CASE STUDY: OVER BUILT STUDENT HOUSING

A Private Owner of Student Housing (POSH) contacted National WiFi to solve a problem: an existing wi-fi network on the property was not delivering expected speeds to residents. The management office was receiving frequent complaints from residents reporting poor wi-fi service. On the advice of the previous vendor, the owner added significant bandwidth with the expectation that overutilization was the cause and this would resolve the issue. However, it did not.

PROPERTY INFRASTRUCTURE

This community was recently built and had Cat5e "home runs" from each bedroom and each living room to the data closets. Each living room had a wireless access point intended to serve the 3-4 bedrooms in the residential unit. From a cabling and distribution standpoint, the property was ideally constructed.

INITIAL ANALYSIS

The first step was to determine the amount of bandwidth actually being consumed by the community. To accomplish this, National WiFi replaced the existing property router with a network controller that would report bandwidth and network processor utilization. During a 24-hour data collection period, our analysis showed the property's peak consumption was 12% of available bandwidth. This data confirmed that the increase of available bandwidth to the property would not resolve this issue. The issue was within the building, not related to the internet connection.

FIRST STEPS

The wireless access points in each living room were broadcasting the same network name and were commercially advertised as "High Power" devices. As a next step, National WiFi suggested disconnecting half of the building's access points, in order to investigate the possibility of wireless interference. The network was monitored for an additional 24-hour period. Almost immediately, network utilization increased by 174% and students began to report significant increases in network speeds.

NATIONAL WIFI WAS ABLE TO IMPLEMENT A WI-FI NETWORK THAT ALLOWS FOR COOPERATION BETWEEN ACCESS POINTS AND ZERO HANDOFF ROAMING OF STUDENT DEVICES.

CONCLUSION

It seemed clear that wireless interference was the root cause of network degradation, and the lack of central management of the existing access points was causing competition between them.

SOLUTION

Through the redeployment of a centrally managed wi-fi system, National WiFi was able to implement a wi-fi network that allows for cooperation between access points and zero handoff roaming of student devices. This eliminated 'drops' as student devices transitioned between access points. This system also provided graphical real-time status of the wi-fi environment, network device status, and airtime utilization statistics. In the end, network utilization increased by over 300% from initial rates, and students reported dramatic improvements in service.