Setting up Netop School with wireless access

This technical article provides information to help you set up Netop School with wireless networking.

Speed in a wireless environment

Generally the speed of the teacher's screen broadcasts to student computers will not be as high over a wireless connection as compared to the performance in a wired network. There is no way to completely overcome this. A wired network offers at least 100 Mbps bandwidth while the wireless 802.11a and 802.11g protocols offer up to 54 Mbps bandwidth. The most recent wireless protocol, 802.11n, supports data rates of more than 100Mbps. However, the bandwidth is shared by the computers who use the same access point so a theoretical 54 Mbps might be an actual 9 Mbps if 6 computers use the same access point.

However, because Netop School Teacher is broadcasting the different demonstrate features will still work reasonably well. Even complex teacher screens will appear on student screens within three seconds. Simple teacher screen changes will appear almost immediately.
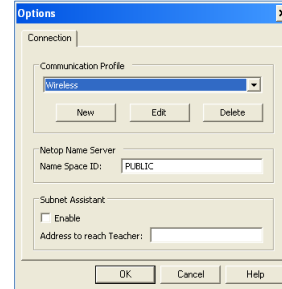
All Netop School feature are supported in a wireless environment, except for Wake on LAN which is not available in the 802.11 wireless standards.

Netop School setup

Teacher and Students must use the pre-defined **Wireless** communication profile which sends smaller packets. To change the default Netop School communication profile:
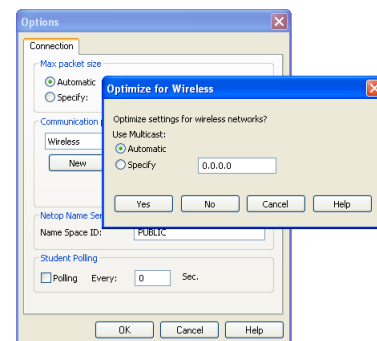
On the Student:

1. On the **Tools** menu, click **Options** and then double-click **Connection.**
2. In the **Options** dialog box, select **Wireless** in the list of communication profiles and click **OK**.

On the Teacher:

1. On the Options tab, in the **Advanced** group, click **Advanced** and then click **Connection**.
2. In the **Options** dialog box, select **Wireless** in the list of communication profiles and click **OK**.
3. In the **Optimize for Wireless** dialog box, select multicast settings if your access point supports it.

Automatic means that the Teacher randomly allocates a multicast IP address in the appropriate address space (224-239.X.X.X).

If the router is less sophisticated and cannot accept a random multicast IP address, you must find the specific router multicast IP address in the router setup and specify it in the Teacher dialog box.

Netop develops and sells software solutions that enable swift, secure and seamless transfer of video, screens, sounds and data between two or more computers over the Internet. For more information, see www.netop.com.

General recommendations

Verify the wireless equipment setup

Make sure that the wireless equipment does not have any special rules for suppressing broadcast traffic. We have had support situations involving customers with advanced wireless equipment that was doing this.

Multicast preferable to broadcast

Because many access points have low priority for broadcast packets, we recommend using access points with multicast capability; we have seen an improvement in speed of up to 5 times in our test labs by using multicast.

All wireless

Testing has shown that a mix of wired and wireless student computers is not a good solution. In a wireless environment we recommend that all student computers use wireless; the teacher computer could be wired.

Access points and drivers

Make sure that all computers use the latest network interface controller (NIC) drivers available from the NIC vendor; wireless network drivers are being updated and improved very frequently.
Also, there are two basic types of Access Points: for home use and for business use. One of the easier ways to tell the difference is the price.

- An access point for home networks will generally sell for less than $100. Such access point could come from for example LinkSys, DLink, or Belkin. They work fine in a home environment where few computers will be sharing an Internet link and perhaps a printer.
- A business access point is designed to support 50 or more clients at the same time. They generally sell for around $300, and they support the 802.11a, 802.11g or 802.11n protocols. Unless you really have less than five student computers, you will want a business type access point. This will benefit not only Netop School, but general network access as well.