



CASE STUDY

NORTHERN MICHIGAN UNIVERSITY (NMU)



Northern Michigan University (NMU) in Marquette, Michigan is well-acquainted with the power of wireless devices; in 2011, President Barack Obama visited the campus to observe the University's WiMAX/LTE wireless network, which provides wireless broadband access to the entirety of the NMU campus, as well as the communities surrounding Marquette. NMU is also unique in that all attending students, as part of tuition and fees, are issued a notebook computer. These computers are refreshed on a 4-year cycle, and come pre-loaded with the software used in NMU classrooms.

With a student body of nearly 9,000, NMU has made its mark by leveraging technology to improve teaching and learning. When John X. Jamrich Hall, the main classroom building on campus, was slated to be replaced, NMU faculty and staff designed the new space with the intent of using active learning technology from the day the doors opened. Jamrich Hall had the groundwork in place: the network, the audio, the displays. The only thing that remained was a way to tie them all together to create a collaborative learning environment that was not only cutting edge, but adaptable for the future.



WHAT DO YOU NEED FOR THE CLASSROOMS OF THE FUTURE?

First and foremost, the solution for these new classrooms had to link teachers and students together with as little hassle as possible. Wireless was definitely a plus, and the more users that the hardware could support, the better. The deployed solution needed to work with a wide range of devices, as college students use a wide range of both laptops and mobile devices in order to access learning material. A wireless presentation device was the obvious choice.

Northern Michigan University made a conscious decision during the design phase of Jamrich Hall to enable multimedia active learning in all classrooms which meant the proposed solution needed to carry HD video signals, as well as be able to display an array of documents, photos, and presentations. If the solution was going to be able to both mirror a computer or mobile device, as well as carry a video

signal, it needed to be able to do so at a decent framerate with a low amount of latency. These displays would range from small touchscreen displays (in the Scale-Up active learning spaces) to the larger, cinema-style presentation displays (in the largest lecture hall)

Finally, any wireless device implemented had to be reasonably secure though: In order to maintain the security of its wireless network, the University inhibits rogue AP transmissions by not enabling unapproved networking devices on the network.

That meant any devices deployed on the network had to be either managed by University IT or exist on a separate network. Additionally, the new system needed to be secure enough that presentations and lectures couldn't be hijacked by anyone on the network.



wePresent Product

- WiPG-1000



Case Scenario Advantages

- Cross Platform (supports Windows,
- OS X, iOS, Android)
- Audio and Visual content can be displayed using HDMI output
- Offers customizable control

ENTER THE WIPG-1000

After reviewing many different wireless presentation devices, the one that NMU settled on was the wePresent WiPG-1000. The WiPG-1000 is wePresent's most economical model, providing not only cross-platform, BYOD wireless collaboration, but the security and flexibility required in order to be the solution NMU needed. As a result, the WiPG-1000 soon became central to NMU's classroom technology design in both the smaller huddle spaces, and room 1100, the 500-seat lecture hall.

The device, when deployed, was very easy to use. Faculty and students wishing to connect to a classroom display device need only launch their computer's preloaded MirrorOp software, enter the appropriate IP address / access code information and begin their screen-sharing session. With no cables or tethers, this wireless presentation system enables complete mobility for seamless, unfettered classroom instruction. As an added bonus, NMU were able to use wePresent's HDMI output assuring that audio could also be displayed along with visual content.

A few issues had to be dealt with, of course. NMU still wouldn't allow the WiPG-1000 to exist on its network without being managed by the network administrator, and traffic across the campus network was preventing video from being streamed reliably. Both of these problems were solved by putting the wePresent units on a Virtual LAN (VLAN) and deactivating their ability to function as a wireless access point. This not only effectively isolated them from the rest of the network, but allowed streaming capabilities to reach a steady 30 FPS for both mirroring and video

DEPLOYMENT

wePresent is currently used as the wireless presentation gateway in not only the main lecture hall at Jamrich, which seats up to 500 students at once, but also the surrounding 24 active learning classrooms, each which seats from 20 to 36 students. Additionally, the concept is also being deployed to several outlying lecture halls, each with an 80 to 150 student capacity, in order to transform them into larger active learning classrooms. Each of these rooms comes equipped with multimedia peripherals such as touch screens, digital white boards, and document cameras in order to bring higher level of interactivity to the learning experience.

NMU has a rich history of being on the bleeding edge of technological advancement in education, and with the incorporation of wePresent wireless presentation into its arsenal, they've maintained the edge they have worked so hard to make. By creating a true BYOD environment at NMU, the students have benefitted by being able to work in an environment closer to the advanced networking spaces they'll see in the working world, and with the combination of low-cost and feature-richness of wePresent wireless presentation gateways, the university is able to bring active learning to their classrooms.

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