

RadioLAN

Network design paper

January 1. 1997

10 Easy Steps

**Understanding how to design and
integrate wireless networks.**

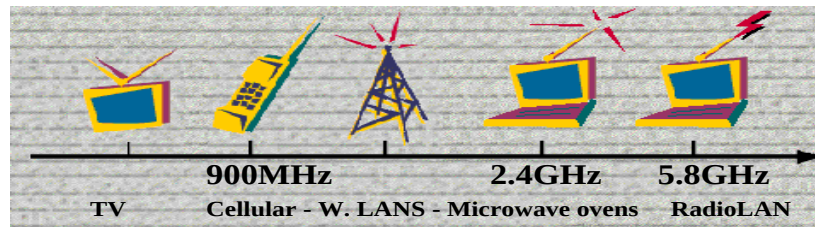
The powerful alternative to traditional cabling

By: Michael Laugesen

1

Radio waves at 5.8GHz

RadioLAN operates at a very high frequency less prone to interference from devices as microwave ovens and wireless phone devices. Little concern should be placed on devices operating in other frequencies.



2

Radio wave Propagation

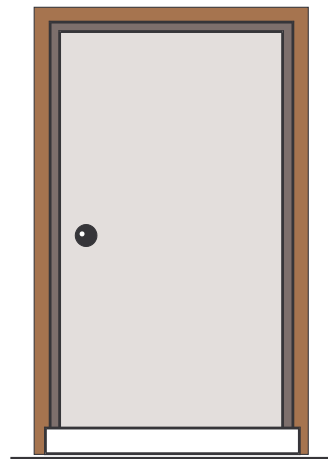
Radio waves penetrate most objects and blanket your environment with network connectivity. Proper attention must be paid to the positioning of your radio unit when designing a wireless network around physical radio barriers as thick concrete, brick and metal surfaces.



Radio wave Penetration

Even if you have offices with four concrete walls radio waves could reach their destination via door and window penetration. Out of site does not mean out of touch.

