

Setting Up a Home Wireless LAN

MRIC Fall Meeting Workshop

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Agenda

- ◆ Review benefits and pitfalls of wireless LANs
- ◆ Describe a general architecture
- ◆ Review MRIC specific guidelines
- ◆ Q & A

Benefits and Pitfalls

- ◆ Mobility
- ◆ Reduced cabling costs
- ◆ Additional equipment costs
- ◆ Complexity
- ◆ Security

Access from multiple locations

- ◆ You are no longer tied to a cable
- ◆ Set-up could help you in your travels
- ◆ Limited distance



Reduced cabling costs

- ▶ Cat5e is cheap and widely available during initial home construction and remodeling but retrofitting is expensive.

Additional equipment costs

- Typical Access Points (Aps) cost under \$100 with adapters under \$50 (per computer or device).
- May need to budget in replacement wireless phones (and other devices) because of interference.

Complexity

- ◆ Equipment choices
- ◆ Debugging possible interference
- ◆ Installation costs if not DIY
- ◆ Occasional administration

Security

- ♦ Fiber is more secure than cat5. Wired generally more secure than wireless.
- ♦ Party line possibility (file sharing settings)
- ♦ Encryption weaknesses
- ♦ Limiting wireless range within your walls
- ♦ Security policy (e.g. guests)

General architecture

- See physical examples on table
- MRIC<->antenna<->radio<->router<->WLAN

MRIC specifics

- ♦ Use 802.11a or 802.11g instead of 802.11b
- ♦ You must have a router or firewall appliance between your LAN and MRIC
- ♦ You should give tenants and guests some guidelines when it comes to spyware and P2P.
- ♦ MRIC must have the ability to remotely administer your router if you cannot handle it yourself.

Additional info sources

- Why bother for small businesses?
<http://www.entrepreneur.com/article/0,4621,316202,00.html>
- Good not-too-technical overview
http://www.hp.com/sbso/productivity/howto/wireless_lan/
- Worth reviewing before you start buying/building
<http://compnetworking.about.com/cs/wirelessproducts/>

Additional info sources

- ♦ Overview tutorials for 802.11b
<http://www.5starsupport.com/info/wireless.htm>
- ♦ General steps on picking hardware
<http://www.hardwareanalysis.com/content/topic/32738/>
- ♦ Example with a Mac (but useful for anyone else)
<http://airshare.org/learn/articles/123/home.cfm>
- ♦ Advanced security concerns
<http://airmagnet.com/products/wp-index.htm?src=G>

Summary

- ♦ Home WLANs are relatively easy and inexpensive to set up. They offer an alternative to cabling.
- ♦ Home based businesses need to be more concerned about security.
- ♦ MRIC strongly recommends 802.11a/11g over 802.11b home LANs to minimize interference.
- ♦ Consultants are available to help you set up.