

# Splunk at a Fortune 100 Telecom Provider

## IT Search Improves the User Experience.

### The Business

One of the United States' largest telecommunications organizations provides offerings such as digital voice, high-speed internet and cable to more than 24 million customers. As a subscription-based business, its success depends on its IT infrastructure to deliver a high-quality customer experience. When application failures or network latencies negatively impact the customer experience, they negatively impact revenue as well. That's why this leading organization demands robust information from its operational telemetry to ensure data integrity, stability, application quality and network efficiency.

### Limitations

The environment generates over a billion daily events running on a distributed software infrastructure supporting millions of cable, online and interactive media customers. It was overwhelming to even gather and view this data in one place, much less perform any diagnostics, or hone-in on the intelligence that lives in the IT data. Using time-consuming and error-prone traditional search methods the company's roster of experts would grep through mountains of data to uncover issues threatening data integrity, system stability and applications performance – all necessary components of delivering a quality customer experience.

### Overview

#### Vertical Market

- Telecommunications (North America)

#### Splunk Use Cases

- Application Development and Troubleshooting
- Operations Management
- Security and Compliance
- The Long Tail... Strategic Planning

#### Data Sources

- Caching and load-balancing system logs
- Application server logs
- Database and middleware logs
- Content delivery network logs
- Aggregated data feeds

#### The Splunk Moment

During the proof of concept, the evaluation team noticed that tens of thousands of users were dropping an http connection before they finished downloading a file. At first the team thought it was a bug. But further Splunk analysis revealed that the load time was too long and people gave up—a sure sign that customers weren't having a quality experience. This also meant lost ad revenue. Armed with new visibility, the team protected this revenue by improving performance and creating a higher quality customer experience.

## The Splunking

### Application troubleshooting

Before Splunk, developers had to ask the operations team to FTP log files to them. And then they waited... sometimes 16+ hours, to get the data they needed while the operations teams had to step away from their primary duties to assist the developers.

Since Splunk aggregates all relevant IT data into one place, developers can be more proactive about troubleshooting code and improving the user experience. When they first deployed Splunk, they started with a simple search for 404 errors. Splunk revealed up to 1600 404s per second for a particular service. The team identified latencies in a flash player download as the primary blocker, causing viewers to navigate away from the page without viewing any content.

Just one search in Splunk has helped to boost video views by 3% over the last year. In a business where eyes equal dollars, that's real money to the business.

Now when the applications team sees 404s spiking on custom dashboards they've built in Splunk, they can dig in to see what's happening upstream and align appropriate resources to recapture those viewers-- and that revenue.

### Operations

Splunk's ability to model systems and examine patterns helped the operations team avoid critical downtime. Using Splunk they spotted the potential for failure in a vendor-provided infrastructure. Modeling the proposed architecture in Splunk they were able to predict system imbalance and how it might fail based on inability to distribute load.

"My team provides guidance to our executives on mission-critical media systems and strategic systems architecture," said Matt Stevens, Director of Software Architecture. "This is just one instance where Splunk paid for itself by helping us avoid deployment of

vulnerable systems which would inevitably result in downtime and upset customers."

In day-to-day operations, teams use Splunk to drill into events to identify activity patterns leading to outages. Once they've identified signatures or patterns, they create alerts to proactively avoid future problems.

### Compliance

Once seen as a foe, many organizations are looking to compliance mandates as an opportunity to implement best practices in log consolidation and IT systems management. This organization is no different. As Sarbanes-Oxley (SOX) and other compliance mandates evolve, the company uses Splunk to audit its systems, generate scheduled and ad-hoc reports and share information with business executives, auditors and partners.

### Security

When you're a content provider, DNS attacks simply can't happen. By consolidating logs across datacenters, the security team has improved the effectiveness of its threat assessments and security monitoring. Dashboards allow analysts to detect system vulnerabilities or attacks on both its content delivery network and critical applications. Trend reports spanning long timeframes also identify recurring threats and known attackers. And alerts for bad actors trigger immediate responses.

## Breakthroughs

No longer does the sheer volume of data overwhelm the operations team. The more data that the company's enormous infrastructure generates, the more lurking issues and security threats are revealed in Splunk. The team even seeks out historical data – going back for years – to identify trends. As the discipline of investigating anomalies and creating alerts based on unmasked event signatures spreads

throughout the IT organization, the growing knowledge base and awareness fortifies the cable provider's ability to deliver quality customer experiences.

Even more valuable than this situational awareness is the predictive capability gained. When testing a new technology, the decision-making team sees how a solution will work in production—determining the potential for instability by observing reactions to varying loads and traffic patterns. Splunk helps this leading cable provider make the right decisions, avoiding costly delays and downtime.

## Get Started Today!

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