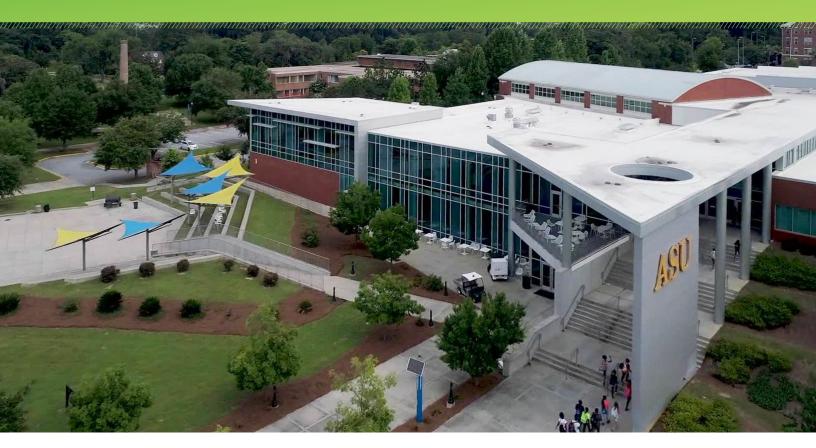# Albany State University

- Future-proofed their environment with Wi-Fi 6 and smarter security cameras
- Students have better connections in high density environments across campus
- With a cloud-managed network, ASU can focus on improving student experiences

With busy student centers, campus-wide events, sporting games, and bustling residence halls, high-density environments are copious at Albany State University (ASU) in southwest Georgia. In order to provide the best experience for its students and faculty members, it's critical that the school remain ahead of the curve in adopting new technologies to improve learning, collaboration, and security. This includes future-proofing their network by deploying devices compatible with the latest Wi-Fi standards, as well as moving network and physical security management to the cloud to simplify day-to-day operations. With a robust solution in place, the Infrastructure team can focus on impactful projects that directly benefit students, rather than on day-to-day configurations and troubleshooting.

High-Density Wireless Environments Supported by Meraki

When their controller-based environment proved to be too challenging to maintain and upgrade, Noore Ghunaym, Director of Infrastructure, knew it was time for a change. After trying out Cisco Meraki MR access points in a small pilot, the team decided to deploy the cloud-managed access points (APs) across the entire campus due to their ease of deployment, simple management, and superior performance. Through the Meraki dashboard, the Infrastructure team can pre-configure all of their APs before plugging them in, making the deployment much faster than on-premise systems. The Meraki dashboard's intuitive user interface allowed them to deploy 600 APs with no prior complex network knowledge or training. If they need to add an AP to the network or replace an existing AP, they can just apply a network tag and all of the configured settings automatically transfer over, making deploying new APs extremely easy. This is especially important during large school events, where they have to meet high-density wireless demands and need to scale the network

up or down depending on the situation. Ghunaym added, "We don't have to spend our time learning how to configure and troubleshoot, the cloud-based solution learns and manages the network for us, making the lives of people working for Infrastructure that much easier."

"In our environment, we needed simplicity. We needed the ability to move quickly to solve problems and Meraki catered directly to that."
- Noore Ghunaym, Director of Infrastructure

With APs deployed everywhere across campus, including lecture halls, gyms, athletics buildings, residence halls, and outdoor spaces, students and staff can access the network no matter where they are on campus. The Infrastructure team deployed the MR30H APs in residence halls to expand the ethernet for student use and provided reliable wireless where students live and work. Students and staff mainly use the secure, encrypted school network using their login credentials to authenticate, while guests, library visitors, and IoT devices use the open, public network. In the dorms, students can connect their smart TVs and gaming consoles through a simple portal with their login credentials and the device's MAC address. This method to log devices onto the network was such an improvement for students that the Infrastructure team saw a spike in students using the Wi-Fi in their dorms. Plus, with the combination of indoor and outdoor APs and the ability to focus the signal, the Wi-Fi works wherever students want to be, greatly improving the experience across campus.

If there are network issues, the Infrastructure team can easily use various troubleshooting tools to automatically identify the issue and resolve it. With auto channel assignment, RF analyzer, and latency visibility, the team can see if they need to accommodate for more density or make adjustments accordingly. Ghunaym added, "We can look at the dashboard overview and see the percentage of failed or successful connections and the overall latency, and decide if we need to investigate if something seems off. It also allows us to see the number and type of devices, what bandwidth they're using, and the amount of errors reported for different devices. So we're able to make adjustments accordingly to get a good balance to serve everybody."

