

The Leading Solution for Retail Customer Insights

Retailers collect large amounts of data from point-of-sale transactional logs, promotional response files, loyalty program profiles, demographics/psychographics, and market data. Often times, accessing and manipulating this data is time-consuming, with queries taking hours or even days. CadenceQuest, the leader in customer analytics, and Aster Data, a proven leader in big data management and processing for data-driven applications, have partnered to deliver a solution to retailers for ultra-fast customer data insights and deep analytics.

With CadenceQuest's Customer Insight solution certified on Aster Data's powerful, scalable data-application server, marketers and merchandisers can gain a distinct competitive advantage by:

- Achieving a deeper understanding of their customers, including individual purchase behaviors and preferences over time
- Increasing sales and customer loyalty by building more targeted marketing and merchandising strategies
- Achieving better system performance, easy management, and continuous availability — all on low-cost commodity hardware
- Speeding analysis by embedding applications inside the database with Aster Data's SQL-MapReduce programming framework

CadenceQuest and Aster Data — The Perfect Partnership

In order to achieve competitive advantage, retail decision makers need to have a complete customer understanding and be able to perform the types of sophisticated analysis that CadenceQuest Customer Insight enables. But without a scalable data analytics architecture to support big data volumes and deeper analysis, traditional database systems break down. The result — very slow report turn-around, frustrated report users, and missed profit opportunities. Aster Data enables ultra-fast, deep analysis of massive data sets for a positive impact on a retailer's business. Aster Data uses a pervasively-parallel architecture across all functions of the system — querying, processing, loading, exporting, and back-up/restore — to manage terabytes or even petabytes of data. This architecture results in 10x–1000x performance, easy management, continuous availability, and the ability to use low cost hardware.

For complete understanding of customers, and the ability to target marketing programs, optimize merchandising strategies, and share data with strategic partners — all in record time — smart retailers choose the complete customer insight solution. They choose the winning combination of CadenceQuest Customer Insight and Aster Data.

Aster Data's Data-Application Server

- Application embedding within a massively parallel processing (MPP) database for ultra-fast, deep analytics on massive data sets
- Linear scalability to terabytes and petabytes
- Aster Data's patent-pending SQL-MapReduce for powerful analytics
- Application processing services that allow applications to be "pushed down" into the system and fully parallelized
- Unlimited scalability to thousands of server cores and petabytes of active data
- Runs on low-cost commodity servers
- Up-to-the-second loading of fresh data
- Always-on, 24x7 continuous operations
- Dynamic mixed workload management for thousands of concurrent users

Understanding the Customer

CadenceQuest Customer Insight on Aster Data's data-application server gives retailers deeper understanding of their customers across all channels. Customer Insight provides the big picture view on what customers are purchasing and why. With Aster Data's Data-Application Server underneath, users can drill into the detail and focus on granular behavioral analytics. Retailers can analyze customer product purchases and preferences, cross-product shopping, promotional effectiveness, loyalty behavior, and more. They can create and analyze customer segments by tapping into item, store and customer-level data. This collective insight helps marketing and merchandising users drive more customer-centric initiatives, leading to increased profit. Because Aster Data's data-application server is architected to run on low-cost commodity hardware, this information can be stored indefinitely at minimal cost.

Targeted Marketing and Merchandising Strategies

As retailers begin to fully understand their customers and fine-tune their marketing and merchandising strategies, they can use this new insight to achieve success that wasn't previously possible.

For marketers, Customer Insight helps them understand what tactics work best with each customer segment and which marketing tactics will drive the highest sales. Specifically, marketers have the insight to:

- Increase returns on marketing programs, such as email campaigns, fliers, and offers/promotions
- Target specific customer segments with personalized offers, and optimize customer contact strategies
- Send more highly targeted direct mail and e-mail campaigns
- Improve the sales impact of weekly circulars
- Identify highest-value offers based on expected redemption rates
- Mitigate customer defection while optimizing retention and acquisition

Customer Insight helps merchandisers identify optimal strategies around store assortments, pricing, and listing/de-listing strategies. Specifically they can utilize Customer Insight to make more effective decisions around:

- Delisting low performing items with minimal impact to overall sales
- Optimizing the product assortment to appeal to specific customer segments
- Product pricing
- Store layouts (planograms)
- Identifying opportunities for new product introductions

Complete End-to-End Retail Solution

With the combined Aster Data and CadenceQuest retail solution, customers derive value from their investments in business intelligence and data warehousing in less than 90 days. The combined retail solution includes the industry's leading data analytics platform from Aster and retail domain specific metadata models and schemas and sample reports powered by CadenceQuest.

SQL-MapReduce Highlights

- **nPath** – Complex sequential analysis for timeseries analysis and behavioral pattern analysis
 - **SSSP** – Single source shortest path graph algorithm useful for segmentation analysis
 - **Approximate Percentiles** – Ultra-fast percentile (or N-tile) statistical distribution analysis
 - **Linear Regression** – Statistical technique used to predict values based on a set of related variables
 - **Tokenize** – Text analysis that splits strings into words, categorizes them, and does a word count
 - **Sessionize** – Session categorization based on a sequence of clicks within a specified timeout
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Sample reports include:

- **New Customer by Product** – Identifies new and repeat purchases for particular products or product groups for a specified pre and post performance time period.
- **Product Lift Analysis** – Quantifies customer's likelihood to purchase products from one product group—during the treatment period—given their previous purchase of items from another product group.
- **Shopping Basket Analysis: Cross Product** – Identifies other product groups that tend to be purchased when a specified product group is purchased in the same shopping basket for a group of customers.
- **Shopper Basket Analysis: Trend** – Provides the capability to assess the total basket values for customers who purchased a specified product or product group over a set range of weeks.
- **Shopper Spend by Category** – Provides insight into customers' particular product or category level purchase behaviors over a set period of time.
- **Customer Behavior by Product** – Identifies the comparative importance of brands/product groups to buyers during a particular time period.
- **Loyalty Program Direct Marketing Effectiveness** – Demonstrates purchase behavior for control and test groups across multiple campaign versions.
- **Loyalty Offer Evaluation** – Evaluates a promotion's effectiveness by comparing the purchasing behaviors of both redeemers and non-redeemers.

About CadenceQuest

CadenceQuest is the leader in customer analytics, helping retailers utilize their data assets to get to the fundamentals of their business — knowing their customers and understanding what their customers want. Retailers can use this knowledge to improve the way they accommodate customer preferences—whether it is how they promote products, vary assortments or even place items in their stores. By treating customers the way they want to be treated, retailers are able to retain and grow their best customers — and attract more just like them. For more information, please visit <http://www.cadencequest.com>.

About Aster Data

Aster Data is a proven leader in big data management and big data analysis for data-driven applications. Aster Data's *n*Cluster is the first MPP data warehouse architecture that allows applications to be fully embedded within the database engine to enable ultra-fast, deep analysis of massive data sets. Aster Data's unique "applications-within™" approach allows application logic to exist and execute with the data itself. Termed a "Massively Parallel Data-Application Server," Aster Data's solution effectively utilizes Aster's patent-pending SQL-MapReduce together with parallelized data processing and applications to address the big data challenge. Companies using Aster Data include Coremetrics, MySpace, comScore, Akamai, Full Tilt Poker, and ShareThis. Aster Data is headquartered in San Carlos, California and is backed by Sequoia Capital, JAFCO Ventures, IVP, and Cambrian Ventures, as well as industry visionaries including David Cheriton, Ron Conway, and Rajeev Motwani. For more information please visit <http://www.asterdata.com>, or call 1.888.Aster.Data.