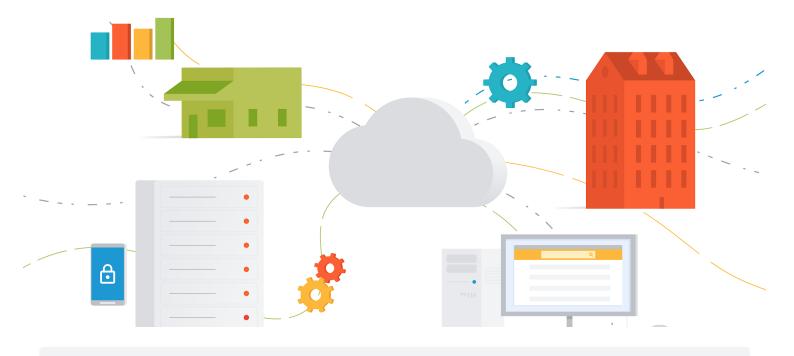


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#### **CUSTOMERS**

# Peak performance: How retailers used Google Cloud during Black Friday/Cyber Monday



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Traffic to retailers' mobile and shopping apps surges to levels unmatched during the rest of the year, and availability or scalability issues can result in millions of dollars of lost sales. Every year, there are well-publicized retail website crashes, so avoiding downtime—along with the accompanying reputation damage, unhappy customers and stressed, overworked IT teams—is particularly important for retailers.

We know that a solid technology infrastructure is the foundation for retailers to stay ahead of demand and succeed during this busy season. Beyond that, though, support for that infrastructure is essential. Support isn't just activated if something goes wrong. Support for an event like Black Friday and Cyber Monday involves preparation well ahead of time, and includes testing, architecture reviews, capacity planning, operational drills, and war rooms during the event itself. We took a prescriptive approach to BFCM support, setting expectations and ownership early (more than six months ahead), to understand what each retail customer needed, both on their side and from our team.

We'll go through the steps that helped our retail customers have a fruitful and disaster-free season. These steps can generally help you prepare for your own peak event. We'll also describe how one large-scale retail platform in particular—Shopify—had a successful BFCM using Google Cloud.

#### Preparing to support retailers on Black Friday/Cyber Monday

We started planning for Black Friday and Cyber Monday for our retail customers in the spring of 2018 to align with their typical preparation timeline. We formed a task force

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capacity status firmly green—available—throughout Black Friday and Cyber Monday, shoppers visiting our retail customers' sites could make their purchases without running into a slow or unresponsive site.

### 2. Reliability testing

Identifying potential reliability issues in a "pre-mortem" (an important component of CRE) was another preemptive step we took. Early on, our CRE team partnered with our retail customers to analyze the reliability of their infrastructures, and run through tabletop exercises to see how well-prepared the customer was in the face of a failure. In some cases, the Professional Services team helped perform load testing to make sure retailers' platforms could handle expected levels of peak traffic, and in others we encouraged regular load testing and evaluation. And given how important mobile commerce has become, we also tested the performance and reliability of customers' mobile apps. We also employed Apigee's API monitoring tools to ensure API stability. We've seen APIs become more important in retail technology, since they allow more flexible, microservice-based e-commerce sites.

#### 3. Operational war rooms

"What could possibly go wrong?"

That's the million-dollar question to ask before a big IT event. We got together with our retail customers' IT and engineering teams to explore and test for possible worst-case.



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running through Apigee more than doubled, from 48,000 transactions per second (TPS) to 108,000 TPS this year, and the platform remained 99.999% available.

### How retailers sailed through Black Friday and Cyber Monday

One of our retail partners, Shopify, is an e-commerce platform supporting more than 600,000 independent retailers. The complexity of managing all those storefronts makes predicting holiday site traffic and sales spikes even more challenging. Shopify provides a platform with 99.98% uptime, and calls BFCM their annual "World Cup" event.



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During the rest of the year, our Shopify account team stayed highly engaged with Shopify engineers on Slack, Google Hangouts Chat, and other real-time communications tools. For Black Friday and Cyber Monday, we increased our communication further and dispatched Googlers to Shopify's own war room in Toronto.

"As we went into BFCM 2018, we no longer had data center capacity to fall back on," says Camilo Lopez, Director of Production Engineering at Shopify. "But we were confident that with Google Cloud, we had the extra support and strong technology foundation needed for a successful Black Friday and Cyber Monday. The big event came and went without incident. Our merchants collectively sold over \$1.5 billion USD in merchandise that weekend, up from \$1 billion in 2017."

This BFCM weekend was a record breaker for Shopify, with a peak of nearly 11,000 orders created per minute and around 100,000 requests per second being served for extended periods during the weekend. Overall, most system metrics followed a pattern of 1.8 times what they were in 2017.

## Cloud planning and support make for stress-free events

By following the above strategies, you can be ready for whatever comes your way, whether it's a huge, unanticipated traffic spike or a major uptick in sales you count on every year. And that brings benefits for customers and your IT teams. After this year's successful BFCM, a staff member from one of our newer retailers sent us a note of thanks and remarked that 2018 was the first time in years that he was able to enjoy



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