

Henderson County Schools High Density Wireless Network Project

The Wireless Network Today

- 72 wireless access points in 12 schools
- No centralized management of wireless devices or access points
- No method to authenticate non security domain devices to school system network
- No method to dynamically assign wireless devices to virtual networks
- All access points are old B/G series devices
- Low density access only (limited streaming)

The Future Wireless Network

- 680 wireless access points covering the entire district
- Central management of wireless devices and access points
- Authentication of non security domain devices to school system network
- Dynamically assign wireless devices to virtual networks using user credentials
- All access points are N series allowing high density access

How Does It Work

1. Wireless device connects to access point, only has rights to NAC (Network Access Controller VM Appliance)
2. User logs into NAC using standard network credentials
3. Wireless device is assigned to network user account and transferred to appropriate virtual network
4. Access to network can be limited by multiple criteria: user type (staff, student), grade, etc.

Why Do We Care

- Wireless access in every district building
- Centralized wireless access management
- Flexibility for future mobile devices
- Ability to use personal and district wireless devices on school system network (smartphones, tablets, laptops)
- Ability to use transparent proxy and Microsoft Threat Management Gateway to log and filter Internet access to maintain FCC/CIPA compliance

What Does It Cost

- 680 high density N series access points: \$408,000
- New or upgraded data cabling: \$354,000
- POE (Power over Ethernet) network switching equipment: \$258,459
- Dual Enterasys HiPath C5110 network access controllers: \$38,394
- Enterasys Network Access Controller: \$9,347
- Enterasys Netsight Management Suite: \$7,146
- Two Field Technicians \$70,000
- **Grand Total:** **\$1,145,346**

So...Now What

- Network redesign has been completed
- Management server installations are complete
- One network access controller has been installed
- Policies for network access and classroom management are being reviewed or created
- Funding options for project are being explored