



Unified Customer Profile: Getting a 360° Customer View in the Age of Big Data





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Table of Contents

Executive Summary	2
What is a Unified Customer Profile?	3
Why a 360° Customer View is Becoming More Critical.....	4
Key Benefits of the Unified Customer Profile.....	5
Unified Customer Profile: Technical Challenges and Solutions.....	7
Harte Hanks Case Study	8
How to Achieve a Unified Customer Profile with Splice Machine	9

Executive Summary

Cut Through the Clutter.

Marketing has become exponentially more complex. The proliferation of web, mobile, and social media has fragmented audiences across a staggering array of channels. An overwhelming number of entertainment options and ads fight for a finite amount of consumer attention. How do you cut through this clutter? The obvious answer is targeting and personalization.

But that's easier said than done. With customer data siloed by channel, many marketers are forced to operate with "blinders" on. Creating a 360° customer view is a crucial first step to effective cross-channel targeting and personalization. This is not a new idea, but with new Big Data technology, this is finally possible for most companies.

To achieve this view, many businesses are investing in a Unified Customer Profile (UCP), a key digital marketing platform that aggregates real-time data across all customer touch points. This omni-channel data hub dramatically improves the effectiveness and ROI of targeted advertising, email marketing, web personalization, and content optimization.

Affordable Scale-Out.

Because of the massive volumes of data, traditional data warehouses and 'Big Iron' databases are just too expensive to support UCPs. Instead, businesses are building UCPs with affordable scale-out databases that leverage the popular Hadoop ecosystem.

Organizations that create a UCP on Hadoop-based scale-out technology are seeing:

- **75% cost savings** over traditional relational databases
- **3-7x increase in query speeds**, improving scalability to petabytes
- **10-20x improvement in price/performance**, without significant application, BI, or ETL rewrites

RESULTS

3-7x
Increase in
Query Speeds

75%
Cost Savings
Over Standard

10x
Price Performance
Improvement

What is a Unified Customer Profile?

Platform for 360° Customer View.

A UCP is a key platform in digital marketing that aggregates real-time data across all customer touch points (social, mobile, web) with third party data (Adobe®, Google, Acxiom™, Epsilon™, etc.) to create a 360° view of the customer.

Data Hub for Omni-Channel Marketing Campaigns.

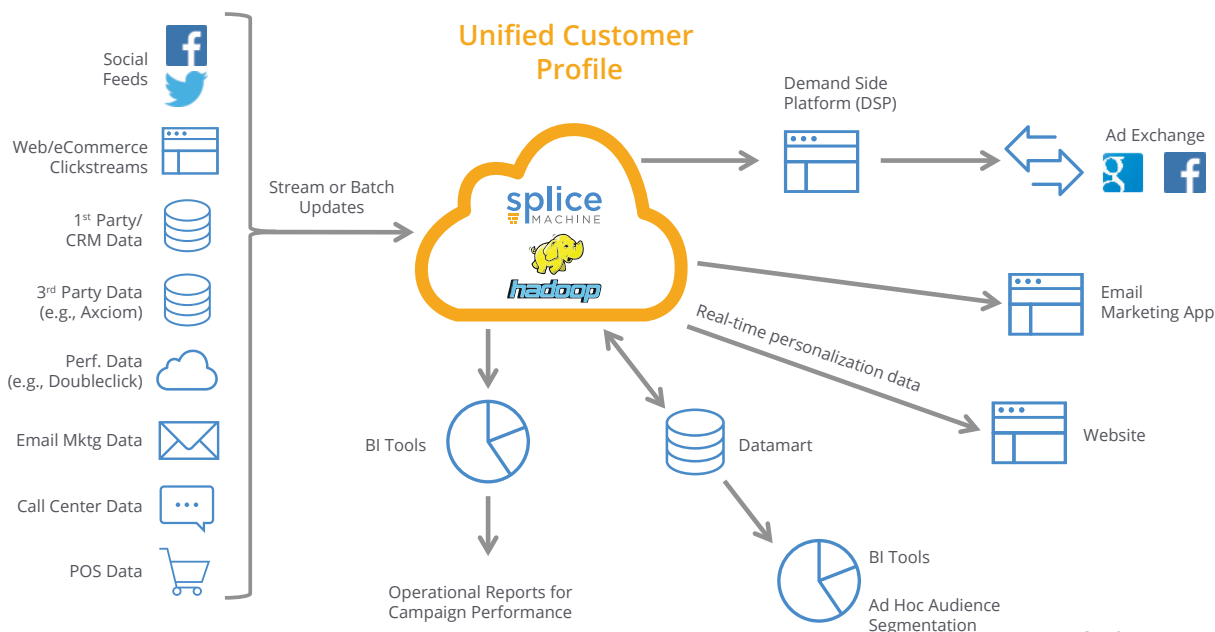
A UCP is a critical resource for bringing together data from all different marketing touchpoints (online and offline) in one place to power:

