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## **Case Study: Fayetteville Technical Community College**

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Fayetteville Technical Community College (FTCC) had specific needs when they installed a wireless network. As Wireless networks become more complex, and the amount of services required to run wireless networks increase, it is important to understand what all the potential variables are before the project begins. With this in mind, FTCC had a considerable list of requirements and questions when they began shopping

Key requirements of the network involve varying degrees of access and resources based on the SSID the end users selects, and also by the credentials supplied by users accessing the network. Bandwidth restraints are applied to specific users in order to maintain high availability to proprietary users. FTCC also needed the flexibility to create a database of existing full time users from a flat file.

In planning the network it was important that all the requirements for running the network were maintained by an appliance that not only administer user access and experience, but also provide network services and monitoring. Administrative alerts as well as mesh services are maintained from one device. Ease of administration is crucial as it allows the ability of tier 1 technicians to monitor the network, which in turn, saves money. Additionally, residual user fees are mitigated through a flat per user license schedule, which over the life of the network will save the institution a considerable amount of money.

FTCC is another example of an institution which is making its campus more inviting and data access more flexible. What FTCC also understands is that there has to be a level of accountability for its staff, students and guests. So often there are situations where guest access is granted while there is no accountability on behalf of the facilitating party. While FTCC does not wish to restrict web content, it does want to be able to determine who is responsible for illegal web behavior if the need arises. The biggest deterrent to illegal behavior is the collection of a valid e-mail address and banning of user accounts and/or hardware addresses of users who abuse their privileges.

In the future FTCC will continue to expand its wireless network, in turn they need to have the flexibility to effortlessly grow and keep costs to a minimum at the same time. In its current architecture command and control is centrally located so there is no need to house multiple servers in multiple locations. Also with the server/client back office architecture in place, expensive leased lines or wireless backhaul links are avoided, therefore also saving money in future expansions.

In August 2011, after the network was operating for years, the requirements for authenticating certain users changed. Rather than periodically importing the user database from a flat file it was desired that the users be authenticated against an external Active Directory server. This method of authenticating users with an LDAP server was included in WiDirect version 2.1, and simplified the task of managing users for the network technicians at Fayetteville Technical Community College. Accounts authenticated against an Active Directory server are added to the WiDirect for reporting purposes, but

passwords are not stored on the WiDirect as the Active Directory server will be queried each time the user connects. Additional functionality was later added to further restrict the categories of users able to authenticate against an Active Directory server. A list of Organizational Units can be specified, and only users who belong to those Organizational Units are permitted to authenticate on the WiDirect.

The end result is a network that has multiple points of entry for varying degrees of service. With well thought out design and proper planning for both now, and the future, FTCC will get the most value from their wireless network for years to come. Peace of mind during an interesting time.

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