of the process and bucketed accordingly. The above steps are simply the initial phase of the new customer strategy; the subsequent phases would add an array of divergent campaign and segmentation options as guideposts to the customer segmentation tree. This allowed our client to offer the customer even more options and choices for each type of customer while maintaining a history of the customers' choices and contact history. Additionally, this track record of customer choices as well as customer contact history, together provide clear and actionable data to the insurance carrier for future marketing use.

Figure 1 shows the stream of messages that customers receive from left to right. Each message is part of a communication stream and is relevant to the messages that precede it and succeed it. In this example, Auto and Home policy owner segments are sent customized purchase and communication preference e-mails. The next e-mail segments them further according to the state of residence and offers customers residing in Florida additional coverage options. While the segmentation dimension may be the same, Florida residents in this case, the customers receive distinct marketing messages. Additionally, action(s) taken or not taken by an e-mail message recipient impact that customer's participation in future marketing initiatives. Continuing in this example, non-responders to the hurricane coverage e-mail are after some time sent an additional e-mail illustrating the average cost of wind and water damage to a home in the customer's local area and how added coverage may benefit the customer.

Another new aspect of the new customer strategy was in effectively integrating multiple inbound communication channels. For example, consumers have a wide range of options when interacting with the insurance carrier for purchasing a policy:

- **Web:**
 - Purchasing a policy on the corporate web site
 - Purchasing a policy on an insurance agent's website
- **Phone:**
 - Transacting with the corporate call center
 - Transacting with an agent over the phone
- **In Person:**
 - Purchasing a policy at an agent's office

This new architecture also effectively integrates multiple inbound and outbound customer communication channels. This multi-channel integration and content rules engine simplifies the way marketers can present dynamic content to customers. This new strategy is a customer centric approach to marketing and segmentation that streamlines and optimizes the customer marketing methodology.

The message and choices presented to a customer were customized depending on their method of transaction and with which party, agent or corporate office they conducted their business.

As an illustration, here is simplified customization matrix with only a few of the potential transaction scenarios:

POLICY TYPE	INITIAL POLICY PURCHASE	SETTING UP CUSTOMER COMMUNICATION PREFERENCES
Customer interacts with agent over phone	Present customer with content and information set A	Present customer with content and information set C
Customer interacts via the corporate website	Present customer with content and information set B	Present customer with content and information set D

Figure 2: Simplified customization matrix.

Even though the customer may interact with an agent over the phone during both the ‘Policy Purchase’ and ‘Customer Communication Preferences’ campaign guideposts, the content and information that the customer receives is vastly different then if they had used the web channel of communication.

This multi-channel integration and customization added new degrees of freedom and choices to the consumer. While these options were available via manual coding with the previous customer strategy, never before were they presented in such an automated, simple to manage, centralized and dynamic decision engine.

A significant result of the new customer strategy was that new marketing campaigns would always be placed in context with other marketing campaigns within this segmentation tree structure. In the legacy customer contact strategy, marketing campaigns were always created and executed independent of each other without any thought given to marketing area overlap, inefficiency or cannibalization impact on other campaigns.


The new data lifecycle architecture consists of a near real-time infrastructure that processes, validates and enriches data for marketing consumption purposes. This new architecture successfully cuts down data lag from 2 days to 15 minutes starting from the point of customer data capture all the way to the delivery of the E-mail.

The new customer strategy forces a program manager to always view any and every marketing campaign within the context of the big picture; making them thoroughly evaluate the value-add and impact of their marketing campaigns on other campaigns and, most importantly, on the customer. Simply put, this new customer strategy is a customer centric approach to marketing and segmentation that streamlines and optimizes the customer marketing methodology.

New Data Lifecycle Architecture

As elaborated in the Backgrounds/Problems section, the client's current database marketing environment was unsuited for near real-time communications due to the two day data lifecycle. The new 15-minute e-mail delivery SLA was the driving factor behind this new data lifecycle architecture.

The new architecture consisted of series of systems that processed and validated data using XML documents at each step of the near real-time processing infrastructure. Multiple new schemas were setup for systems to:

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- Capture customer data at the various customer-client transaction and interaction points
 - Cleanse the captured customer data
 - Enrich the customer data with pertinent information such as demographics, agent information etc. from the marketing data mart
 - Transform the data to fit organizational and marketing campaign purposes
 - Aggregating customer data from various other channels and sources: internal and external
 - Validating that the data can be correctly consumed by the pertinent applications
 - Loading the data to the end target system; in this case the EMM software application suite
 - **Applying the relevant business rules and customer segmentation criteria in the EMM software**
 - Writing out processed and segmented data to the various data stores such as Contact History, output files and databases etc.
 - Transferring the output data from the client to an external fulfillment vendor for communication with the customer

The new customer communications system had to meet a 15 minute delivery SLA as well as be robust and flexible enough for concurrent use by multiple marketers. In order to meet these requirements, Covalent Marketing implemented a novel non-relational backend data store for the EMM platform which is exponentially faster at segmenting and querying customer data.

Given the serial nature of processing all the above activities in an on-demand context, the response time for each step is critical. From start to finish, the entire data lifecycle architecture had to successfully process data within 15-minutes from starting as raw captured customer data at the point of purchase to a polished and relevant e-mail to communicate to the customer.