- Customer analytics (customer lifetime value, churn analysis, audience segmentation)
- Measurement of cross-channel marketing effectiveness
- Retention marketing
- Email marketing execution
- Real-time personalization of e-commerce, web and mobile applications
- Brand and direct response advertising across digital channels
- Brand engagement and loyalty program management
- Marketing attribution analysis

A UCP becomes a vital platform that enables marketers and agencies to supercharge all of their digital applications for hyper-personalized, omni-channel campaigns, that react to customer needs in real-time.

UCPs, of course, are not a new concept, but now better technology can address the challenge of managing massive data volumes from many channels at high velocity. The scalability and integration that was previously impossible to achieve with traditional databases are now available via new Big Data technology from Hadoop.

UCP ARCHITECTURE



Why a 360° Customer View is Becoming More Critical

Data Explosion.

The landscape of consumer marketing is evolving so rapidly that many companies are struggling to keep up. The proliferation of web, social, and mobile channels has created an explosion of data that makes it far more difficult to get a cross-channel view of the consumer.

American market research firm IDC projected that from now until 2020, the digital universe will double every two years¹. Companies must be able to ingest massive data volumes from a dizzying array of sources to put together the pieces of each customer's puzzle to identify the perfect message at the perfect time.

Data Silos.

However, this mission is not so easily accomplished. Forrester Research reported that only 38% of marketers have a 360° view of how customers interact with content across digital touchpoints.² The rest of these businesses are suffering from disparate IT systems that are locking up all their data from various sources in silos, thereby hindering a cohesive UCP needed to analyze and respond to consumer behavior in real time.

All Customers are Not Alike: Gaining a 360 Degree View³

84% of survey respondents would no longer buy from an organization that did not take into account their channel preference, purchasing history, and other customer information.

**% OF RESPONDENTS
WHO WOULD TAKE
THEIR BUSINESS
ELSEWHERE IF
THEY WERE:**

52%

Offered Things
They Don't Want

45%

Contacted in Ways
They Flagged as
Unwanted

36%

Offered
Products Previously
Refused

Key Benefits of the Unified Customer Profile

360° View Drives Personalized Experiences.

Marketing today is no longer about businesses telling their stories, but about identifying customers' unique needs and tailoring the selling processes to suit them personally.

Personalization can come in many forms:

- At the **point of sale**, it could entail sending targeted offers for future purchases based on location
- In **social media marketing**, it means using a customer's network to influence their buying decisions through powerful recommendations
- **Web** and **mobile** user experiences can be personalized based on a customer's recent browsing history and online purchases

Investing in personalization, especially in real time, results in improved lead nurturing, increased conversions, and higher revenues. Leading marketers are witnessing a personalization payoff with a 26% increase in profits and 12% greater market capitalization.⁴

Real Time Personalization Matters⁵...

- **74% of online consumers get frustrated** with websites when content (e.g. offers, ads, promotions) appears that has nothing to do with their interests.
- **40% of consumers buy more** from retailers who personalize the shopping experience across channels.

Yet Retailers Do Not Take Full Advantage

- 60% of marketers note they struggle to personalize content in real-time, yet **77% believe real-time personalization is crucial.**

TOP REASONS FOR NOT HAVING IMPLEMENTED "DYNAMIC PERSONALIZED CONTENT" ACROSS CHANNELS:

50%
Complexity of Systems

46%
Access to Real-time Data

45%
Data Privacy Issues



THE IMPORTANCE OF TARGETED ADVERTISING

Targeted Advertising Deepens Customer Relationships.

When it comes to introducing customers to consumer brands, there is no such thing as too early. Brand loyalty is best strengthened before major life changes: the average individual's marketing data is worth 10 cents, but a pregnant woman's data skyrockets to \$1.50.⁶



Optimizing analytics to predict customer behavior is often subtle and can be difficult to discern without a 360° view. If a woman purchases baby powder, she might need diapers and formula as well or she could be just using it as dry shampoo. A UCP can identify these behavioral distinctions so businesses can improve their targeting in the future—creating a lifelong customer from just a few clicks.

Content Optimization Maximizes ROI.

