

Cardlytics

Vertica Analytics Platform grows with Cardlytics to accommodate large volumes of data and provide fast returns on queries.

Overview

Cardlytics uses purchase intelligence to make marketing more relevant and measurable while strengthening the role banks play within the flow of commerce. By leveraging purchase insights to answer pressing marketing questions, Cardlytics has linked together some of the biggest names in banking and advertising.

Founded in 2008 and based in Atlanta, Georgia, Cardlytics has experienced tremendous growth and now partners with financial institutions such as Bank of America, PNC Bank, Regions Bank and Fiserv. These partnerships work well, given financial institutions' desire to offer their customers value in the form of

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cash-back rewards on the things they like to buy. Cardlytics' proprietary native online and mobile banking channel enables advertisers to deliver relevant offers to financial institution customers based on actual purchase behavior. This not only drives advertisers' loyalty amongst their customers, but also helps financial institutions increase card usage, decrease attribution, and build their own customer loyalty. Offers are securely distributed across a customer's digital banking experience.

Challenge

Cardlytics has a proven track record of delivering effective rewards programs, working with some of the largest financial institutions in the world. With an estimated 61% of Internet users banking online, there is a tremendous opportunity for advertisers to reach potential customers through banking channels.

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While Cardlytics is pleased with its success, the company's growth also presents it with business and technology challenges. For several



At a Glance

- **Industry**
Software & Technology
- **Location**
Atlanta, GA
- **Challenge**
migrate to a new, scalable analytics platform to accommodate a data-intensive company undergoing rapid growth
- **Products and Services**
Vertica Analytics Platform
- **Results**
 - + Increased average customer pipeline 10x: 200 new advertiser prospects on a weekly basis, up from 20 per week on legacy platform, with the ability to scale out to reach many more customers
 - + Achieved return on investment in just three months
 - + Met same-day rapid customer response instead of overnight
 - + Reduced operational overhead by 90% and can now re-assign personnel from maintenance to revenue-focused analytics

years, the company relied on a traditional RDBMS (SQL row store database) platform. However, each time the company added a new partner, Cardlytics' volume of data mushroomed. Faced with rapid expansion and the addition of larger banking partners, Cardlytics knew that it needed a scalable architecture. The company also aimed to improve processing speed.

Solution

After Cardlytics determined that it required a new analytics platform, Craig Snodgrass, Cardlytics' Chief Data Officer, began researching potential options. Cardlytics looked into several vendors, including Vertica. Snodgrass found that some of the vendors did not allow him to do a proof of concept. "The standard way you sell databases is to give the customers the keys and let them go play. Vertica gave us a box to do a proof of concept, and we took it and ran," Snodgrass says. Cardlytics also ruled out several vendors since the solutions did not provide what he saw as a need for commodity hardware—an essential requirement. "There are certain products that have distributed data, but we didn't want to get locked into buying proprietary hardware. We wanted more flexibility over the infrastructure," Snodgrass says.

After considering all options, Cardlytics selected the Vertica Analytics Platform. "There is a predictable cost to scale out. That was one of our key criteria in selecting Vertica. That and flat-out speed," Snodgrass says.

While Cardlytics already has seen tremendous increases in speed, the company knows it can add more nodes, scale out, and go twice as fast. "Vertica meets all of our requirements. I know how much it will cost and how much we will gain, and I appreciate that predictability," Snodgrass explains.

Since moving to the Vertica Analytics Platform, Cardlytics has expanded its relationship with Vertica by going from a 10TB license to a 250TB license and moving from a 4-node cluster to 30 nodes.

Results

New Prospects Lead to More Inventory, Increased Revenue

One of the primary business benefits Cardlytics is realizing with its powerful analytics database is the ability to target prospective advertising candidates for its online and mobile banking rewards programs. While Cardlytics' financial institution partners have long valued their native banking rewards programs, Vertica enables the company to offer even more targeted, relevant, and measurable advertising that takes the platform to a new level. These capabilities are valuable to Cardlytics' financial institution partners because relevant reward offers strengthen customer relationships and increase card usage.

"We can query our data quickly, in seconds, to place relevant advertiser rewards in front of the consumers who care about them most," Snodgrass says.

Cardlytics is also pleased with many IT improvements it is achieving. Since Vertica does not require a lot of maintenance, three or four people who performed overnight maintenance in the past now have been repurposed to conduct analytics. Additionally, the stability of the Vertica Analytics Platform eliminates the need for weekly back-ups that had shut down the system. "With row-based databases you have to do indexing. There are no indexes in Vertica. You never have to take it down. Vertica is 100% reliable and stable," Snodgrass explains. "Our operational support time has been reduced by roughly 90%."

Because Vertica does not require table locks and turbo-charges queries, Cardlytics has cut customer response time from one day to less than an hour.

In the past, transactions loaded at night. "Now, during the day if we need to load one billion transactions it isn't a problem," Snodgrass says. In the past it took 20, 30 or 40 minutes to return a query typically, and sometimes as long as 20 hours. Now, the Vertica analytics database returns queries in one-half to one minute on average—five minutes at most. Vertica now returns a typical query 40-to-80x faster than the legacy platform.

Cardlytics does not consider its investment in Vertica expensive, estimating that it has paid for itself entirely in a period of three months. "An analytics database I was involved with at another organization was not as large in scale as what Cardlytics has now, and that investment was \$20 million. With Vertica I could have built it at 5% of the cost," Snodgrass says.

As Cardlytics takes advantage of its analytics platform, it finds that it can add a lot more data each week and get more performance out of it. In the past, the company added 200 million records per week. Now that it has its Vertica platform in place, Cardlytics is able to add an additional 2 billion records per week. "I knew I was getting speed and performance. What I didn't realize I was getting was a technology that seamlessly integrates into the ever-changing Big Data environments," says Snodgrass.

Not only is there more data, but analysts or anyone asking a question of Vertica are able to rapidly analyze this voluminous data. The frustrations associated with working on an underperforming data warehouse have been eliminated. Instead of waiting for returns on

queries, the team can ask more insightful questions and perform additional analysis that ultimately leads to better customer insight—all in far shorter cycle times. “We have found out that Vertica works well, and we are way more productive,” Snodgrass says. “Since the deployment I have heard nothing but ‘this is awesome.’”

With the fine-grained analysis enabled by Vertica, Cardlytics ensures the rewards they provide to financial institutions’ customers are precisely targeted and relevant. Better targeting means more customer engagement, benefiting customers, Cardlytics, the advertisers, and the financial institutions that Cardlytics supports. “I love the reaction we get from our

clients when we provide them an insight they have always wanted to see but could never get. We have even had clients applaud. That leaves a strong impression on both sides,” Snodgrass concludes.

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CRAIG SNODGRASS

Chief Data Officer
Cardlytics

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