



## MediaV Gears Up for China's Rocketing Online Ad Growth Using the Aerospike Real-Time NoSQL Database

There's no doubt that China's online advertising is skyrocketing, with growth expected to more than triple from 51.2 billion yuan (\$8.22 billion) in 2011 to 187.3 billion yuan (\$30.08 billion) in 2015. At the forefront in scaling to meet this growth is MediaV, China's leading provider of performance-based Internet marketing.

MediaV delivers an ad bidding and serving platform with intelligent behavioral and contextual targeting technologies for advertisers, publishers and ad agencies. By effectively segmenting online ad traffic and the target audience, MediaV enables publishers to improve their traffic monetization and helps advertisers to achieve a higher return on their marketing campaigns. With the Ambition engine for real-time ad bidding serving as the core, the company provides a series of products for managing advertisers' marketing campaigns, including Juxiao (self-service demand-side platform (DSP) and ad network platform), Jupin (performance agency trading desk), and Juhe (data management platform).

MediaV now relies on the Aerospike real-time database and key-value store to power its Ambition ad bidding and serving system, ensuring that the system responds within milliseconds even as it handles billions of user profiles.

### Wanted: Reliable Real-Time Performance and Replication

Ms. Ning Hu, MediaV CTO observes, "So updating and accessing big data at a very high rate of transactions per second is crucial to our system."

Before selecting Aerospike, MediaV thoroughly investigated and experimented with several NoSQL database management systems. The company evaluated the products on their ability to support high query per second (QPS) capacity, fast and consistent reads and writes, massive data storage and scalability, and system robustness. Because MediaV has

**"We simultaneously face high-capacity requirements, extreme time restrictions with ads that need to be served within tens of milliseconds, and massive amounts of user data. Aerospike emerged as the company that provided a solid solution to fulfill our needs."**

Ning Hu  
CTO,  
MediaV

# AEROSPIKE

rocket fuel for big data apps™

**"Aerospike is such a nice solution that fulfills our essential needs."**

Ning Hu  
CTO,  
MediaV

### RESULTS

- Helps enable real-time delivery and management of ad impressions for **billions of unique users** across China.
- Reliably responds to queries within 5 milliseconds, while handling **100,000 queries per second (QPS) per node**, with the ability to scale to **500,000 QPS** per node.
- Enables **100% uptime** through automatic rebalancing and fault-tolerance, which ensure that there is no degradation to performance or availability.
- Provides **real-time replication and rapid synchronization** between MediaV's multiple data centers across China, ensuring continuity and availability even if one data center experiences a failure.
- **Minimizes IT overhead** via built-in and automated self-management capabilities

### COMPANY PROFILE

**Website:** www.mediov.com  
**Industry:** Performance-based Internet marketing  
**HQ:** Shanghai, China

### GOAL

Optimize speed, scalability and reliability for real-time ad traffic handling system

serving and computing clusters in multiple data centers at different locations, cross data center replication was another critical factor. Additionally, MediaV examined the quality of vendors' customer support, since the company was seeking a provider who could serve as a trusted and responsive partner.

Unable to find an open-source and most commercial system that worked out-of-box for MediaV's scenario, the company began developing its own data storage and management system based on an open-source NoSQL solution. However, MediaV then learned about Aerospike and decided to evaluate the database.

"After we conducted evaluations of Aerospike and other NoSQL solutions, we found that the other offerings missed at least one of our requirements," Ms. Hu recalled. "Aerospike emerged as the company that provided a solid solution to fulfill our needs."

### Aerospike Replicates Data Across Multiple Data Centers

Today, MediaV deploys the Aerospike database with cross data center replication in multiple locations. Each fully redundant Aerospike cluster runs on servers with dual-core CPUs and several 512 GB solid-state drives.

In production, Aerospike has demonstrated sub-millisecond latency and the ability to process queries consistently within 5 milliseconds. Aerospike also meets MediaV's capacity demands by providing 100,000 QPS per node today, with the ability to scale up to more than 500,000 QPS per node in the future as the company's needs grow. Aerospike's fault-tolerant, shared-nothing architecture and ability to quickly restart nodes further ensure redundancy and 100% availability.

Using Aerospike's cross data center replication, which is implemented as a star topology, data in the hub is automatically synchronized across all of MediaV's data centers. This not only brings data closer to customers to minimize the effect of network travel, it also ensures business continuity and availability.

**"Aerospike is such a nice solution that fulfills our essential needs, and we are especially impressed by its ability to handle real-time big data at both blazing speed and great scale,"** says Ms. Hu.

**"We appreciate the way the Aerospike team has worked closely with us on our implementation. We are fully confident in their ability to work with us in developing new features and expanding our deployment as our requirements grow."**

Ning Hu  
CTO,  
MediaV

**Read more customer success stories @ [www.aerospike.com/customers](http://www.aerospike.com/customers)**

2525 E. Charleston Rd #201 | Mountain View | CA | 94043  
+1 408.462.AERO (2376) [www.aerospike.com](http://www.aerospike.com) | [sales@aerospike.com](mailto:sales@aerospike.com)

