

CASE STUDY

edo Optimizes Data Warehouse, Increases Loyalty and Target New Customers

Generating personalized customer offers and coupons to customers and marketing and advertising solutions to retailers through credit and debit cards and mobile devices

About

The power to connect advertising with in-store data pertinent to consumer spending behavior enables marketers, merchants and banks to increase loyalty and target new customers through instantly redeemable offers tailored to individual shopping habits. edo creates personalized offers and automatically delivers them through credit or debit cards and mobile devices.

Challenges

DATA PROCESSING TO IMPROVE EFFICIENCY

edo's existing analytics solution could not keep pace with the needs of their fast-growing business. Their legacy system would take nearly 30 hours to run its full ETL streamlining process and was not feasible for meeting daily SLAs. edo needed an analytics solution that could handle the immense volume of data flowing into their organization daily, and at the same time efficiently extract, transform and load that data to run queries.

DATA GROWING DAILY

edo has over 20 billion transactions to date that examine consumer behavior, preference and needs. Tracking, storing and analyzing the wealth data that comes from edo's targeted advertising creates an analytics bottleneck with millions of new transactions added to the data warehouse every day.



QUICK FACTS

- Industry: Marketing Consulting
- Headquarters: Nashville, Tennessee and Chicago, Illinois
- Website: www.edointeractive.com
- Products/Services: Pentaho Business Analytics, Pentaho Data Integration

REAL TIME ANALYTICS FOR COMPETITIVE ADVANTAGE

- edo needed a solution that would with better performance and be easy to use in order to differentiate its product and compete with the overwhelming number of social, local and mobile advertising solutions on the market. Moreover, edo wanted to demonstrate a better ROI for marketers and merchants struggling to bring profitable customers to the door and retain them.
- The IT workload to prep and publish reports for end users was both time consuming and costly, filled with technical coding and technology barriers. The solution needed to minimize coding and integrate new big data technologies with existing skills sets and resources.

What impressed me is that ETL world and big data world integrated quite well with Pentaho. The migration of moving through job flows to map reduce jobs was easy in Pentaho Data Integrations visual interface. No one else is doing this and it saved us an immense amount of time...Using analyzer makes me a dangerous data analyst.

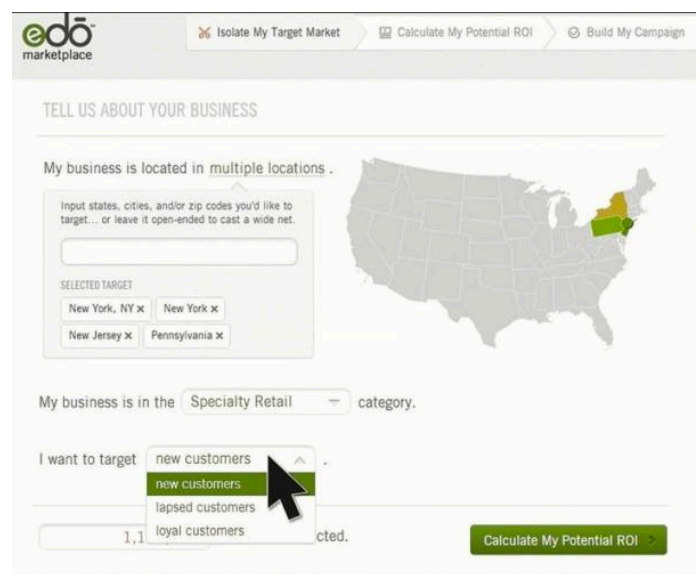
- JEFF SIPPEL
CTO, edo Interactive

Solutions

edo Interactive's data architecture needed to evolve in order to meet the rapid growth of the company. This first meant that their data scientists would have to transition their data storage from more traditional methods to an optimized Big Data warehouse that leverages Hadoop. edo deployed Cloudera Enterprise at the core of their Big Data platform. Pentaho Data Integration provides extraction, integration and analysis of data from multiple data sources to help standardize their data so it can be parsed for analysis. With the use of Apache Hive and Cloudera Impala, edo further leverages Pentaho Data Integration to optimize and process queries. These refined data sets are then processed via MapReduce or Apache Pig within Pentaho in order to run analysis and reports. With reporting tools, data scientists at edo drill into their customers' data to find the most targeted offer to put into the marketplace. edo also provides data as a service in the form of customized dashboards for their customers, enabling end users to look at business metrics, such as redemption rates, increased revenue, and customer location, to track ROI.

TECHNICAL SPECS

- 20 Dell 720 nodes (24 cores at 96GB memory with 12 or 24TB storage)
- 480 total cores
- 1.9TB of memory, 255TB of storage, mostly CPU-based, (smaller disks, more cores)
- Cloudera Enterprise 4: CDH 4.5, Cloudera Manager 4.8, Cloudera Impala 1.2.3
- Hadoop-LZO 0.3.15
- Pentaho 5.0.3



A screenshot of edo's targeted advertising UI. edo leverages the power of Big Data to provide their end-users better insights to their customers' behaviors and preferences.

Results

A team worked with edo to develop these new capabilities and completed data migration and created edo's business intelligence solution in five months.

- A minimum of a 70% reduction in ETL process time almost immediately after implementing Pentaho Data Integration. Pentaho ETL time was reduced to less than 8 hours – in some cases as little as 2 hours – depending upon the data load, edo saw.
- Streamlined ETL processing made data immediately available for query, allowing analysts and management to make informed decisions about strategy significantly faster and to meet its daily SLAs. edo's data scientists

have reduced query times to only 30 minutes via Hive and have seen sub-second query times when utilizing Impala. As edo's data scientists migrate to Impala, they can ask more questions of their data, bringing more value to their customers.

- New reporting capabilities in Pentaho Business Analytics provide edo's managers the ability to create real-time and ad-hoc reports. Moreover, easy-to-use dashboards have given customers access their data so they can track KPIs with minimal knowledge of IT. In this way, edo is able to further monetize the data they are analyzing and provide greater insights to the value of Big Data.
- edo's new data environment removed the need for Java-based programming, increasing access to data and ease of use. Pentaho's solution offers edo improved data integrity, by locking down file permissions through Cloudera and ensuring the database cannot be accidentally modified.

Summary

edo personalizes offers and makes them automatic. edo personalizes offers and makes them automatically available through credit or debit cards and mobile devices to connect advertising with in-store consumer spending behavior data. Marketers, merchants and banks increase loyalty and target new customers with instantly redeemable offers tailored to individual shopping habits, pushing their cards to the top of their consumers' wallets. Through improved data integration, edo has improved their ability to reach targeted SLAs, reduced processing times by at least 70%. With reduced technical barriers, edo arms its users with improved reporting capabilities, improving customer retention and acquisition. Moreover, with fewer burdens on IT, edo has seen improvements in their overhead and employees' quality of life. Their data scientists spend less time working on fixing errors and can focus on innovation, addressing increasing challenging analytics problems. edo is poised to continue to grow their data and the customers they serve.

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