



## INTEL OPTIMIZED CASE STUDY SERIES

# Brentwood Academy Excels with Remote Learning Powered by Intel and Partners Technology

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With the onset of the COVID-19 pandemic, schools across the country were quick to adjust their learning environments to avoid the potential spread of the virus. Brentwood Academy, an independent college preparatory school located in Nashville, Tennessee, responded initially by implementing its existing available solutions for distance learning. When this approach proved inadequate, the school adopted a hybrid teaching solution from ViewSonic Corp., in Brea, CA, based on Intel technologies, which recreates the classroom experience virtually by enabling teachers to give their lessons simultaneously, both in-person and remote.

The myViewBoard Classroom employs ViewBoard 65-inch touch displays to serve as in-class whiteboards with dynamic interactive capabilities. Teachers can import lessons to the whiteboards and add videos, pictures, and live annotation, which can be shared by in-class students and those who are distance learning.

With this hybrid system, students can chat, collaborate, or brainstorm online working on a shared canvas and can learn from anywhere with lessons that can be recorded and shared on demand. A dual camera set-up in the classroom with two 108-degree webcams allows teachers to flip the second camera to show the entire class during a discussion, enabling those participating from home or elsewhere to be fully engaged.

The ViewBoard displays are powered by Intel Unite and sixth-generation Intel Core i5 processors with Intel vPro Platform Technology-enabled Intel NUC small-form factor computers, powered by Intel Xeon Scalable processors in the cloud. *“We couldn’t have functioned without the Intel computers,”* says Chris Allen, Brentwood Academy IT Director. *“They are small, and yet they have considerable processing performance. NUCs are easy to deploy and generate little heat dissipation and negligible fan noise.”*

Initially, the school made use of the ViewBoard's Slot-in PC, but the computers ran hot and produced too much fan noise. According to Mr. Allen, the school tested five different Intel NUCs during the summer of 2020 before deciding on the 10th-generation Intel Core i5 processor solution. *"This particular system has great processing speed yet consumes very little power,"* says Mr. Allen. *"For us it was just the sweet spot of computing."*

The Intel infrastructure supports Microsoft applications in the classroom, including the Microsoft Azure cloud platform and Microsoft Intune cloud-based management tool. *"Microsoft Teams is what brings it all together,"* Mr. Allen says. *"When the teachers log in, the system automatically launches Teams, which allows them to see all their classes and to start remote classes and share their screens with students."*

## A System That Changes Everything

Before the Intel deployment, the school's IT staff spent considerable time replacing projector bulbs, making sure the sound systems worked properly — a constant problem — or resolving teacher issues with wireless connections. *"With the new Intel-based system, we no longer have these concerns,"* Mr. Allen notes.

Deployment of the Intel infrastructure has increased performance by 70% and reliability by 90%, according to Mr. Allen. Previously the school averaged three issues a day and needed up to two days to resolve problems with the wireless network. Having all the Intel NUCs hardwired into the network has avoided the wireless issues and created a virtual classroom where everyone is connected in a reliable way.

Not only does the new infrastructure run more efficiently than the legacy system, it also supports workloads that would have overloaded the previous system. *"Now we are able to stream multimedia content to our students and not only share screens but record them as well,"* says Mr. Allen. *"Also, by bringing cloud storage to the Intel NUCs, we have avoided adding on-premises storage, which results in a 20% saving in our overall infrastructure cost."*

In addition, the dependable Intel-optimized solution has freed the school's IT staff to focus on security and other infrastructure-related issues and to address pressing internal systems and school functions they weren't able to deal with before.

*"Having the integrated ViewSonic-Intel solution has changed everything,"* says Mr. Allen. Initially, the school looked at some interactive displays based on other solutions, but they failed to capture the virtual classroom experience. *"We also wanted a solution open to all types of technologies that would allow teachers to use document cameras and play DVDs,"* he noted. *"Combining the ViewSonic and Intel technology gave us what we needed."*

To improve the teacher and student experience, the myViewBoard software uses the deep learning capabilities of the Intel Distribution of OpenVINO toolkit to gauge the mood, interest, and understanding of students in real-time from their facial expressions. Teachers can see this feedback and adjust their lessons so that fewer students are left confused, frustrated, or bored.



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Chris Allen,  
IT Director,  
Brentwood  
Academy

## Technology Eases Isolation

With 70 ViewBoard interactive flat panels and cameras placed throughout the campus in classrooms and larger meeting spaces, Brentwood Academy has remained open since the first day of classes on August 18, 2020. Since then, small groups of students and faculty have needed to quarantine from time to time, but the ViewSonic-Intel solution has allowed those students to participate in a normal class schedule from their homes.

*“Missing classes because of quarantine would have been so detrimental for students because we have such a rigorous academic workload,”* says Mr. Allen. *“Without the ViewSonic-Intel platform, I don’t know how we could have continued and allowed students to remain current in their schoolwork. Even teachers quarantined in their homes could teach in-person classes, and students traveling for sports or extracurricular activities could remain engaged.”*

One parent commented that the technology had allowed her two girls to be “in school” with their peers while physically isolating at home with the virus. *“They got to see friends, answer teachers’ questions in real-time, and even participate in group work,”* she said.

Brentwood Academy has significantly increased enrollment, potentially because parents are wanting schools with capabilities to support both in-person and remote learners. *“We need to educate students wherever they are,”* says Mr. Allen. *“Our hybrid solution that uses the ViewSonic-Intel platform does that safely and in line with COVID protocols.”*

## Message from the Sponsor

Sponsored by Intel. Information based on internal estimates of Brentwood.  
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