



## MEDIAMATH NETEZZA IN ACTION

### Category Leader Innovates with Data and Analytics

The supply of online display advertising inventory skyrocketed in the mid-2000s with the rapid growth of social media networks, blogs and content-sharing websites – everything from Facebook, YouTube and Flickr to millions of individual blogs. An urgency to monetize billions of new ad impressions spawned a slew of new ad networks and ad technology innovation that culminated in the creation of the online advertising exchange.

By enabling many networks, publishers and advertisers to connect with one another on a unified, auction-based media trading platform, the ad exchange promised to automate much of the complexity out of the online display advertising process. The hope was that automated impression-level bidding might be just what sellers of display advertising needed to ignite demand from more buyers for their surplus inventory. More exchanges, new networks and tech providers rushed in, initially to help publishers – the “supply side” – generate more revenue from abundant and inexpensive inventory.

Enter MediaMath, a New York City startup with an idea to help ad buyers capitalize on the rapidly evolving marketplace by providing services and tools for ad agencies – the most active “demand side” players – to identify, bid on and buy just those impressions most likely to yield the results they sought for their clients. Implementing the idea in 2007, MediaMath created a hot market segment now known as demand side platforms, or DSP.

Exchanges had also made it easier to use anonymous cookie data and third-party sources to track and reach millions of visitors across the internet. The ensuing avalanche of data started a mind shift among ad buyers away from the simple procurement of commodity impressions to the algorithmic buying of audiences likely to be most receptive to an advertiser’s messages. MediaMath needed serious analytical power to allow sophisticated buyers to harness and channel data to drive optimum performance for any advertiser, campaign or marketing objective, using any combination of data inputs. Ultimately the new platform had to ingest and analyze massive volumes of data from multiple sources to make ad optimization and delivery decisions in milliseconds.



#### Company Profile

- MediaMath: First, largest demand side platform (DSP), enabling advertisers to access and bid on more than 13 billion ad impressions daily
- Automated media trading platform capabilities available as either Software as a Service (SaaS) or managed service, with simple workflow to manage powerful analytics and rich data
- Integrated with the most real time bidding sources
- Only Network Advertising Initiative (NAI) compliant DSP

#### Business Challenges

- Need best of breed data analytics to enable the largest, most sophisticated ad buyers to get and use all information needed from every aspect of every ad campaign
- Requirement to select and deploy new solution within 3 months with minimal internal resources

#### Applications

- MathClarity™ interface for analytic insights, audience segmentation and targeting
- Support for continued expansion of category-leading TerminalOne™ platform, which integrates more real-time bidding sources and data sources than any DSP, plus dynamic creative and an advanced optimization platform that calculates fair market value of more than 50,000 impressions every second

#### Solution Benefits

- Enables analytic capabilities and algorithms that increase client campaign ROI dramatically; one client achieved campaign goals while reducing CPA from \$170 to \$80
- Reduced cycle time and learning curve for faster development
- Transparent view of every impression and factor affecting performance of more than 13 billion ad impressions per day
- Requires half the manpower to deliver 10X the output with triple the number of advertisers and more media channels and clients
- Fast, accurate analysis of 350 million events from pixel servers and billions of ad bid records every day

“We selected Netezza because it offered the best ROI, the fastest time to market of any solution, ease of use and a low total cost of ownership.”

Roland Cozzolino,  
Chief Technology Officer,  
MediaMath

Early in the start-up’s life, MediaMath used and outgrew MySQL. They tried Oracle Standard Edition with about five terabytes of data and found it wanting. According to Chief Technology Officer Roland Cozzolino, it was difficult to ingest and store data from 50 million daily transactions, let alone handle their growth to 350 million transactions per day. It took “tons of partitions to summarize and break data into vertical buckets by advertiser for analysis,” said Cozzolino, and the Oracle platform limited any critical ad hoc analysis capabilities that were required to understand data value and to “gain a horizontal view of the business.”

That horizontal view is essential in online ad decision making, and speed is critical to ad agencies responsible for investing their clients’ budgets to achieve specific performance objectives. If something in a campaign goes wrong – or if something wildly exceeds expectations – the sooner the buyer knows, the sooner he or she can optimize and adjust how and where to direct the flow of ad dollars. If gaining and acting upon campaign performance insights could be automated substantially, all parties to the transaction would benefit.

