

## CASE STUDY

# Filter Chain Tech Decreases Latency By 30% For Billions of Daily Transactions.

### INDUSTRY

Digital Advertising

### SOLUTIONS

Managed DNS

Filter Chain

“ Working with NS1 is always a pleasure, and it's fun at the same time. Their knowledgeable, solution-oriented engineers assist at every phase of the installation. Couldn't ask for a better experience from a vendor.

**Eduard Rushanyan**  
Director of Production  
Operations, Centro Basis

### CHALLENGE

Centro's product, Basis, is the foundation for their Demand Side Platform (DSP) and Real Time Bidding (RTB) solutions for digital advertising. Basis must operate at the lowest possible latency because even a millisecond of additional delay can cost Centro's customers a desired ad spot. As a high scale real time bidding platform, Basis must serve tens of billions of requests per day at ultra low latency. To meet their performance and scaling needs, Centro has several datacenters in North America and Europe and uses a Content Delivery Network (CDN).

DNS is vital to Centro's digital business as every online action begins with a DNS query to the Basis platform. Centro became aware that their incumbent DNS solution was not meeting their performance goals. Their current DNS solution was unable to accurately route requests to the closest datacenter. Centro also needed a DNS solution that could monitor datacenter availability and ensure requests would always be routed to the closest, available datacenter in the event one or more of their datacenters lost connectivity.

### SOLUTION

Centro selected NS1's solution to assist them in meeting their goal for accurate geolocated traffic management. They worked with NS1's solution engineers to both migrate their DNS configuration over from their previous provider and configure Managed DNS to meet their needs. Centro used NS1's Filter Chain™ technology to build a traffic management ruleset to route users to the closest Centro datacenter. NS1 supports EDNS0-CLIENT-SUBNET, which improves geotargeting accuracy by using the IP address of the end user rather than the IP address of the DNS resolver. This allows NS1 to more accurately know the location of the user and route them to the geographically closest datacenter. This, in combination with NS1's low latency DNS response times, delivered the overall performance Centro was looking to achieve.

### LOWER LATENCY

30% DECREASED  
RESPONSE TIME

### FILTER CHAIN TECHNOLOGY

EDNS CLIENT SUBNET  
SUPPORT FOR BETTER  
GEOTARGETING PRECISION

### WORLD CLASS CUSTOMER SUPPORT

QUESTIONS ASKED,  
ANSWERS PROVIDED

Centro established monitors for each of their datacenters using NS1's Managed DNS built in monitors. They designed a Filter Chain to combine the datacenter monitoring results with their network topology to reroute traffic when a datacenter stops responding. As part of their backup strategy, alternative datacenters are identified to handle the DNS traffic until the impacted primary geolocated datacenter is back online. The Filter Chain is designed to automatically resume sending traffic to the preferred geolocated datacenter once it is back online.

NS1's technology enabled Centro to deploy a high scale, low latency solution that included accurate geo routing of their ad traffic, plus automated real time failover.

### RESULTS

NS1's white-glove support enabled Centro to have their new DNS solution properly configured and doing its job as soon as possible.

The implementation of accurate geolocation based traffic management is already showing positive results for Centro's customers. Their DNS query network latency has shown a 30% decrease in response time without Centro making any additional changes to their hardware or software stack.

Finally, Centro has the peace of mind that in the event of any datacenter outages, NS1's Managed DNS will reroute ad transactions to the next available datacenter automatically.

# Basis

BY CENTRO

### ABOUT CENTRO

Centro is a provider of enterprise-class software for digital advertising organizations. Its technology platform, Basis, is the most comprehensive and full-featured programmatic platform in the industry. In addition to its award-winning DSP, Basis automates all programmatic and direct-to-publisher buying and brings all campaign performance data into single user interface. Basis is powered by over 100 terabytes of impression-level data per day. Centro is headquartered in Chicago with 32 offices in North America.

### ABOUT NS1

NS1 is the leader in next generation DNS solutions that orchestrate the delivery of the world's most critical internet and enterprise applications. Only NS1's purpose-built platform, which is built on a modern API-first architecture, transforms DNS into an intelligent, efficient and automated system, driving dramatic gains in reliability, resiliency, security and performance of application delivery infrastructure. Many of the highest-trafficked sites and largest global enterprises trust NS1, including Salesforce, LinkedIn, Dropbox, Nielsen, Squarespace, Pandora and The Guardian.

# NS1.

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