OpenText Magellan-Vertica Telco Demo

Information Boxes

About

Events and large gatherings can involve a huge influx of people and network traffic, so it's important to ensure that your network is ready and adaptable. Without accurate and timely monitoring and routing traffic analysis, you run the risk of dealing with inadequate coverage and slow connections.

Network monitoring can provide real-time visibility into the performance of your network, allowing you to troubleshoot problems quickly and more effectively. One of the benefits of network monitoring is that it can showcase where traffic is heavy in the network, so you can decide where to place the next tower in order to best support the activity at the busy event. Knowing where to look for impairments and congestion can help you identify where more towers may be needed to prevent any potential network issues.

Through analyzing the flow of the packets on the network, routing traffic analysis can help you identify which parts of the network are actually used the most at the event and, subsequently, where the best place for the tower is. You may not only be able to identify areas that require additional tower support, but also precisely determine the most ideal spot for placement.

Network monitoring and routing traffic analysis are both essential tools for creating a seamless network performance during events. With them, you can take the guesswork out of where to place the next tower for optimal coverage and be able to detect any issues in your network quickly and accurately.

OpenText Vertica and Magellan are powerful software solutions that can take the stress out of network monitoring and routing traffic analysis. Vertica is a top-tier, high-performance analytic database that offers lightning-fast performance for large volumes of complex queries. It provides an easy way to store, analyze, and query your network traffic in real-time, so you can optimize the placement of the next tower at busy events. With its predictive analytics functionality, Vertica can help you understand complex networks quickly and accurately.

Magellan extends the capabilities of Vertica with its unique, AI-infused discovery tools that enable you to tailor your analysis to your specific needs. With its easy-to-use interface, Magellan can create visualizations of your network data instantaneously, making it easy to pinpoint the best place to put the next tower. It can detect subtle patterns of usage and even help you anticipate future user behavior.

This demonstration allows you to visualize the wealth of data at your fingertips with Vertica and Magellan and how it can be used to monitor and analyze the performance of your network in real-time. The demo can help you get a better understanding of how

quickly and accurately you can identify the most ideal spot to place the next tower in order to best support the activity at a busy event or gathering. Ask us about putting this powerful combination to work for your network monitoring and traffic analysis needs.

Powered by Vertica and Magellan BI & Reporting from OpenText

Report Items

Map

This map is a visual indication of the average network latency at individual tower sites. Network latency is the measure of how long it takes (in milliseconds) for one data packet to travel from a device to a tower and back. Latency is one of the primary indicators of network performance quality. Most people desire a faster, more responsive experience, and latency is a major contributor. Latency is generally dictated by physical distance and the capacity of each tower; thus, tower placement is important.

Legend
● Good average latency (< 100ms)
● Acceptable average latency (between 100ms and 200ms)
● Poor average latency (> 200ms)

Machine Learning Prediction

The map also uses the Vertica database's built-in machine learning K-means clustering algorithm to predict and suggest future tower sites to improve the given network landscape and individual tower capacity.
● Future tower site

Latency

Network latency is the measure of how long it takes (in milliseconds) for one data packet to travel from a device to a tower and back. Latency is one of the primary indicators of network performance quality. Most people desire a faster, more responsive experience, and latency is a major contributor. High latency can often result in lagging gameplay in online games, constant video stream buffering, and long page load times. Knowing what makes a "good" latency is a bit more involved than just looking at a number. Latency is generally varied by connection type (LTE, 5G, 5G+).

Packet Loss

Data isn't transferred across the network fully formed. Instead, it is broken into easy-to-send chunks called packets. If too many of these packets fail to reach their destination, you're going to notice a problem. The percentage of packet loss experienced over a given timeframe is another primary indicator of network performance. If a connection is suffering high packet loss, you're likely to experience unresponsive services, frequent disconnects, and recurring errors. On average, we consider a packet loss percentage of 2% or lower over a 10-minute timeframe to be an acceptable level. However, a good

connection shouldn't see packet loss at all. If you're consistently experiencing packet loss of 5% or higher within a 10-minute timeframe, there is likely a problem.

Quality of Service

Quality of Service (QoS) is the key performance indicator (KPI) measurement of managing data traffic in order to reduce jitter on the network and prevent or reduce the degradation of quality. QoS can be improved by setting priorities by which data is sent on the network. Quality of Service is on a scale between 0 and 100, where 100 is the highest and 0 is the lowest score. A tower begins with a QoS score of 100. The score will begin to drop when degradation of latency and jitter are encountered.

This dashboard uses Vertica's built-in logistic regression machine learning algorithm to compute predicted Quality of Service based on a learned model that is refreshed on a periodic basis.

Worst 5 Towers by QoS

This chart shows the worst by Quality of Service (QoS) scores, along with the average QoS across all towers, and the currently selected tower (if selected).

Network Jitter

Network Jitter is the variance in latency, or the time delay between when a signal is transmitted and when it is received. This variance is measured in milliseconds (ms) and is described as the disruption in the normal sequence of sending data packets. Good connections have a reliable and consistent response time, which is represented as a lower jitter score. The higher the jitter score, the more inconsistent response times are, which manifests in choppy calls or glitchy-sounding looking video quality.

Network Capacity

Network Capacity is the overall capacity of the network measured as a percentage where 100% is when the network is at full capacity. Networks become overcrowded with traffic congestion when too many active devices are consuming bandwidth. Network congestion is an overload of data that slows down traffic across the entire network.
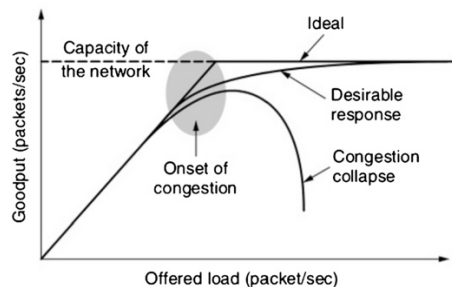

Image source: www.iospress.com