NHS Choices Improves Visibility Into Infrastructure to Deliver Critical Online Services

Executive summary

NHS Choices is the UK's biggest healthcare website. Its stated aim is to be a "world-leading, multi-channel service for everyone engaging with the NHS and social care." In order to deliver the best possible service to the 48 million visitors it receives every month, NHS Choices needed a solution to provide insight into the vast volume of log data produced by the website infrastructure. Since deploying Splunk Enterprise, NHS Choices has seen benefits including:

- Improved ability to troubleshoot website issues
- Better management of website traffic
- More sophisticated reporting capabilities

Why Splunk

NHS Digital was announced in April 2013 as the new trading name for the Health and Social Care Information Centre (HSCIC). The HSCIC is the national provider of information, data and IT systems for patients, service users, clinicians, commissioners, analysts and researchers in health and social care. The HSCIC is responsible for a number of national systems, including Spine, NHSMail, Electronic Referrals, GP Systems of Choice and NHS Choices to name just a few.

As the online 'front door' for the National Health Service (NHS), NHS Choices hosts more than 20,000 regularly updated articles as well as hundreds of videos and interactive tools across a range of healthcare topics. With these resources being accessed millions of times each year, NHS Choices has to ensure that the site is optimized to provide the best possible access to information to improve public health.

NHS Choices has a complex infrastructure, with three discrete technology stacks, all with multiple routes to the live environment, so gaining performance insights was a challenge. In the past, NHS Choices used an external service to monitor site availability, resulting in a lengthy troubleshooting process, ultimately affecting the usability of the website. Now, NHS Choices uses Splunk Enterprise to monitor the large volumes of machine data generated each day by visits to the website. This allows the technology team to quickly identify and address problems, effectively manage website traffic and enhance reporting within the organization.

Industry
- Healthcare

Splunk Use Cases
- IT operations
- Security and fraud

Challenges
- Time-consuming process to investigate problems with the website
- Inability to analyze website traffic spikes to inform future decisions
- Lack of overall reporting functionality
- Business Impact
- Dashboards across a series of mission-critical areas now deliver real-time Operational Intelligence
- Faster troubleshooting and improved root cause analysis resulting in better website performance
- Ability to make more informed decision due to greater access to data

Data Sources
- RSS logs
- Windows event logs
- Akamai web application firewall
- Mail server logs
- Web server logs
- Splunk Products
- Splunk Enterprise

Faster troubleshooting results in improved website performance

With Splunk Enterprise acting as a single-pane-of-glass across all the data generated by the website infrastructure, NHS Choices can perform correlations when something goes wrong and identify the events that regularly cause issues. The technology team has set up Splunk alerts to proactively address issues before they can impact website performance. For example, to address an issue in the backend, which was preventing comments in the GP surgery section of the website from being published, the team now gets an alert whenever the message queue length exceeds a certain threshold.

With greater visibility into website log data, NHS Choices can also quickly get to the root cause of website issues. Analyzing historical data provides insight into current problems. After a recent DDoS attack was stopped, NHS Choices was able to review data for the previous year in Splunk Enterprise to confirm that the site had not been subject to a similar attack that had previously gone undetected.

Real-time monitoring enables smarter website updates

Splunk dashboards that display website metrics ranging from geo-locating IP traffic to server response times give the NHS Choices management team clear insight into the performance of the website and potential areas for improvement. Additionally, by visualizing web performance data in Splunk Enterprise, NHS Choices can immediately understand the impact of any operational changes. The Splunk platform is now a key component of the monthly release cycle for the website, so the team has a real-time overview of the impact of updates as they are being implemented.

"Splunk allows us to continually improve the services we provide for the public at the same time as reducing our overall infrastructure costs."

Andy Callow
Head of Technology Delivery
NHS Choices

Improved ability to manage unpredictable traffic

The NHS Choices website often has to cope with sudden, unexpected peaks in traffic generated by health campaigns, seasonal illnesses or exposure on TV. The Splunk platform enables the team to pinpoint what has driven users to the website and how to manage similar spikes in future. Insights from this data inform decisions around when best to carry out maintenance on the site.

Plans to make data available to the wider business

By using Splunk Enterprise, NHS Choices has been able to improve the service it delivers to website users. The organization is now looking at new ways to deliver value from its website data, including helping the partner team track usage of content provided to over 600 syndication partners, and building product-specific dashboards for the product owners showing detailed performance and transaction status for key areas of the site.

Download Splunk for free or get started with the free cloud trial. Whether cloud, on-premises, or for large or small teams, Splunk has a deployment model that will fit your needs.

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