### Getting to speed-of-thought analysis

Seeking a solution to their data challenges, Tom Craig, VP of Information Strategy at MediaMath, tested databases while Cozzolino tested in-memory coding. Code was fast, but difficult to maintain. They needed something they could deploy quickly, and that would scale to meet the demands of their fast-growing business.

From an initial consideration set that included Aster Data, Hadoop, Infobright, Oracle, Teradata and Vertica, the finalists were Netezza and Greenplum. Cozzolino reported, “We selected Netezza because it offered the best ROI, the fastest time to market of any solution, ease of use and a low total cost of ownership.” TCO was key, because there would not be a lot of internal resources available to build applications and support the solution selected. Plus, competition was heating up and MediaMath insisted on bringing the new platform live that quarter with few resources allocated to it.

Craig noted, “We knew where we wanted to take this market, but were unable to execute on that vision with our current tools. Through our proof of concept, Netezza technology clearly demonstrated it provides speed of thought analysis that helps us extend our ‘market leader’ status.” In addition to fast deployment and low resource requirements, MediaMath needed their new solution to enable:

- Flexible reporting, including dashboards and campaign diagnostics
- Capability to use all of their data in the company’s proprietary optimization algorithm for fast, thorough decision-making
- Special applications such as cross-channel attribution analysis enabling advertisers to gather and de-dupe all user data across display, email, and search, from a multitude of sources and technical platforms
- Internal/financial reporting
- Dynamic interval reach and frequency
- Purchase funnel analysis

“We knew where we wanted to take this market, but were unable to execute on that vision with our current tools. Through our proof of concept, Netezza technology clearly demonstrated it provides speed of thought analysis that helps us extend our ‘market leader’ status.”

Tom Craig,  
VP of Information Strategy,  
MediaMath

- Deep site analysis and classification
- Fraud detection at an IP level
- Near real time (e.g. 15 min) reporting and attribution

Netezza met MediaMath’s requirements while adding analytic capabilities that were impossible previously. Netezza could recast and strengthen MediaMath’s deliverables because “we could give it more data, and faster,” Cozzolino said.

“Before Netezza, we had to be far more deliberate in our data tracking and reporting because our analytic computing power was limited,,” according to Craig, who had worked with Netezza previously at AOL. “With Netezza, we pour through hundreds of millions of rows, with as many dimensions as are available, to look at and consider all the data. This intensive data mining enables better ad decision making. Forget about aggregating and bucketing data. It makes us and our customers smarter. You can pull out all the facts you want.”

Ad exchanges provide access to billions of buying opportunities each day. MediaMath has proven to be the best at matching those buying opportunities to their client goals. With Netezza powering the algorithmic trading engine, MediaMath is able to listen to and act on more of those opportunities and drive up campaign performance. “Netezza enables MediaMath to deliver on the promise of impression level bidding in real time,” Craig said.

Cozzolino added, “We asked our clients for every possible fact they wanted to see from campaigns running on our platform. The top of the list is simply, ‘transparency’, visibility into the very granular data exhaust from the buying process. This data could only be delivered with the capacity and capabilities of Netezza.” This includes, for example, identifying patterns in the data over much longer time periods to understand true statistical flow. Without Netezza, MediaMath could not view 30 days of data at once. “Now we can look at, for example, what happened 12 months ago and see how it relates to today.”

On any given day MediaMath may see more than 13 billion impressions (and growing). “We can tell you about every single impression we see every day. Seeing and knowing where every impression originated helps us create the most effective machine learning algorithm and best overall performance of any DSP,” according to Cozzolino.

