

By leveraging data stored in Apache Cassandra™, Ooyala is helping their customers take a more strategic approach when delivering a digital video experience, so they can get ahead in this fast-evolving space.

Company

Ooyala

Data Size

20+ nodes in production

Challenge

To respond efficiently to significant spikes in incoming data levels and escalating storage demands, and develop new data analytics product offerings, while maintaining high levels of service for customers in the fast-evolving digital video industry.

Solution

The elastically scalable Apache Cassandra database, which allows Ooyala to absorb and leverage massive amounts of digital video data by simply adding nodes to Cassandra's cluster ring architecture, which can grow to include hundreds of thousands of nodes.



San Francisco-based video services company Ooyala provides a suite of technologies and services that support content owners in managing, analyzing and monetizing the digital video they publish online, on mobile devices, and through the over-the-top distribution platform for delivering Internet video to television. The company serves hundreds of global media companies and marketers including Fremantle Media, Telegraph Media Group and Yahoo! Japan, helping them control the end-to-end digital video experience, from where videos play to what ads are shown to how video players appear.

"We enable our customers to make the most of their digital video content and to build their business around it as effectively as possible," says Harry Robertson, tech lead for Ooyala's monetization team.

"Ooyala" means "cradle" in the Southern Indian language of Telegu; the company chose the name because "it describes what we do: give birth to new ideas and new innovations in online video." One particular area of focus for innovation for Ooyala is analytics. "We provide very powerful analytics, including geographic and URL-level analytics, that allow our customers to see how their content is performing – and why – and how they can improve on that," Robertson explains. "So, instead of telling a customer, "Your video has 100 plays today," we have the ability to report, "Your video had 100 plays. Sixty were in Beijing, and 20 were on Yahoo.com."

He adds, "Ooyala's intelligence and tools help publishers monetize their digital

video content, which is why we need our analytics to be deep, accurate and updated, essentially, in real-time. They must scale fully as our customers scale." That's no easy task, however. The digital video industry is experiencing explosive growth. And according to Robertson, Ooyala wouldn't be able to keep pace with this evolution – and continue to meet their clients' needs – without the support of Apache Cassandra, the leading, scalable low-latency distributed database supported by DataStax.

Smooth Scaling with Apache Cassandra

For the first few years after its founding in 2007, Ooyala relied on an analytics solution that was built using more conventional databases. But as the company grew and added customers, and more and more video began moving throughout the system, their existing solution became increasingly difficult to scale and therefore, less usable.

"We realized that we just couldn't scale effectively with a traditional MySQL solution. In fact, we couldn't even continue to offer the same level of service to our customers, simply because the speed of access to our data would have deteriorated greatly as the amount of data continued to grow," says Robertson. "It really was a matter of simply being able to function. So we started looking at NoSQL solutions and distributed data stores that were built with this kind of scaling in mind, and that's when we decided to move forward with Apache Cassandra."

Meeting Big Data Demands without Re-Architecting

As a fast-growing business, Robertson says Ooyala often reaches “inflection points” where the amount of data coming into the system increases dramatically. Once such inflection point occurred in early 2011, when Ooyala and Yahoo! Japan announced that they had formed a strategic partnership to bring professional video to 80 million users in Japan. Through the multiyear agreement, Yahoo! Japan will standardize on Ooyala technology across all of its properties, delivering rich video experiences on connected PCs, smartphones, tablets and televisions in the Japanese market.

“Huge amounts of additional analytics data will be coming in every day – every minute – because of our strategic partnership with Yahoo! Japan,” says Robertson. “With a conventional database, we’d have to be really in the trenches, or completely re-architecting how we absorb that data. But because we had Apache Cassandra, we knew we’d have to add a few additional nodes to the cluster, at most, and without having to fundamentally re-architect our solution. That Apache Cassandra can scale with us with minimal hiccups is a great relief. It gives us tremendous competitive advantage.”

Robertson also credits Apache Cassandra with Ooyala’s ability to develop new product offerings like its “Actionable Analytics” reports, which provide customers with deep analytics, down to individual video-level data. The amount of data Ooyala must both store and rapidly access has grown exponentially because of this product offering – and fast. “It wouldn’t have been possible to build and release our Actionable Analytics reports without a solution like Apache Cassandra,” he says.

“It’s really about opportunity costs,” says Yuval Oren, tech lead for Ooyala’s analytics team. “Not only can we scale our existing offerings efficiently, but also dramatically improve them. That’s something we couldn’t do without the support of Apache Cassandra.”

Robertson likens the elasticity of Apache Cassandra to “scaling for free.” He says, “There are hardware and maintenance costs, but the platform is really built for scaling. You can seamlessly add new nodes and expand your total capacity without deteriorating the performance of the data store; it’s allowed us to scale very effectively.”

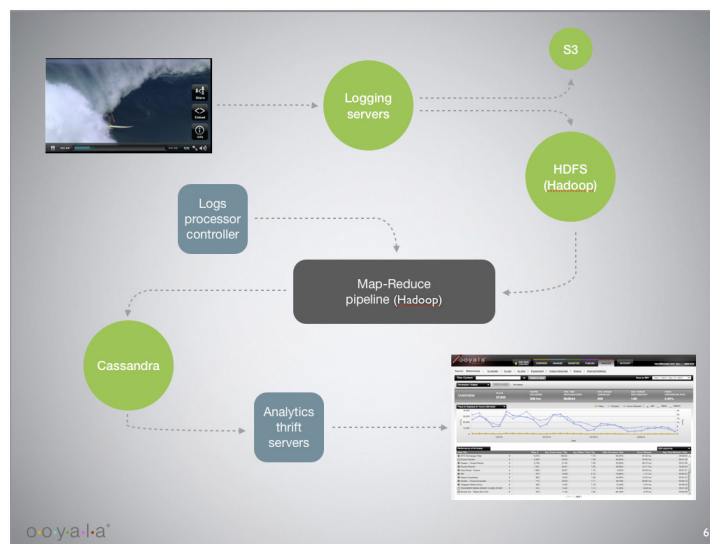
Ooyala is currently using raw open-source nodes in production. Oren says, “Apache Cassandra has become a core part of our stack. There is a good chunk of our software running with Cassandra as part of its core.” Throughout Ooyala’s transition to Apache Cassandra, DataStax has provided support with on-site and off-site consultative services, as needed.

Moving forward, both Robertson and Oren say Ooyala is prepared to respond

to the trend toward convergence of digital video content because of Apache Cassandra’s elastically scalable qualities.” Our customers are putting their video content wherever there’s a screen,” says Robertson. “Increasingly, we must collect analytics data from wherever content is played – web browsers, mobile phones, set-top boxes and so on. This greatly increases the breadth of data we are receiving as well as our need for additional decks so customers can understand how their content is being consumed across different platforms. But with Apache Cassandra, we can adapt.”

And with support from Apache Cassandra, Ooyala is building increasing levels of intelligence for its analytics. “We are consistently taking analytics to the next level to advise our customers, and allow them to experiment with different monetization approaches,” says Robertson. “By leveraging data that we store in Apache Cassandra, we are helping our customers take a more strategic approach when delivering a digital video experience, so they can get ahead in this fast-evolving space.”

For more information about DataStax, go to www.datastax.com.



Apache Cassandra enables Ooyala to scale and rapidly access their data to enable enhanced analytics.



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