Assessment and Design for Wired and Wireless Networks

Enable a security-rich, scalable and manageable infrastructure

Highlights

- Helps you align IT spending with education and business requirements

- Helps optimize your networks for improved availability, performance and security

- Addresses the planning of complex networking environments with specialized skills and experience

The continuing growth of network traffic in school districts is well documented. Today, students and teachers arrive at school armed with laptop computers, tablets and cell phones. Providing a versatile, future-ready infrastructure capable of handling these devices and enabling their capabilities is essential in schools. District information technology departments are facing pressure to meet students' evolving needs to get access to information on demand.

Currently the de facto standard for a school building is a wireless network into a wired backbone. Wired network drops are required for classrooms which need powerful workstations using heavy applications such as CAD, for wiring closets to connect switches and access point termination, and for imaging workstations. However, from an IT perspective, wireless networking is faster to deploy, less disruptive, used where cable can't be pulled due to physical issues and reduces the need to wire network drops. Wireless LANS meet the needs of students and teachers because of access requirements for mobile devices. With laptop carts, tablets, and smart phones, the only effective way to provide access to applications and information is via a wireless network.

Getting it right the first time

Unfortunately, wireless can also be a technology that can cause a large amount of wasted time and frustration if not implemented properly. Many incompatible versions of the technology exist as do many low end, insecure solutions that do not work adequately in a high traffic environment like a school. Since wireless LANs are built with technology that is fundamentally different from wired networks, designing a scalable, secure and manageable enterprise solution requires specialised skills.

An IBM K-12 Network specialist can avoid many of the pitfalls that can occur in these implementations, maximizing the benefits of this technology and minimizing the frustration for technical staff and users. We will meet with you and help you and your staff design the optimum way of deploying wired and wireless networks in your schools.

We will:

- Take you through an in-depth overview of wireless and wired technology
- Develop infrastructure strategies that define the policies and procedures governing decisions, actions and implementation. These strategies will guide network architecture and design
- Use software tools to analyze network speeds during peak and off times
- Create a design that balances a centralized to decentralized architecture and maximize system flexibility, scalability and manageability to create a reliable infrastructure that grows with your needs
- Document the network configuration:
  - How switches interconnect
  - Load per switch.
  - Router/Firewall configurations as they apply to the LAN
  - IP scheme - Subnet(s), DNS, DHCP, WINS
- Provide coverage, security, authentication with AD and setup of Radius to wireless controllers
- Determine a QoS (Quality of Service) strategy for how to guarantee bandwidth to key users and keep guests devices from stealing bandwidth from your secured VLAN
- Analyze the physical environment in a school including wall composition and density, distances between classes and possible interference points
- Collectively agree on the configuration options for a network solution that best fits your environment and create documentation for your future reference
- Assist with a deployment plan and pilot a test node at one site to ensure that the proposed solution is viable and easily implemented and/or work with your IT staff for a full implementation
- Assist with an operational plan that is focused on maintaining security, maximizing bandwidth and detailing troubleshooting techniques

Typical Length of Engagement: 1-4 weeks

Why IBM?

Our network specialists can help assess and design a dynamic and affordable wired and wireless infrastructure that leverages the value of your current network and connects people to each other and to the information they need, while lowering costs and defining security requirements. IBM K-12 starts by understanding your business and then utilises its proven methods and extensive experience in designing network solutions for school districts. Our network integration skills help ensure that you receive a network solution that is cost-effective, easy to deploy, adaptable, scalable and manageable.

For more information

To learn more about IBM K-12 **Assessment and Design for Wired and Wireless Networks**, please contact your IBM Marketing Representative. For information on all our Consulting and Professional Services visit: : www.ibm.com/industries/education/canada-k-12-service-briefs

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