Splunk® at John Lewis

Operational Intelligence Supporting Online Growth
for a Billion Pound Website

John Lewis

"Our Splunk dashboards over the Christmas period were like looking at a NASA operations control center."

Paul Coby, CIO
John Lewis

OVERVIEW

INDUSTRY
• Retail

SPLUNK USE CASES
• Operational intelligence
• Business analytics
• IT operations
• Application management
• Release management

BUSINESS IMPACT
• Real-time insight enables John Lewis to make business decisions during critical periods
• Smooth introduction of new enhancements to johnlewis.com
• Operational intelligence fed into capacity planning for peak times
• More accurate modelling of the journey through the John Lewis website, resulting in an enhanced customer experience
• Improved troubleshooting and faster resolution of issues, preventing revenue loss

APPS
• Splunk DBConnect
• ServiceNow Integration for Splunk Enterprise

APPLICATIONS
• E-commerce applications
• Web server logs
• Middleware logs
• DB logs
• Service management applications
• Cloud applications

The Business

The John Lewis Partnership was founded in London in 1864 and has been owned in trust by its partners (employees) since 1929. The Partnership includes Waitrose supermarkets, a production unit and a farm, as well as John Lewis, the largest department store in the UK. The chain of 31 stores and ten John Lewis at home branches is synonymous with customer service, trust and values. The business has annual gross sales of over £4.1B, and is also growing its online business—johnlewis.com—which has annual revenues exceeding £1B.

Challenges

For John Lewis, uptime is mission critical because of the direct impact to sales. Downtime or latency immediately becomes high priority, as any delay in resolution can negatively impact customer experience and revenue, especially on the website. In order to troubleshoot, the John Lewis IT team used custom scripts and multiple monitoring tools for simple log shipping and parsing. However, only certain individuals had the skillset required to extract information from key systems using traditional tools such as Perl, AWK or Grep. With no 'self-service' available across the organisation and limited staff resources, support requests had to be prioritised, leading to stretched MTTR for all but the most crucial requests.

In addition, without the ability to baseline 'normal' in order to compare real-time to historical data, the team could not proactively detect and correct anomalies. In some cases, they were constrained in being able to identify crucial issues quickly, occasionally resulting in lost revenue. John Lewis needed a solution that would give the company operational visibility across its entire infrastructure and allow it to address issues before they could negatively impact the organization's reputation for superior customer service.

Enter Splunk

John Lewis deployed Splunk software in 2011 for alerting, direct searching and graphing. John Lewis collects its machine data from a variety of logs including e-commerce application, web server, middleware, DB logs, etc. The company has a fully load balanced, multi-site architecture across two datacenters. Each site uses Splunk forwarders to collect the data to be indexed by Splunk software. This indexed data is then accessed via a number of Splunk search heads with job servers for scheduled tasks and processes. John Lewis also uses Splunk DBConnect to augment its machine data with structured data from relational databases.

Because of John Lewis' initial success with Splunk in 2011, the company knew that it could gain more insights into the business when it launched a new e-commerce platform in March 2013. The John Lewis team now uses Splunk Enterprise for highly complex analytics, including trend analysis, visualizations, customer behaviour modelling, incident analysis, problem management and complex alerting. Splunk dashboards allow the team to view the overall health of the website and get a holistic view of operational intelligence.

Breakthroughs

Improved troubleshooting and order conversion

Using Splunk software has enabled John Lewis to capture more revenue by monitoring drop-offs and payment failures, which can occur for a variety of reasons ranging from technical issues to fraud detection to incorrect card details.

Now, whenever drop-offs are greater than a baseline figure, an alert triggered in Splunk Enterprise allows the John Lewis team to rapidly investigate root cause. For example, part of the order process involves third-party payment services. On one occasion when the alert was triggered, the team was able to identify that customers were not being serviced correctly in a specific instance by one of the third parties. They were able to swiftly isolate the issue, maintain the customer experience and prevent further revenue loss. Moreover, they were able to provide crucial intelligence to the third party which proved pivotal to them ultimately resolving the issue and reducing MTTR.

Smoother service introduction

When John Lewis rolls out a new application or service, the team is now able to monitor its health and performance using Splunk software and ensure smooth operations. This helps to foster even greater team collaboration between the IT and business teams on creating some cutting edge dashboards to gain operational intelligence. This paradigm has become the norm at John Lewis and helps to create an even better experience for its customers.

More accurate customer journey modelling

Using Splunk Enterprise, John Lewis has gained new and unique insight into the journeys of its customers, discovering that customers' interaction with the John Lewis website was not necessarily as linear as the team had previously believed. Rather, customers traversed many different areas of the website before triggering an action (i.e. placing an item into the shopping basket). The team was able to provide insights to the business on how customers were actually going through the site, enabling John Lewis to make changes that optimized search and navigation for a better customer experience. As a result, customers could find items more easily and check out faster.

Supporting sales growth

"Black Friday"—the Friday following Thanksgiving Day in the United States—is notoriously busy, with retailers offering a huge range of promotions and discounts. On Black Friday in 2013, John Lewis more than doubled its previous record for a single day's transactions on its website. The team used Splunk Enterprise to report on how core systems coped under this added pressure; this intelligence was then incorporated into capacity planning for subsequent peak days, such as Christmas Eve (the start of the huge annual clearance event).

Better marketing decisions in real time

During the Christmas 2013 clearance event, the busiest period of the year for John Lewis, Splunk Enterprise was a key component in the company delivering the best online performance in its history. Online sales grew 23 percent over the previous Christmas period. Splunk software was used to help inform important operational and marketing decisions in real time, such as when to promote and communicate certain items or campaigns, based on how busy certain sections of the website were. John Lewis also used Splunk Enterprise to balance customer experience response times with the need to throttle website traffic, all in real time.

In summary, John Lewis is using Splunk Enterprise to gain improved operational intelligence and support rapid growth for its billion pound website, johnlewis.com. John Lewis can now quickly identify and resolve potentially costly issues and ensure that its website is delivering the best possible customer experience. By using Splunk software to analyze and dashboard a number of website metrics, John Lewis is also able to make key business decisions in real time during critical periods, such as the summer and Christmas clearance events.

Free Download

Download Splunk for free. You'll get a Splunk Enterprise license for 60 days and you can index up to 500 megabytes of data per day. After 60 days, or anytime before then, you can convert to a perpetual Free license or purchase an Enterprise license by contacting sales@splunk.com.

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