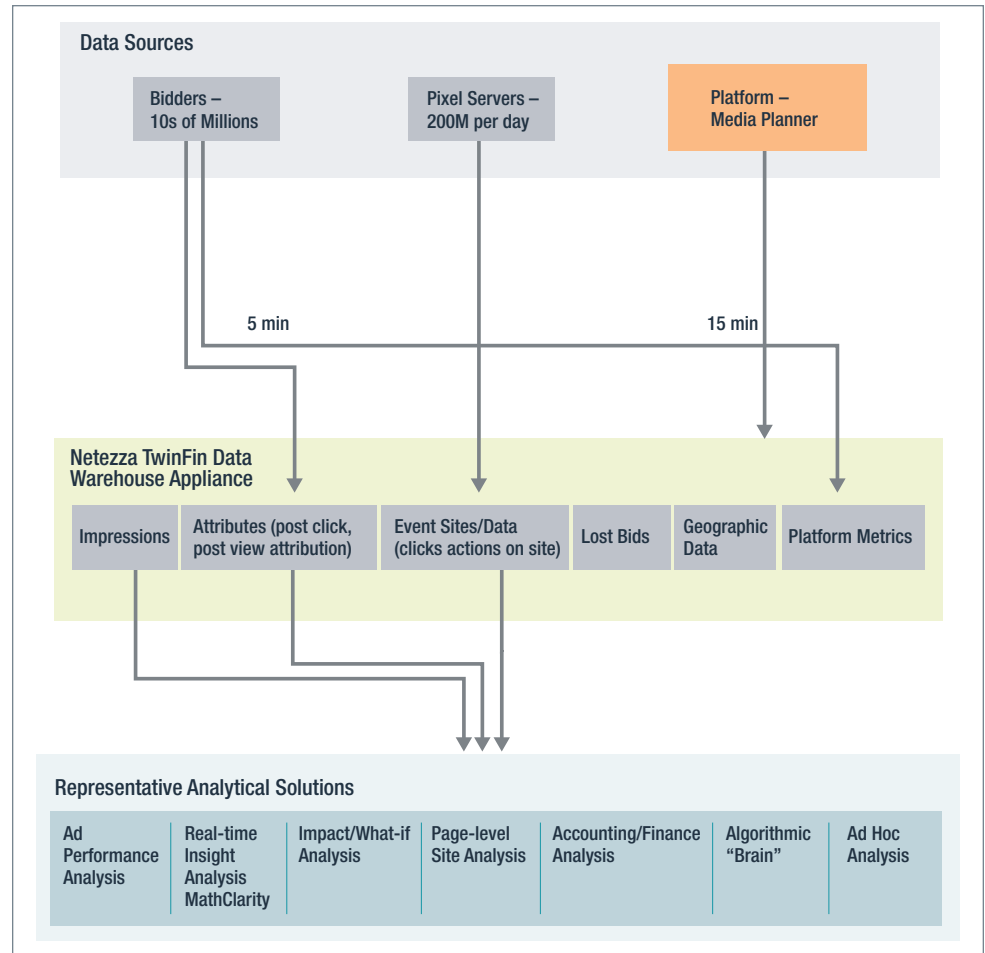
With Netezza, “everything is done in real time,” Craig said. “We can value impressions and determine pricing on raw data. We can tell clients if they’re seeing a difference in average price or standard deviation or median for different time periods. We couldn’t capture and report that data before.”

Said Cozzolino, “Netezza today is the hub of everything we do. If I removed it and there was nothing in its place, the only knowledge we would have of what is happening would come from staring at log files. We’re the first and largest DSP and we innovate continuously. Netezza reduces cycle times and the learning curve for faster development.”

“Before Netezza, we had to be far more deliberate in our data tracking and reporting because our analytic computing power was limited. With Netezza, we pore through hundreds of millions of rows, with as many dimensions as are available, to look at and consider all the data. This intensive data mining enables better ad decision making. Forget about aggregating and bucketing data. It makes us and our customers smarter. You can pull out all the facts you want.”

