

HP Vertica Analytics Platform ready to grow with Cardlytics



Platform accommodates large volumes of data and provides fast returns on queries



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—Scott Grimes, CEO, Cardlytics

HP customer case study

Scalable and stable HP Vertica Analytics Platform essential to data-intensive business

Industry

Advertising & marketing services

Objective

Migrate to a new, scalable analytics platform to accommodate a data-intensive company undergoing rapid growth

Approach

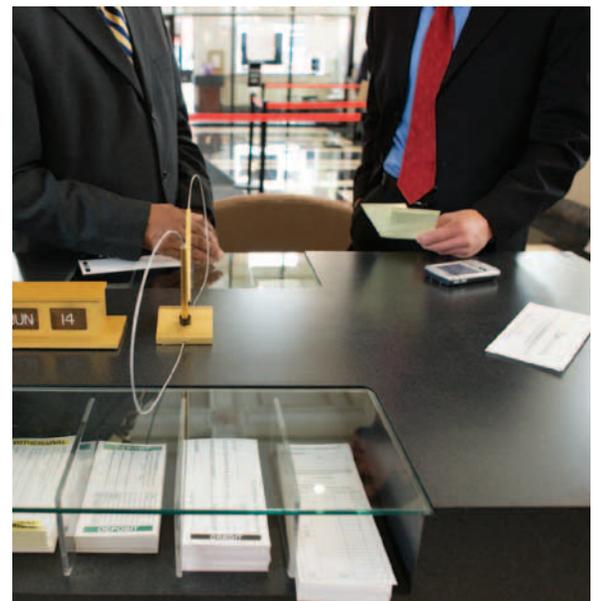
Researched, evaluated and selected new analytic database platform

IT improvements

- Capacity to quadruple the amount of data records added on a weekly basis—an additional 800 million data records, up from 200 million per week in the past
- Typical returns on queries reduced from up to 40 minutes to only one-half or one minute on average, up to 40-to-80X faster
- 100% reliable/stable—eliminated the need to do weekly back-ups and maintenance indexing, reducing operational support time by 90%
- Ability to easily scale out as needed

Business benefits

- Increased average customer pipeline 10x: 200 new merchant 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
- Increased inventory of advertising offers, which results in increased revenue
- Reduced operational overhead by 90% and can now re-assign personnel from maintenance to revenue-focused analytics
- Increased revenue resulting from more merchants participating in rewards programs
- Improved customer loyalty for retail-facing financial institution customer bases



Cardlytics, a transaction-driven marketing™ company, focused on tracking and understanding consumer buying behavior and delivering actionable intelligence, has been undergoing tremendous growth, ramping up from 10,000 pilot customers to its current reach of 70 million households. Founded in 2008 and based in Atlanta, Georgia, Cardlytics partners with financial institutions such as Bank of America, PNC Bank, Regions Bank and Fiserv.

The partnership works well, given the need for financial services institutions, particularly retail-facing divisions, to identify new, mostly fee-based revenue streams after the housing market crash. Associating fees with account-based services that are long-standing, such as checking and savings account fees, have the potential to negatively impact customer loyalty. Likewise, increasing

Customer solution at a glance

Application

Enterprise Software—
Analytic Database
Management

Hardware

- HP ProLiant DL380 G7 Servers

Software

- HP Vertica Analytics Platform software
- Red Hat Enterprise Linux operating system

credit card charges has forced many merchants to prefer alternate payment methods by their customers and has further opened the door to players from other markets entering through mobile payment channels. Cardlytics offers revenue-generating opportunities that positively affect both merchants and customer loyalty. The company enables merchants to present financial institutions' customers with relevant messages and offers to participate in merchant rewards programs based on actual buying behaviors. Offers are distributed in secure bank channels including online banking, mobile banking, secure text, email and ATM.

