

Zillow Gains Real-Time Enterprise-Wide Visibility Into Site Operations



Executive summary

The Zillow Group (NASDAQ: Z and ZG) portfolio includes the largest real estate and home-related brands on the web and mobile, including consumer-facing Zillow® and Trulia®, as well as Mortech® and Retsly®, brands for real estate, rental and mortgage professionals. To get full operational visibility across its widely distributed infrastructure, Zillow needed insight into a huge volume of log event data. Since deploying Splunk Enterprise as its real-time IT monitoring and intelligence platform, Zillow has seen benefits including:

- Full visibility into service and quality metrics
- Critical insights into site operations
- Improved customer website experience

Why Splunk

Zillow Group empowers consumers with data-driven insights into real estate questions. Historically, the “build not buy” operation relied on open source or homegrown utilities for service, IT monitoring and quality control. But these solutions could not keep up with the log data volume generated by disparate web properties and applications. Monitoring was crude and alerting was nonexistent. According to Seth Thomas, director of site operations, Zillow, “There was not a standard format for log files and no incentive to keep things standard. It was extremely challenging to access this information because the data was tightly controlled. If production had a question about a site or service, it took time to find the person who could access the logs, and additional time to query the data. The systems were so disjointed and unreliable that we didn’t know whether we would get the queries working properly.”

Zillow knew it had to standardize its log and other data infrastructure management with a solution that could scale with its growing business and provide full operational visibility. Thomas says, “We wanted to expose the data we were generating without having to go through multiple bottlenecks. Splunk software gives us the ability to create ad hoc reporting and access all logs and data at any time. Being part of the larger Splunk ecosystem is extremely valuable to us. We couldn’t replicate that if we tried to build something on our own.”

Industry

- Online services
- Real estate

Splunk Use Cases

- IT operations
- Application delivery
- Business analytics

Challenges

- Third-party and homegrown open-source solutions could not keep up with data volume
- Needed to ensure uptime and maintain SLAs for issue resolution
- Log files were not standardized and contained unnecessary information
- Required robust monitoring and reporting solution
- Lacked visibility into vast volumes of siloed log data
- Needed the ability to create ad hoc reporting and provide visibility into the health of key transactions, end-to-end, in real time

Business Impact

- Provides self-service to teams across the enterprise to create their own solutions
- Ensures continuous uptime thanks to real-time operational insights into service and quality metrics
- Gains digital intelligence by comparing customer engagement across Zillow sites
- Faster incident isolation and mitigation
- Correlates user experience metrics with application performance for improved customer website experience
- Improves DevOps collaboration for faster release cycles

Data Sources

- Application logs
- Server logs
- Website logs including property listings
- Data from API endpoints (JSON)
- Mobile application data
- Website performance data

Splunk Products

- Splunk Enterprise
- Splunk Cloud (Planned: Trulia®, Retsly®)
- Splunk SDK

Zillow deployed Splunk software for IT monitoring and application management in 2013. Since then, the company has continued to expand its deployment, upgrading to an enterprise adoption agreement (EAA) in 2014 and increasing its data volume. Zillow has woven the Splunk platform into the foundation of its infrastructure and is also in the process of deploying Splunk Cloud. Currently, more than 300 individuals from IT operations, engineering, customer care and the mobile team use the Splunk platform.

Visibility and efficiency across the enterprise

The Site Operations team manages the Splunk infrastructure at Zillow, as well as the tier one and tier two services organization. The team responds to incidents and outages, investigates log events and troubleshoots customer-reported incidents. Having Splunk Enterprise in place of homegrown monitoring tools has made the team more effective—they can use the monitoring and reporting tool to save searches, carry out ad hoc queries, and do live site investigations and troubleshooting to reduce escalations.

With the Splunk platform single-pane-of-glass view into the data, DevOps collaboration has improved. The operations team and development organization can easily reference the same dashboards to ensure rapid and effective application delivery. Zillow's product teams see critical log data immediately, can create dashboards, alerts and reports for insights into website errors and performance, and track customer behavior on the site. If there is a change to a performance profile or a service outage, the team can identify it quickly and address the issue, improving the customer experience. Splunk alerts notify the teams proactively when there is an anomaly in the system. The security team also relies

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Seth Thomas

Director of Site Operations
Zillow

on Thomas' team for ad hoc investigations and discovery on malfunctioning machines. In addition, as part of the code release process, Zillow uses the Splunk platform to validate code quality.

Self-service Splunk platform lets teams create their own solutions

Since Zillow extended the Splunk platform enterprise-wide, teams have been baking new functionality into their own product lines. They pull data into their systems so they can troubleshoot or investigate specific listings. Other teams that had built Mongo databases for managing their processes and monitoring have now moved monitoring into Splunk Enterprise. “Our customer service organization is dependent on Splunk,” Thomas concludes. “They've rewritten their management tools to do look-ups against Splunk software to find information about customer requests. We have given teams enough autonomy to create their own solutions on top of the Splunk platform. It's all predicated on the fact that Splunk is an enterprise-wide self-service utility now within Zillow.”

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