Online Testing

Extreme Networks for Primary and Secondary (K-12) Education

Introduction

Student assessment plays a vital and growing role in primary and secondary education today. The days of laboriously handwriting test answers in little blue books to be interpreted by graders are drawing to a close. Measuring how well students and districts are performing relative to state educational standards is now accomplished through online, technology-based testing. High stakes summative testing involves simultaneously assessing large groups of students within a district or school system. Formative testing, that is, quickly polling students in a classroom to assess how quickly to proceed with the topic, can also readily be accomplished through online student devices. The move to online testing accompanies the growing use of digital content in education as an important means to improve educational outcomes. A number of national student testing organizations have developed online tests related to state curriculum standards. Below are the critical technology issues that school districts must address as they implement class and school-wide online assessment. A cloud driven network can help solve these IT barriers which is crucial to keep pace with new technology and advancements which will lead to smoother online testing and achieving succesful learning for all students.

Critical Technology Issues

Reliably Delivering Online Test Content

The student testing devices must have high-reliability, smooth, uninterrupted, responsive connectivity all the way back to the remote servers where the test resides. Often an entire class or even an entire school will undergo online testing simultaneously. The Wi-Fi network must be capable of providing smooth, uninterrupted connections to all student devices involved in the testing. This requires high density, high throughput wireless networking. All connections must be highly available or fault tolerant to ensure uninterrupted testing.

Access Control to Network Resources

While the cloud driven network must be capable of connecting to all resources, it must be very selective in doing so. During online testing, student devices are usually set to run only one application and connect to a limited set of internet or in-school resources. It should be simple and quick to set up a network policy specifically for online testing, which can easily be turned on and off as needed. Web filters are used to prevent access to prohibited websites. Network integration with firewalls and web filters means that the network policy can be smoothly implemented across all resources. The network must be capable of both controlling and monitoring all devices and network activity.

Allocating Bandwidth and Performance to Test-Related Traffic

During testing, the district needs to allocate sufficient bandwidth and resources to the student devices that are used to administer the test. Since internet bandwidth to the school system is usually fixed, this may require reducing bandwidth to sections of the school or district that are not participating in the online testing. QoS will need to be optimized for testing, rather than set uniformly across the entire network.

Constant Monitoring of Network Performance

It is important to have a constant view into cloud driven network performance throughout the testing period, to be sure each student device has uninterrupted access to the remote testing servers.

Application Insight

Network analytics can be used to verify that students are not accessing unauthorized resources during the testing. Application analytics are also vital for insuring that the infrastructure is optimized for online testing.

Comprehensive Service and Support

Access to a global technical access center (GTAC) on a 24x7 basis ensures that all support questions can always be answered promptly to keep the network functioning. Prior to network installation, it is important to survey and assess the RF characteristics of the site to determine optimal placement of access points and switches. Depending on the network support resources available within the district, network training and managed services may be required.

Summary

Whether for K-12 standards compliance or higher education mid-terms and finals, online testing requires high speed, low latency networking, device management, and network analytics to ensure the best possible student testing experience. Our ExtremeAnalytics helps locate any issues that come up relative to remotely-served tests. Extreme Control makes sure that only the right devices and students are connected to the cloud network.

Flawlessly connecting large numbers of student wireless devices to remotely-served tests requires extreme network reliability and application visibility. There are numerous war stories of remote servers going down, leaving administrators to guess at the problem, or even unaware that there is a problem, forcing the test to be either re-administered or thrown out entirely. Extreme Networks prevents that situation. We have over 17,000 schools and 4,500 campuses worldwide and deliver the best educationally-focused networking solutions in the industry.

Additional Resources

To learn more please visit the Extreme Networks K-12 and Primary/Secondary Education Solution Center.

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