Targeting customers is an ongoing process, as humans change their purchase preferences due to demographic and behavioral variables or more nuanced ones, such as making new friends or aligning with a different political party. These changing attitudes are especially important to social media marketing, as 83% of Millennials consult their social networks before making a purchase.⁷

Thus, a company's web and mobile content should be just as dynamic as its customers. Businesses must be able to combine a customer's historical behavior with recent product inquiries and web browsing to determine which content should be presented. Experimenting a small percentage of the time can result in a better understanding of whether a customer's preferences have changed, as well as an increase in click throughs and sales.

Unified Customer Profile: Technical Challenges and Solutions

Challenge: Storage Silos.

The Unified Customer Profile is fundamentally a large, integrated database for all customer interactions, and until now technology has been a huge barrier to making UCPs a reality.

Traditionally, real-time data was not available as even the simplest reports had data that was hours or days old. Historical data was siloed into rigid data warehouses that were cumbersome to access and alter. These silos were typically not connected to present day data and were thrown out after short periods of time due to storage limitations, thus hindering any chance of making valuable insights.

The technical challenge of creating a UCP is optimizing IT infrastructure for real-time personalization. Large amounts of data from a variety of digital and third party sources must be ingested, processed, and analyzed seamlessly without frustrating delays and bottlenecks. Thus, technology must be capable of handling massive data volumes forever with rapid velocity.

Solution: Real-Time, Hadoop-Based Customer Profile.

The ideal UCP provides the foundation for a seamless cross-channel experience, which can only be accomplished by technology that can support high-ingest rates of real-time data, potentially scaling to petabytes.

Instead of siloing this information in expensive data warehouses and other 'Big Iron' appliances, companies can now select affordable solutions on commodity hardware. Businesses are reducing costs by investing in databases that scale out on many smaller servers rather than scale up on larger, more expensive servers. Proven scale-out technology from Hadoop makes it possible to optimize a UCP and provides better performance at a fraction of the cost of traditional databases.

The Future of Databases in Digital Marketing

THE PAST	THE FUTURE
Purge small data volumes often	Keep massive data volumes forever
Scale-up on expensive, proprietary systems	Scale-out on affordable, commodity systems
Remain limited to rigid, static data of similar structure	Analyze flexible, fluid data of many structures
Suffer slow data velocity, delays, and bottlenecks	Achieve real-time personalization with rapid data velocity



Harte Hanks Case Study

Optimizing Campaign Management with a UCP.

Marketing services provider Harte Hanks was suffering serious scaling challenges. Its customers desired 360° views of their own audiences, but their queries were getting slower, in some cases over a half hour to complete. Expecting 30-50% future data growth as more data sources were added, the company was concerned that performance issues would become increasingly worse.

Harte Hanks needed a Unified Customer Profile that could provide deeper insights to its customers by drastically increasing the amount of data at its disposal without any expensive database upgrades. It also desired more effective personalization through faster queries that power cross-channel campaigns.

Requirements.

Harte Hanks needed a new scale-out database solution that could leverage the proven scale-out of Hadoop while still ensuring seamless integration to their existing applications and tools (e.g., IBM Unica campaign management, IBM Cognos business intelligence), which require ACID compliance and ODBC/JDBC standards.

Results.

The company chose Splice Machine, a scale-out SQL database to support its mixed workload applications (OLAP and OLTP). They saw a **75% cost savings with a 3-7x increase in query speeds**. They can now easily scale out to hundreds of terabytes by adding commodity servers.

Harte Hanks now manages an optimized UCP, which offers:

- A 360° view through a customer relationship management system
- Personalized campaign execution
- Cross-channel campaign analytics with real-time and mobile access so customer insights can be rapidly shared across organizations

Ultimately, by replacing its traditional relational databases, Harte Hanks has experienced a 10-20x improvement in price/performance, without significant application, BI, or ETL rewrites.

"Splice Machine's Hadoop RDBMS delivers all of the functionality and performance we need. We are delighted with our initial results where queries execute several times faster on a significantly less expensive cluster."



ROB FULLER
Managing Director
of Product Innovation
Harte Hanks

How to Achieve a Unified Customer Profile with Splice Machine

Seamless transition. Splice Machine is the only Hadoop RDBMS that is designed to scale applications and tools without expensive proprietary hardware—or requiring massive application rewrites like NoSQL solutions do.

Affordable Scale-Out. At a fraction of the cost of traditional databases, Splice Machine can tackle:

- Large database workloads with high concurrency
- Operational applications, reporting, and analytics
- Integration with a variety of tools for business intelligence, data visualization, and marketing automation
- Real-time ETL pipelines at scale

By replacing costly RDBMSs with Splice Machine, companies have reduced costs by 75% while increasing performance by 5x-10x.

Contact Splice Machine today at info@splicemachine.com to learn more.

ENDNOTES

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