MightyHive uses Switchboard to Cut Through the Noise of 60B DoubleClick Transactions a Month to Build Programmatic Advertising Titan

Higher programmatic ROI, accelerated R&D cycles and lower fraud rates powered by better, faster data from Switchboard

HIGHLIGHTS

• Switchboard’s Cloud-based platform prepares and normalizes data from 60 billion transactions per month for real-time analysis of programmatic performance

• Deployed in just a single day, Switchboard saved MightyHive an estimated $400K for a turn-key solution vs. building in-house

• ‘Force-multiplier’ reporting capabilities – MightyHive went from producing one report per day to 15 reports for 15 different clients per day – an increase of nearly 225x in reporting capacity

• Slashed fraudulent activity by 85% through sophisticated heuristics enabled by Switchboard-prepared data

CHALLENGE

Programmatic advertising is a challenge for publishers and advertisers alike because it radically changes the scale, speed, and reach with which advertising is bought and sold. As one of the largest media buyers on the DoubleClick stack, MightyHive needs to consume data related to billions of transactions per day across multiple systems.

While MightyHive’s programmatic campaign management and DoubleClick expertise fueled company growth, the volume of data became too much to manage in-house. In particular, massive impression-level DoubleClick Campaign Manager (DCM) data transfer logs required essential MightyHive engineers to get ‘pulled off the line’ from customer projects to manually process data.

“Alongside military, scientific, and financial domains, digital advertising is one of the few industries with truly massive amounts of pertinent transactional data,” said Chris Martin, COO of MightyHive. “Programmatic advertising requires full stack visibility. That pushes data requirements for storing, normalizing and analyzing a lot of data from heterogeneous sources – if you’re not already doing
this as an advertiser, you could be paying a huge cost due to media inefficiencies.”

With billions of impressions creating enormous data transfer log files from multiple systems, MightyHive was forced to expend valuable engineering resources for data extraction on an ad-hoc basis. This would consume one full-time engineer for as long as 2 days for a single report. “Even getting raw data was taking us 8 hours for a single client,” said Lexi Viripaef, VP of Engineering at MightyHive. “Normalizing this data was mind-numbing, error-prone work that was sapping the energy of my team, when what they are passionate about is experimenting with data to drive programmatic ad performance.”

With the prospect of spending millions of dollars and unknown time to produce a system that could parse 100s of billions of transactions in aggregate, MightyHive reached out to Google’s BigQuery team for advice. They referred them to Switchboard because of the company’s deep expertise in leveraging big data for publishers and advertisers.

“When we got the call from MightyHive we knew this was a challenge we could sink our teeth into,” said Ju-kay Kwek, CEO of Switchboard Software. “Enabling companies to focus on unique data-driven insights rather than distracting highly skilled employees with bespoke data management. That’s the problem my co-founder and I witnessed after launching BigQuery together at Google, and the reason we built Switchboard.”

**SOLUTION**

MightyHive selected Switchboard to provide the big data operations backplane component of their platform because Switchboard offered deep integration with all of MightyHive’s business-critical data streams. “If you’re trying to do what Switchboard does on your own as an advertiser or publisher – you’re doing it wrong,” said Chris. “It would have cost an estimated $400K+ and at least six months...
if we built this ourselves; not to mention maintenance and ownerships costs.”

Switchboard’s turnkey system was configured in just one day now, major programmatic data sources are automated and monitored constantly. A set of highly enriched and analyzed data is then made available immediately for consumption by MightyHive teams. Pulled together continuously from massive ad servers, bid manager and programmatic exchange logs, the combined dataset reveals insights such as spend and bid patterns across multiple suppliers, transaction volumes compared across multiple audience segments, and time from initial impression to customer conversion. MightyHive now can conduct novel ad hoc analysis, research, and reporting on complex campaign and audience patterns that were ‘impossible’ to look at previously.

“Programmatic advertising at its simplest form is a multivariate equation with three main inputs: creative, target audience, and inventory delivery parameters in a feedback loop,” said Chris. “If you don’t understand the relationships, at scale, between these variables, you’re flying blind.”

“Switchboard enables MightyHive to provide both top-down and bottom-up benefits for customers - From the top, we improve ad effectiveness, and from the bottom, we reduce inefficiencies and attack fraud.” added Lexi Viripiappef, VP Engineering at MightyHive. “This lets us function as a programmatic intelligence backbone that produces digital marketing insights for our clients.”

