DLVR Case Study:
Predictive, Performance-Based CDN Selection

Summary

Utilizing direct stream measurements, DLVR's predictive decisions accurately predicted subsequent real-world performance of our customer's CDNs and automatically selected and awarded the traffic to the best performing CDN, delivering peak streaming performance for a major season premier.

Optimization Challenge

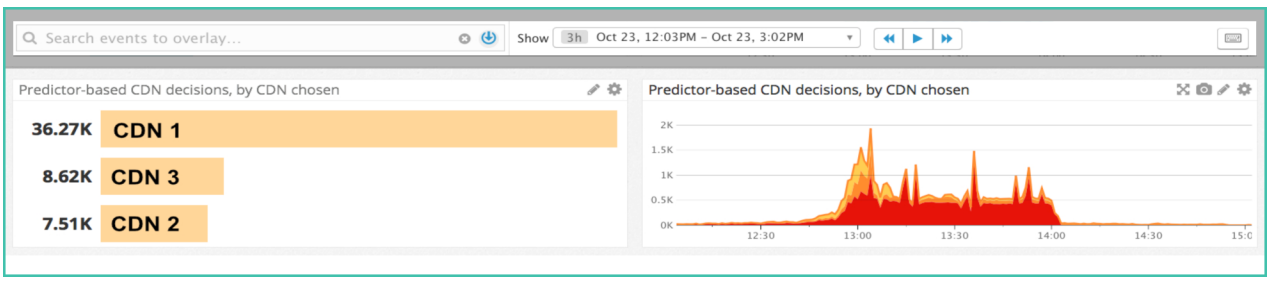
OCT 23, 2017

The Walking Dead season premier is just moments away. DLVR has been continually monitoring, measuring and optimizing CDN performance in association with end user access networks for peak video playback. As the droves of viewers rapidly come online at the start of the show, DLVR needs to find the best delivery path for each of the thousands of streams in real-time with constantly changing internet conditions, ensuring the best possible viewing experience possible.

Proactive Switching for Peak Performance

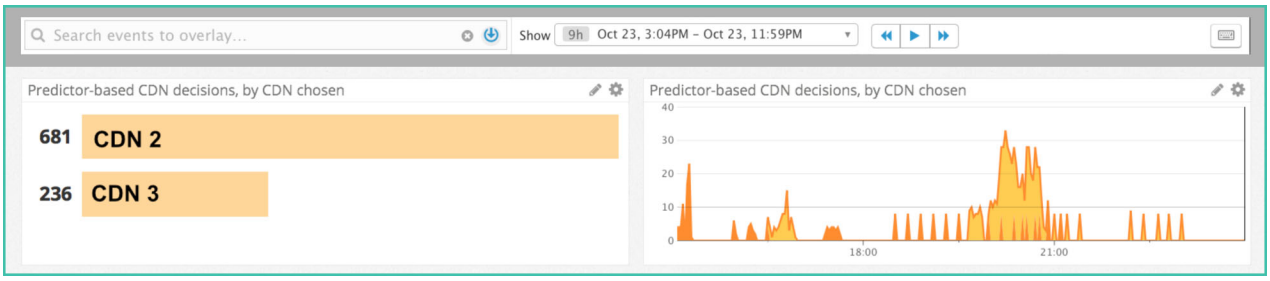
DLVR's proactive, performance-based, CDN selection and midstream, hazard avoidance work together to optimize the experience for every viewer during the high-traffic event. Initially, all three CDNs received approximately equal shares of traffic, but shortly after the start of the show, DLVR s per-stream, CDN selection algorithms began predominantly choosing CDN1 for both predicted performance and hazard avoidance-based decisions. This pattern continued for the full hour of the premiere, delivering peak performance for all viewers.

Automated CDN Selection During the Premier



DLVR's per-stream CDN selection algorithm began predominantly choosing CDN1 for both Predicted Performance and Hazard Avoidance-based decisions.

Automated CDN Selection After the Premier



In the 9 hour period after the premier, CDN2 was selected 74% of the time, while CDN3 received the remaining 26%. CDN1 isn't receiving any traffic based on predictive or hazard-based decisions.

Best Practices

Continuous, real-time, individual stream measurement is the best way to gather the data necessary to predict streaming hazards before they happen, and make an intelligent CDN switching decision
to achieve peak performance. DLVR collects this data and assigns each CDN a Predictor Score. Predictor Scores indicate whether a predictive or statistically significant difference exists between two CDNs' performance that may predict a future hazard, and are used for CDN selection at playback start.

DLVR's continuous data collection captures conditions as they change over time. A CDN provider is selected based on its Performance Index which predicts a lower likelihood of future performance hazards than for other CDNs. In this case, over the course of the day of the premier, CDN1 was selected 66% of the time while CDN2 and CDN3 tied, each handling about 17% of the streaming traffic.

These approximate percentages are similar during the three hour traffic spike during the premier. However, it is important to note how these percentages fluctuate greatly depending on the changing conditions throughout different times of that day. In the 9 hour period after the premier, CDN2 was selected 74% of the time, while CDN3 received the remaining 26% and CDN1 didn'treceive any traffic based on predictive or hazard-based decisions.

Under different conditions, during the twelve hours before the premier, CDN3 was only selected 10% of the time, CDN2 13% of the time and CDN1 77% of the time.

CDN performance is the deciding factor in CDN switching, but if CDNs are achieving similar performance a variety of business rules can be applied. Over the course of each month, DLVR can accurately achieve desired traffic splits among CDNs, helping manage cost and commitments.

To learn more about DLVR's services for video delivery optimization, email us at info@DLVR.com.

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