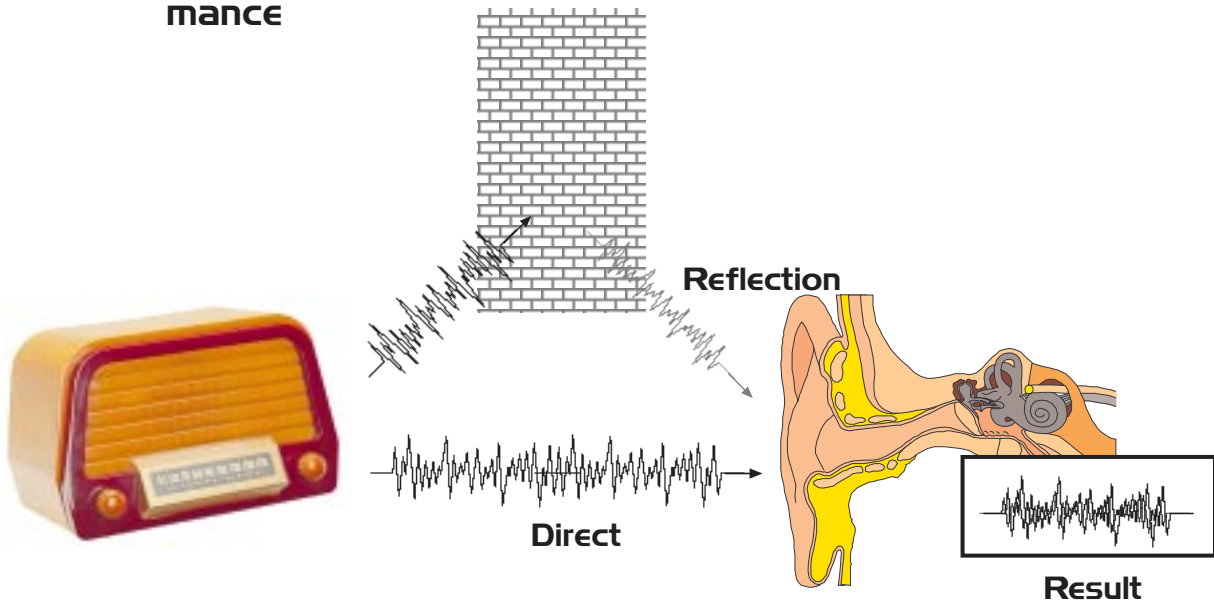
3



4

Multi-Path

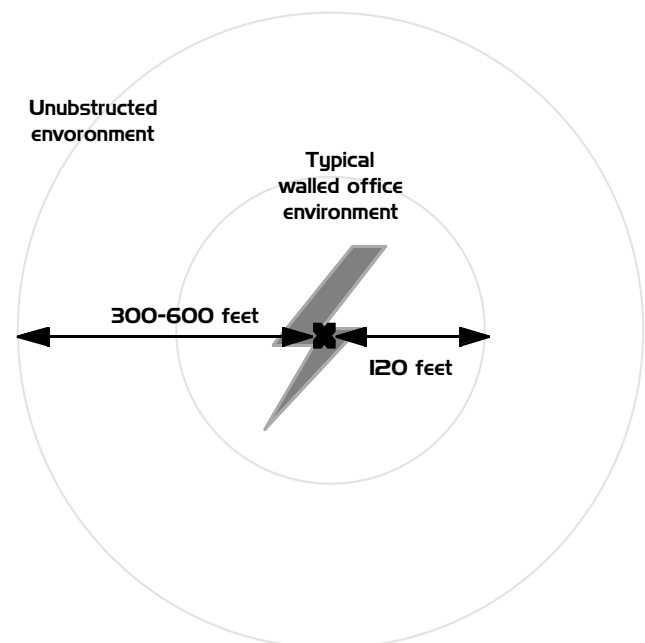
The Original signal reaches it's destination in many ways. The destination receives the reflections "echo" delayed resulting in a blended signal. Unlike audio precise timing and filtering must be applied to achieve optimum performance



5

Range is a function of physical environment

If you are designing a wireless network for a large limited obstruction environment as found in cubical based work areas, manufacturing floors, or large retail you can expect improved range. Typical range in a closed office environment is 120 feet.

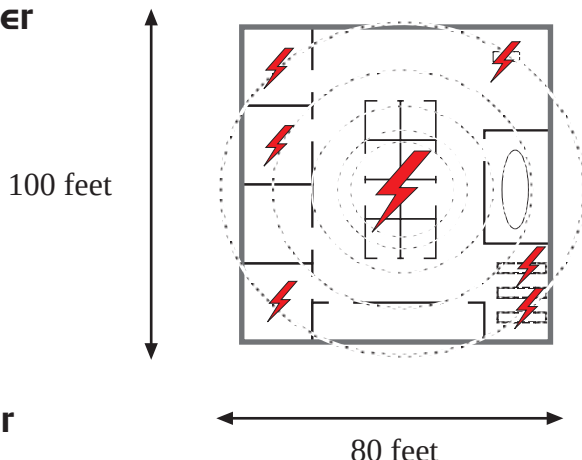




Small Office = one Radio Domain

RadioLAN supports both Peer to peer and Client/Server communications.

Typically most traffic is between the client, server and printer. To ensure optimum Data throughput position your high traffic devices closer to the center of the office, not in a distant corner closet



Each radio domain
8,000-10,000 sq.ft
coverage.