RESULTS
Switchboard has empowered MightyHive engineering leads, front-line analysts, account and product managers to isolate and study business variables such as behavioral traits, time of day and more with data flowing into BigQuery. Within BigQuery, they run powerful custom SQL queries and plug in Tableau dashboards against Switchboard served data. This approach slashes days and dollars from customer expenses.

“A single client report used to take us days to produce, with Switchboard we can generate reports 15 times per day for 15 different clients - this is a force multiplier for us that is building customer loyalty for MightyHive,” said Chris. “I liken it to the invention of the electron microscope, Switchboard provides unparalleled magnification into advertising data that lets us see deeper into trends than we ever could before.”

By using Switchboard to power MightyHive’s proprietary programmatic advertising platform, the company has achieved three key business results:

- Improved Ad Performance - Switchboard delivers ‘force-multiplier’ capability in terms of data aggregation and normalization. This empowers MightyHive to provide clients with granular data that optimizes ad spend in powerful new ways, such as improving bid/ask spread across programmatic campaigns, and increasing the accuracy of audience measurement.

- Dramatic Fraud Reduction - Using Switchboard to power MightyHive’s analytical expertise from Switchboard combined with MightyHive’s analytical expertise from Switchboard, MightyHive achieves rapid analysis at previously.

- Using Switchboard, MightyHive can analyze over 100 campaigns per day across multiple systems.

- Data integration provides a common data platform.

- Using Switchboard, MightyHive is able to educate customers about the value of programmatic advertising by demonstrating improved ad performance.

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In addition to helping us pinpoint hot and cold user trends, with data from Switchboard we now study complex affiliate marketing networks that were previously impossible to analyze,” said Lexi. “With verifiable conversion rates, our clients rapidly identify and eliminate under-performing channels then reinvest spend into channels with proven results.”

**Accelerated R&D** - Using Switchboard, MightyHive achieves rapid testing by leapfrogging ‘normal’ times. Where it took one engineer days to manually generate a single R&D report, now as many as 15 different reports for 15 clients can be generated in a single day.

“Data integration provides a common language to drive business results,” added Lexi. “We now map customer conversion rates across multiple exchanges against variables like cookie pools or differences between native and display ads. There’s always another layer waiting for analysis if you care about maximizing performance.”

**Dramatic Fraud Reduction** - Data from Switchboard combined with MightyHive’s analytical expertise and sophisticated heuristics is expected to deliver an average fraud reduction of 25% for MightyHive clients.

“No solution can attack fraud within programmatic advertising if you don’t have the right data in real-time,” said Chris. “With Switchboard, we now identify fraud, remove non-efficient traffic sources, and sharpen our acuity when it comes to bin-win-rates.”

At its essence, MightyHive describes itself as an advertising R&D think tank that runs programmatic experiments to help customers achieve results. Switchboard empowers multiple teams within MightyHive to address dramatically increased volumes of real-time data. That’s helped the company to accelerate learning and become more competitive, while simultaneously avoiding the distraction of building and managing its own big data platform.

Looking forward, MightyHive plans to use Switchboard in new ways, including expanding R&D, data visualization and deeper data mining - which will help MightyHive provide better, faster analytics to drive programmatic advertising performance. “In the programmatic advertising world, you can’t wait to see what comes next,” concluded Chris. “The victors in our space will be those who define it as it evolves, and we have tremendous confidence that Switchboard will evolve with us.”

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**About MightyHive**

MightyHive is the leading solution for programmatic advertising. Programmatic methods have already had a major influence on advertising, and it’s still the early days. For example, IDC forecasts that programmatic TV spending, which includes digital display and video ad spending, will total $9.8 billion in 2016 and increase to $31.5 billion in 2019, which will account for 13% of the total U.S. TV ad market. Over the next few years, keep your foot on the gas and hand on the wheel, and enjoy the ride.

**About Switchboard**

Switchboard eliminates the need to navigate a complex chain of legacy BI and ETL tools, and the need to invest in massive infrastructure by delivering real-time visibility and operational maturity on top of the latest data management technologies. This approach frees IT and Dev resources to focus on achieving business goals. Early customers in advertising, gaming and retail rely on Switchboard because the company’s agile self-serve MightyHive platform empowers analytics teams to focus on what they do best—driving business performance.