

qbeats Uses Loggly for Time-Critical Troubleshooting That Unlocks the Value of Information



Profile

qbeats is a technology platform that analyzes the value of time-sensitive content and matches publishers to readers. It uses award-winning, patent-pending technology to price content dynamically based on demand, market signals, and impact and to match it to the relevant audience.

Highlights

- Gained a reliable way to troubleshoot problems with 20 services running on elastic virtual machines
- Significantly sped up operational troubleshooting and problem resolution
- Eliminated time and money spent on managing an in-house solution

Challenge: Push Accurate Information Out Quickly

The qbeats platform supports a web-based service that does valuation, pricing, and monetization of content such as reports published to commodity and equities investors. The platform consists of approximately 20 separate services that:

- Analyze pieces of content as they are submitted by trusted publishers
- Price them dynamically
- Push them to interested buyers

“Most of our searches start with Loggly Dynamic Field Explorer because it gives us an immediate idea of where to look for a problem.”

— Maksym Markov, Vice President of Engineering, qbeats



The qbeats platform values and prices content dynamically and matches it to interested readers.

qbeats must process this content through all of its applications quickly and reliably; even a delay of a few minutes could draw user complaints or, worse, big monetary losses because the content impacts trading decisions.

The services run on more than 120 virtual machines across development, QA, staging, and production environments and are deployed as elastic balancing groups in the AWS cloud. The scope of the deployment made it difficult for qbeats' team of 30 engineers and two DevOps professionals to analyze log data for debugging and troubleshooting.

"A log management service is essential for any modern, cloud-based application," says Maksym Markov, Vice President of Engineering at qbeats. "Since virtual machines are being deployed and decommissioned based on demand, by the time you discover a problem, the affected server could have gone away, taking its logs with it. How can you understand what happened without aggregating your logs?"

Before Loggly, qbeats had an in-house, open source Sentry deployment that helped it identify errors. However, the system has limited functionality for troubleshooting and could not scale to meet growing log volumes. During some phases of its development and beta, qbeats was generating as many as 4 million log events per day. qbeats considered moving to the Elasticsearch-Logstash-Kibana (ELK) stack, but this solution, like Sentry, had the disadvantage of in-house deployment. Markov remarks, "If you're a small company, it's much easier to use a service that gives you everything you need out of the box. In-house solutions consume a lot of time and money for deploying hardware, maintaining it, monitoring it, and keeping it clean."

Why Loggly?

With Loggly, qbeats found a solution that combined ease of use, ease of integration, powerful troubleshooting capabilities, and a reasonable price. The company was able to deploy Loggly in just two days using syslog and without making changes to its log creation process.

Solution

Loggly manages qbeats' application logs (the majority of which are Python, followed by Java and C++) as well as logs from its Nginx reverse proxy server and audit logs from AWS services. For the most part, the development team used Python and Java logging in place and created a new destination for the logs. It logs application errors, AWS connectivity issues, data center downtime, and more. Most of the logs are text-based today, but qbeats is working to add more sophisticated logging with JSON.

Developers and DevOps team members can access development, QA, staging, and production logs through Loggly. "Especially since our developers work extensively with Elasticsearch and Solr for our own

service, Loggly presented no learning curve for us," Markov comments. "We just created accounts for everyone and told them to log in. It was very obvious to them how to use it."

Faster Troubleshooting by Pairing Loggly Dynamic Field Explorer and Search

Loggly has significantly sped up troubleshooting for qbeats, and the team uses Loggly Dynamic Field Explorer™ as the first step in problem isolation with Loggly search. "Loggly Dynamic Field Explorer gives us an immediate idea of where to look for a problem," Markov says. "We can then isolate logs for the application, environment, and time period where a particular issue occurred and run searches much more efficiently."

Troubleshooting cross-application, cross-server issues is much simpler with Loggly since each event can be tagged with its source host and module. qbeats assigns a unique identifier to each piece of content. By searching on this identifier in Loggly, the team can see how that piece of content passed through all of the qbeats applications.

The visual views in Field Explorer are also very useful. "There are some spikes in errors that are normal for our business because we see a lot of activity right before the stock market opens," Markov explains. "The time-series views in Loggly make it quick to differentiate the normal spikes from the abnormal ones. In the past, I had to estimate these distributions."

Increased Error Visibility Increases Code Quality and Ownership

In addition, qbeats uses Loggly to help developers prioritize their bug fixes. Every hour, the developers receive a report showing how many errors have been generated in each of the production services. This increased level of visibility, made possible by aggregated log data, was a helpful motivator for developers and improved the overall quality of the qbeats service. Error counts have gone from more than 100 per hour to the point where the team sometimes goes a full week without seeing a single hourly digest.

"In the course of growing our business, Loggly has become an important part of our operations infrastructure. It both helps troubleshooting errors from all environments and gives us the ability to quickly create ad hoc notifications for specific events (or lack thereof)."

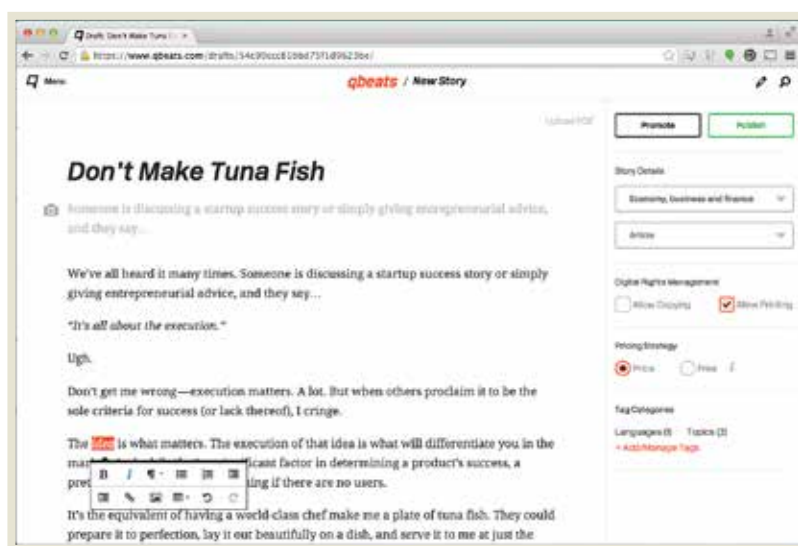
— Maksym Markov, Vice President
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Proactive Monitoring with Loggly Alerts

qbeats sets alerts that let it know about critical errors that happen in its production environment, known conditions that affect user satisfaction (for example, when credit card processing fails), and issues with particularly time-sensitive content or certain publishers. These alerts enable developers to act on problems faster, increasing customer satisfaction and protecting revenue. “We often know about problems before our support team hears about them from customers,” Markov reports.

Loggly: A Must-Have for Cloud-Based Businesses

“Loggly really speeds up the resolution time for all sorts of issues,” Markov summarizes. “Significant may not be a powerful enough word to describe its effectiveness. Loggly is a must-have for cloud-based businesses.”



Certain types of content have different value over time, and the qbeats platform helps journalists and other publishers to get the best prices for their intellectual property.

About Loggly

Loggly is the world’s most popular cloud-based, enterprise-class log management solution, used by more than 5,000 happy customers to effortlessly spot problems in real-time, easily pinpoint root causes and resolve issues faster to ensure application success. Founded in 2009 and based in San Francisco, the company is backed by Harmony Partners, Trinity Ventures, True Ventures, Matrix Partners, Cisco, Data Collective Venture Capital and others.

Visit the Loggly website: loggly.com and sign up for a free trial. Follow @Loggly on Twitter.