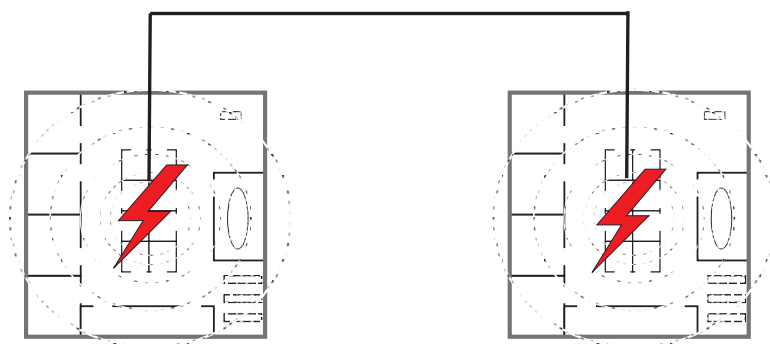
Up to 36 users
126 addresses



Medium Office = more domains

More range is not the answer to a larger areas!. Communicating wireless means sharing the available band-width in a given area, greater area could mean more people sharing the IOMbps. A more sensible solution is to create multiple adjoining Domains enabling you to increase your aggregate band-width without sacrificing flexibility or roaming. Two domains can be connected via a standard IOBT connection utilizing our wireless bridging unit or other industry standard devices.

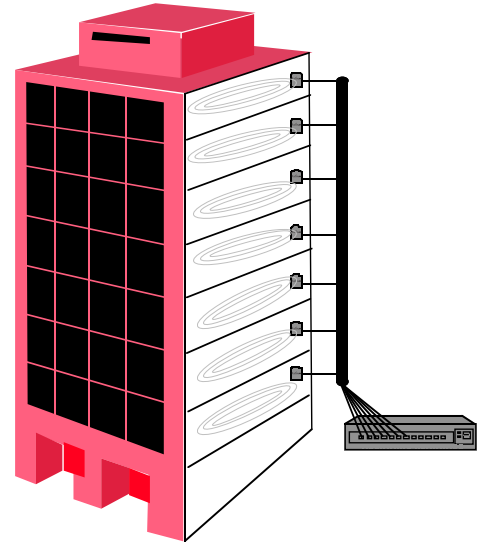
IOBaseT interconnect





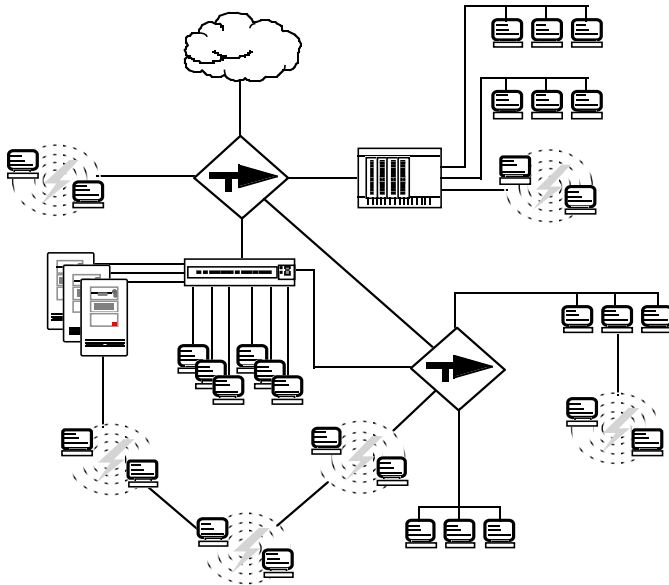
Enterprise Networking

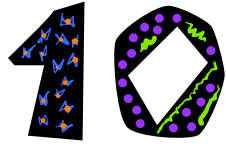
Applying our knowledge from earlier points, utilizing wireless as your connectivity medium to the enterprise can be achieved by allowing each Radio domain to connect directly to IOBT ports on your backbone router or switch. Enabling you to offer maximum flexibility in accessing the corporate backbone.



Systems Fit

Given the enhanced CSMA-CA ethernet protocol and optional IOBaseT interface, RadioLAN enables you easily build and extend existing networks. Simply utilize a RadioLAN wireless bridging adapter to each wireless domain requiring access to the enterprise LAN. The included management software makes setup and configuration simple and easy.





Antennea placement

Finding a place which offers quality reception and suites your "work space aesthetics" should easily be found. The RadioLAN antenna is equipped with a dual function base which can serve as a pedestal for desktop placement, and a hanger for mounting on a cubical wall, cabinet, or monitor top. It is recommended to keep you antenna above table height reasonably unobstructed from large solid metal surfaces as file cabinets