While the optimized data processing and time response for all the aforementioned systems is important, the crux of this data lifecycle architecture in the above steps is the business rules application and customer segmentation component, emphasized above in bold. Our solution was a non-relational data store implemented on the backend of the EMM software application suite to create a fast and thorough solution that met all the necessary business and technical criteria as well as the 15-minute SLA. The next section elaborates on why such a radical solution is necessary in order to implement near real-time capability.

Utilizing a Non-Relational EMM Data Store Backend

As mentioned in the previous section, a fast data processing time for each system component in the newly designed and implemented data lifecycle architecture was critical in order to meet the 15-minute e-mail delivery SLA. However, the target EMM application system component which applied the business rules, acted as the decision engine, segmented the customers and created the output data files is inherently distinct and much more complex than the other components. All of the data capturing, cleansing, enrichment, validation, aggregations systems etc. are inherently static systems that fall within the complete purview of the IT department. Once these systems were coded, setup and deployed to production, the same code was executed over and over again throughout the day to perform the pre-defined functions.

The EMM software application suite however, is a uniquely distinct system and not just a static cog in the data lifecycle architecture. The EMM software application suite is first and foremost a marketing system for use by business users to create and modify marketing campaigns. Furthermore, an EMM system is always in a state of flux as campaigns are constantly being created, modified, updated and retired. In addition to the production campaigns that are regularly executed, multiple users are often concurrently developing and/or testing other campaigns on the EMM system. A mature EMM software application suite is frequently under heavy use and therefore a novel

The non-relational backend data store allows marketers to execute campaigns that exceed SLA criteria while adeptly handling multi-channel integration, business rules processing and customer segmentation, and customization. It also smoothly co-exists alongside the standard relational data mart without overstraining the marketing environment resources.

solution would be needed to ensure that the EMM software application is not the bottleneck in the newly created data lifecycle architecture.

To account for this, Covalent Marketing architected a breakthrough non-relational, flat-file based backend data store for the EMM software application. This is an apt solution because in a traditional relational database model the workload burden lies on the database reads. While the relational model is highly efficient in data storage and enforcing data integrity, it comes at the heavy database computational cost. Non-relational data stores completely flip this model since they don't require the complex joins and operations of SQL. The data can be read and processed much faster by the consuming EMM software application.

However, this non-relational data approach comes at data storage cost. Due to the highly de-normalized and non-relational structure of the data, each customer record size was approximately 25KB in size for the simplest of campaigns – the disk space required more complex campaigns increases exponentially. Given the unique requirements for the near real-time e-mail initiative, the trade-off in disk space vs. hyper-fast campaign processing time was more than acceptable.

This supplemental unique non-relational data architecture and platform allowed the EMM software application to execute campaigns in record times that exceeded existing SLA criteria while still handling the multi-channel integration, business rules processing and customer segmentation, and customization. Additionally, the same EMM software application suite can also execute alongside the existing traditional relational data mart architecture for running the other event-based campaigns without over-straining the EMM system and marketing environment.

Covalent Marketing completely transformed the client's marketing environment by implementing a strategically and operationally optimized customer and data lifecycle management solution integrated with a hyper-fast non-relational data store backend. This new near real-time e-mail communications platform allowed the client to deliver more relevant marketing content almost 200 times faster.

THE TAKEAWAY:

Covalent Marketing helped completely transform the customer communications methodology for our major insurance client from a standard calendar based marketing message methodology to a near real-time, dynamic customer communications stream. Covalent Marketing accomplished the above by deploying a completely new data lifecycle architecture and a hyper-fast, non-relational backend data structure platform for the EMM software application suite, in tandem no less, with a completely new customer lifecycle management strategy. This revolutionary near real-time e-mail communications platform encompassed multi-channel input integration, customer data enrichment, business rules processing, customer segmentation and data push to fulfillment vendors while exceeding the 15 minute e-mail delivery SLA.

Covalent Marketing's innovative solutions thrust our client to be on the leading edge of customer communications in delivering more relevant marketing content almost 200 times faster than previously possible!

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ABOUT COVALENT MARKETING

Covalent Marketing is an EMM consultancy servicing Fortune 100 to Mid-Market clients nationwide. It was founded with the belief that building better, stronger relationships with customers come from applying our market-tested approaches and creativity, along with technical savvy. Covalent Marketing consistently delivers best-in-class marketing solutions through disciplined, innovative ideas combined with veteran experience. Our range of services span from providing marketing strategy, EMM software tool evaluations, Campaign Management re-engineering all the way through to large enterprise-wide MRM implementations and support.

ABOUT THE AUTHOR

Amol Potdar is a senior consultant at Covalent Marketing. He has an extensive consulting background in Database Marketing, CRM applications, Data Modeling and Multi-channel Campaign Management implementations. His experience spans pharmaceutical, healthcare, telecommunications, travel, financial services and insurance industries. He currently holds a Master's degree in Information Technology and Bachelor of Science degree in Computer Engineering from Northwestern University. Amol Potdar can be reached at apotdar@covalentmarketing.com