As technology continues to become more advanced and numerous, ASU needed to future-proof their wireless network to meet growing network demands. Students are bringing devices to campus that have not been seen on the network before, and ensuring the school can support these new devices en masse is critical to student success. To accommodate this, Ghunaym and the Infrastructure team knew they either needed to deploy more 802.11ac Wave 2 APs and turn down the bandwidth on each to minimize interference, or start deploying 802.11ax. They chose to embrace the new standard

and have less APs for better performance by deploying 802.11ax (also known as Wi-Fi 6) compatible MR55 APs in the student union, housing common rooms, and gaming areas. Students immediately noticed that the internet no longer slowed down, even when at capacity in these high-density areas, and were able to watch videos, stream music, and use social media with their friends, all at the same time. Ghunaym added, "Students have a much faster experience. They can watch videos, have their headphones in, stream music, snap - they're able to do all the things that college kids do." As new Wi-Fi 6 devices emerge, ASU is ready to meet students where they are, whether they're using older devices, or ones that require faster throughput and faster speeds to work effectively. Ghunaym said, "Wi-Fi 6 helps us meet throughput and speed challenges and allows us to scale our network accordingly."

"I always look forward to the new solutions, new technology, and new innovation that comes out of Meraki."
- Noore Ghunaym, Director of Infrastructure

Disruptive Architecture Changes the Camera Game at ASU

In order to help protect the physical safety of students, staff, and visitors, ASU wanted a reliable video camera system. They originally used a traditional DVR system, which caused many headaches for the Infrastructure team. They didn't have enough back-end storage and couldn't meet the retention needs of the university. Additionally, backing up the system was nearly impossible, especially with their small budgets. They also couldn't scale the cameras as desired, since that would require additional back-end storage and would be immensely complex. When Ghunaym discovered Meraki MV smart cameras, he couldn't believe the completely different approach that the solution brought to the table. With all footage stored directly on the camera, the need for servers and complex systems was eliminated. Instead, they can view all of the footage and make configuration changes from the Meraki dashboard; the same place they manage their APs. This game-changing architecture greatly simplified the school's camera deployment, and they began installing cameras across the campus. Based on where the cameras are located, the team can select the best model for that location, whether indoor or outdoor, wired or wireless, or varifocal or fixed lens. Plus, with granular access permissions, Ghunaym can give the campus police and fire departments and school leaders access to view the cameras as needed. This allows the police department to get their job done that much more easily and with less assistance required by the IT department.

With MV cameras deployed across the campus, the Infrastructure and safety teams have been able to take advantage of many unique and time saving features. With Motion Search, a user can find an incident or event in just a couple of clicks, instead of searching through hours of footage. Ghunaym added, "There's a lot of power in being able to search the video footage simply. When the police

department needs to go back and look for an incident, they can just highlight an area and the dashboard shows every time there was motion in that area. This saves the end user time and a lot of unnecessary hassle." They can also use the heat maps to see what areas are the busiest during certain times. The upgraded camera system has also helped the police department keep students safer across campus by giving them eyes into areas where they needed it. With improved video quality and analytics capabilities, they can find incidents faster and more accurately, and export footage to be used as evidence.

Improving Student Experiences at ASU

With a reliable wireless network and smarter camera solution in place, Ghunaym and his team can use their time on improving student and staff experiences across campus. They can focus on upgrading their classrooms to support new ways of learning, including video conferencing and remote learning, and enable teachers to be creative by removing any obstacles. Ghunaym explained, "We want everybody to be able to use technology to make their lives easier and more productive. We believe that with these advancements in wireless technology, people will be able to collaborate more and work in environments where they're comfortable instead of being tethered to one single location." With a faster, more reliable network, the Infrastructure team can focus on providing increased training, proactively reviewing analytics, and working on more impactful projects. Ghunaym concluded, "I truly believe that if a student is happy in their dorm room and on campus, they can collaborate and speak with their family and friends remotely, and they don't have connection challenges or feel like they're disconnected from the world, then they will have a better experience and get to their goal of graduating and earning a degree."v

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