Tom Craig,  
VP of Information Strategy,  
MediaMath

## Here is a view of MediaMath's infrastructure today:

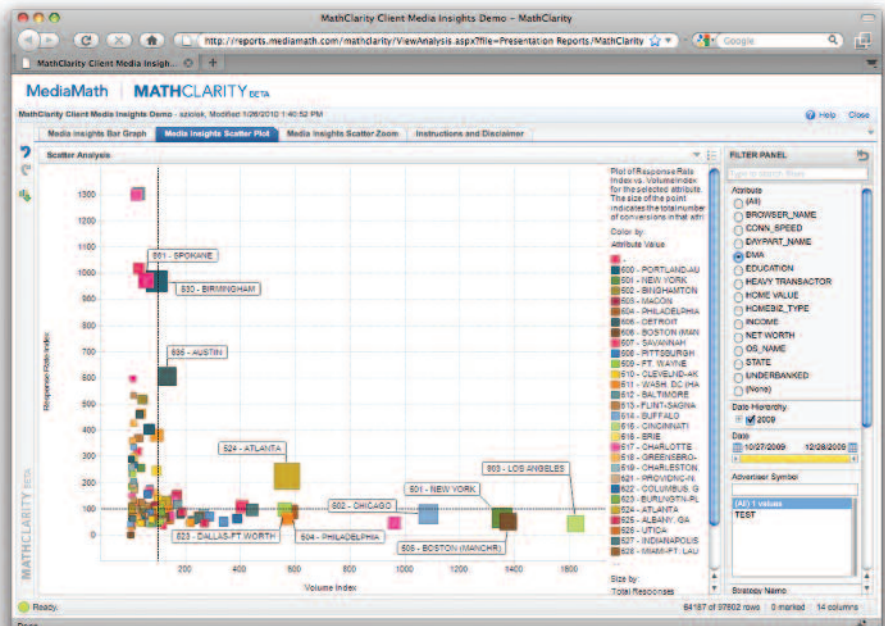
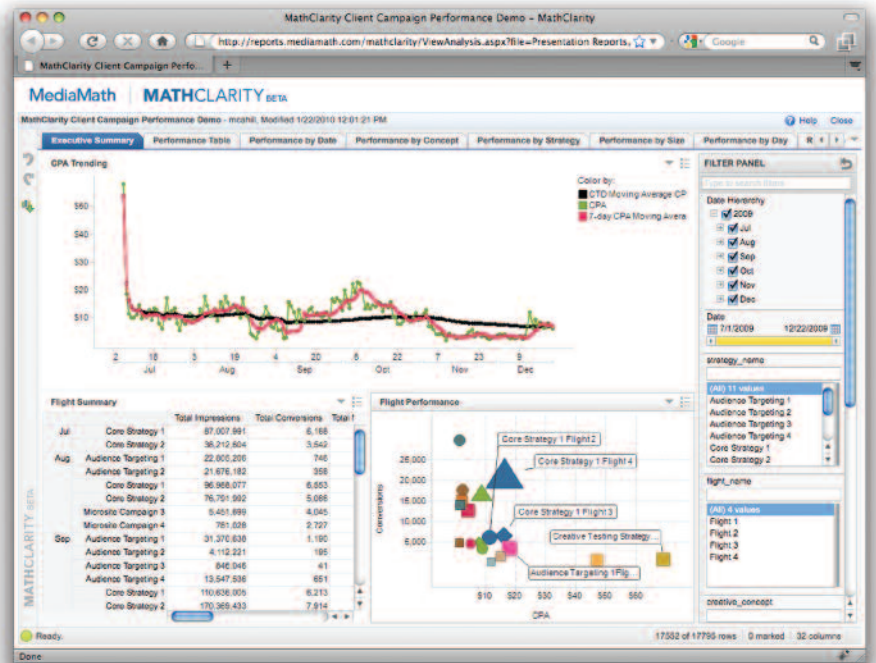


## Data and analytics as competitive weapons

The DSP market has become crowded with companies wanting to help advertisers invest an estimated \$8 billion in online display-related ad spending (IAB/PriceWaterhouseCoopers Internet Ad Revenue Report, 2009 Full Year Results). MediaMath executives believe that their proven results and unmatched scale have kept them ahead of the pack. Now they are also “the insight DSP,” according to Craig, which enables them to continue to set the pace for the category as the one platform that most effectively lets large, sophisticated ad buyers derive maximum value from data. “Our MathClarity product [illustrations below] brings in all the data you want and presents it exactly as you want to consume it. This enables clients to make intelligent data-based decisions that improve performance and profits.”

“We asked our clients for every possible fact they wanted to see from campaigns running on our platform. The top of the list is simply, ‘transparency’, visibility into the very granular data exhaust from the buying process. This data could only be delivered with the capacity and capabilities of Netezza.”

Roland Cozzolino,  
Chief Technology Officer,  
MediaMath




“Everything is done in real time. We can value impressions and determine pricing on raw data. We can tell clients if they’re seeing a difference in average price or standard deviation or median for different time periods. We couldn’t capture and report that data before.”

