Improving Wireless Signals: Choosing the Best Locations

This describes moving equipment and avoiding obstacles. When optimizing your existing equipment, consider:

- Avoiding physical things that block signals.
- Reducing the interference from other things that transmit radio waves.

The Netgear products we use for the “Garner Stiftung” wireless internet access have automatic data rate fallback, which allows increased distances without losing connectivity. It also means that devices that are further away are inherently slower. Therefore the most critical links in the network are those where the traffic is high, and the distances are great.. The ones that are least important are links that have little, occasional traffic, and which have a strong signal strength.

Picking good locations for receiving the signal with your antenna

- Place high, and clear of obstructions as practical.
- Keep antennas 2 feet from metal fixtures such as sprinklers, pipes, metal ceiling, reinforced concrete, metal partitions. (However, antennas on roofs do not necessarily give the best results)
- Keep away from large amounts of water such as fish tanks and water coolers.
- Antennas transmit weakly at the base, where they connect. So don't expect good reception from the bottom.

Reducing Interference

Place antennas away from various electromagnetic noise sources, especially those in the 2400 – 2500 MHz frequency band. Common noise-creating sources are:

- Computers and fax machines (place wireless equipment no closer than 1 foot)
- Copying machines, elevators and cell phones (no closer than 6 feet)
- Microwave ovens (no closer than 10 feet)

The best signals from “Garner Stiftung” are received with MIMO hardware or general WLAN hardware (such as usb-sticks or pci-cards) from Netgear.