Cardlytics has a proven track record of delivering effective rewards programs, working with some of the largest financial institutions in the U.S., including four of the top 10 banks, two of the top three online transaction processors/providers and three of the top five pre-paid providers. With an estimated 80% of internet households banking online, there is a tremendous opportunity for merchants to reach potential customers through banking channels.

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Jon Wren, director of Data Innovation, Cardlytics

According to Cardlytics CEO Scott Grimes, “Our clients are looking for new ways to attract new and reward existing customers. Our HP Vertica Analytics Platform enables us to fine-tune and personalize offers, and we are providing this service at hyper-speed.”

While Cardlytics is pleased with its success, the company's growth also presents it with business and technology challenges. For several 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 ten-fold. Faced with rapid expansion and the addition of larger banking partners, it was difficult to predict the company's future hardware and software requirements. Cardlytics knew that it needed a scalable architecture. The company also hoped a new platform would improve processing speed.

Proof of concept leads to selection

After Cardlytics determined that it required a new analytics platform, Jon Wren, Cardlytics' director of Data Innovation, began researching potential options. Cardlytics looked into several vendors, including HP Vertica. Wren 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 me a box to do a proof of concept, and I took it and ran,” Wren 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 I didn't want to get locked in to buying proprietary hardware. I wanted more flexibility over the infrastructure,” Wren says.

After considering all options, Cardlytics selected the HP Vertica Analytics Platform. “I like that there is a predictable cost to scale out. That was one of our key criteria in selecting Vertica. That and flat-out speed,” Wren 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. “HP Vertica meets all of our requirements. I know how much it will cost and how much we will gain, and I appreciate that predictability,” Wren explains.

“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.”

Jon Wren, director of Data Innovation, Cardlytics

Cardlytics currently runs a four-node cluster on HP ProLiant DL380 G7 Servers running Red Hat Enterprise Linux operating system. The company is considering adding four to eight more nodes near-term, with plans for 20 nodes by second quarter 2013. The company also continues to rely on a smaller operational Microsoft® SQL Server™ database that is complementary to HP Vertica.



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 candidates for its merchant rewards programs. “We can query our data quickly, in seconds, to identify specific merchants in a given geography and direct sales people to talk to them. We can now target at least 200 new merchant prospects on a weekly basis with the ability to rapidly scale out to reach many more customers, versus only 20 per week on our legacy platform. The more merchants we have, the more inventory of advertising offers we have, and that leads to more revenue,” Wren says.

“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.”

Jon Wren, director of Data Innovation, Cardlytics

While Cardlytics’ financial services customers have long valued their merchant rewards programs, the HP Vertica Analytics Platform enables the company to offer more targeted, relevant advertising offers that take its rewards programs to new levels. These new capabilities are valuable to Cardlytics’ financial services customers because relevant reward offers strengthen customer relationships and increase card usage.

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 HP 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,” Wren 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. If a file comes in at 9:00 a.m. we can make it available to a customer at 9:15 a.m., instead of loading it at night and making it available to the customer the next day as occurred in the past,” Wren 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 HP 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 initial investment in HP 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,” Wren says.

As Cardlytics takes advantage of its new 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 HP Vertica platform in place, Cardlytics is able to add an additional 800 million records per week.

Not only is there more data, but analysts or anyone asking a question of Vertica, are able to rapidly analyze this new voluminous data. The frustrations associated with working on an underperforming data warehouse have been eliminated. Instead of waiting for returns on queries, the staff 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,” Wren says. “Since the deployment I have heard nothing but ‘this is awesome.’”

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By signing new merchants, especially local merchants, Cardlytics now is able to deliver much more targeted offers to banking customers. With the fine-grained analysis enabled by HP Vertica, Cardlytics drives offers based on a number of different factors, including geography, interests and other demographics. Better targeting means more click-throughs, benefitting Cardlytics, the merchants and the financial institutions that Cardlytics supports. “My wife, who is a user of the product, said ‘What are you guys doing over there? There are a lot of cool offers now!’ And that’s extremely powerful,” Wren concludes.

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