Tom Craig,  
VP of Information Strategy,  
MediaMath

“Terabyte-scale data analysis is the new weapon for competitive advantage on Madison Avenue, and Netezza provides MediaMath with the infrastructure to optimize and serve billions of daily impressions – establishing a technical foundation for their long term success in this industry.”

Brad Terrell,  
Netezza Vice President &  
General Manager, Digital Media

A few of MediaMath’s actual client use cases and the benefits they’ve achieved with MediaMath’s solution are summarized in the table on the next page.

MediaMath’s ambitious roadmap includes more industry firsts that tap the power of Netezza, such as introducing predictive analytics for replaying past events while changing one variable at a time to see how it would have changed the outcome. Said Brad Terrell, Netezza Vice President & General Manager, Digital Media, “Terabyte-scale data analysis is the new weapon for competitive advantage on Madison Avenue, and Netezza provides MediaMath with the infrastructure to optimize and serve billions of daily impressions – establishing a technical foundation for their long term success in this industry.” 

CHALLENGE	SOLUTION	BENEFITS
<p><b>OPTIMIZATION / DEAVERAGING WITH CLIENT DATA</b></p> <p>A longstanding financial services client seeks to further differentiate product offering based on consumer lifetime value (LTV)</p>	<ul style="list-style-type: none"> <li>• Key LTV scores and indicators passed to MediaMath in real time using MediaMath’s flexible customer data integration service for use in optimization</li> <li>• Market basket linkage established to enable integration of client’s offline data</li> <li>• Robust predictive and look-alike models developed to extend prospecting audience</li> </ul>	<ul style="list-style-type: none"> <li>• Rapid watermarking period allows client to deaverage a generic conversion and drive the best offer to each consumer</li> <li>• Best customer profiling enabled across exchanges</li> <li>• On a campaign that was already top of plan, the rapid customer data integration resulted in 50%+ lift in both the upper and lower market campaign performance</li> </ul>
<p><b>FUNNEL ADVANCE RATE / COST ANALYSIS</b></p> <p>In a large branding initiative, a CPG client must gain visibility into the advance rate and effective cost of consumers through every stage of the funnel</p>	<ul style="list-style-type: none"> <li>• User level analysis and advance rate metrics provided to clients at every stage in the lifecycle</li> <li>• Standard process established to provide to all clients with even the most basic conversion process</li> </ul>	<ul style="list-style-type: none"> <li>• True ROI analysis of each stage in the funnel – awareness, familiarity, consideration, and action</li> <li>• Unique user tracking and exposure analysis informs more effective spend</li> <li>• Full transparency into site and key behavioral segments lead advancement through the stages</li> </ul>
<p><b>TRADE AREA EXPOSURE AND ROI ANALYSIS</b></p> <p>Large CPU client needs to understand the impact of a broad reach campaign to market level while supporting new product rollout in test markets</p>	<ul style="list-style-type: none"> <li>• Dark market campaign strategy constructed to isolate and compare like markets pre and post campaign</li> <li>• Hundreds of millions of campaign impressions poured over, providing daily access to reach, frequency and gross rating point (GRP) metrics at the zip and trade-area levels</li> <li>• Industry standard market research data integrated to provide SKU level metrics pre and post campaign</li> </ul>	<ul style="list-style-type: none"> <li>• Advertiser receives meaningful reach and audience metrics</li> <li>• Metrics delivered in a meaningful and actionable way using the client’s language (e.g. ‘trade area’)</li> <li>• Client is able to control and monitor reach and frequency on a daily basis to ensure goals are met; integration of market data provides a perfect translation layer across the CPG company’s marketing channels</li> </ul>



Netezza Corporation 26 Forest Street, Marlborough, MA 01752 +1 508 382 8200 TEL +1 508 382 8300 FAX [www.netezza.com](http://www.netezza.com)

**About Netezza**

Netezza (NYSE: NZ) is the global leader in data warehouse and analytic appliances that dramatically simplify high-performance analytics across an extended enterprise. Netezza's technology enables organizations to process enormous amounts of captured data at exceptional speed, providing a significant competitive and operational advantage in today's data-intensive industries including digital media, energy, financial services, government, health and life sciences, retail and telecommunications. Netezza is headquartered in Marlborough, Massachusetts and has offices in North America, Europe and the Asia Pacific region. **For more information about Netezza, please visit [www.netezza.com](http://www.netezza.com).**