



## CSE Wireless Information

So what is wireless?

Wireless technology has been around for a number of years and potentially answers the age old problems of space, moveability and flexibility; however bandwidth and technology issues have constantly provided limitations.

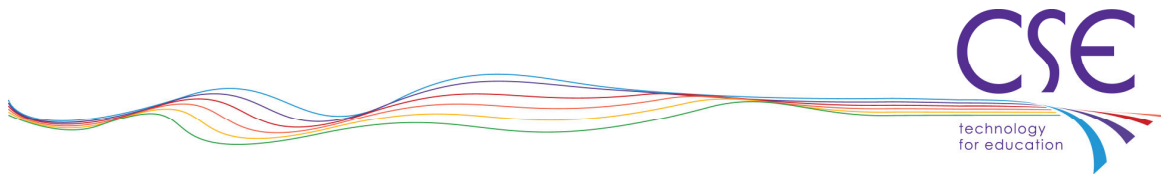
There are two frequencies available to us. There is the 2.4 GHz frequency (used by microwaves and cordless phones and can suffer from interference) and the 5 GHz frequency (which is regulated so nothing on it interferes with anything else). In the past, there have been drawbacks to both; using the 2.4 GHz had more range but more interference, the 5 GHz vice versa.

Originally, two standards were introduced; A (802.11A), and B (802.11B). B is slow at 11Mbps, but the signal goes further, A is faster at 54Mbps, but the signal doesn't travel so far. Then Standard G came out which was as quick as A at 54Mbps, and ran in the unregulated 2.4 GHz frequency so the signal travelled further. Now, Standard N has come out (up to 300Mbps) which is obviously quicker than others and it uses the 5 GHz frequency for less interference. Also, technology improvements mean that the signal travels further than on the older technologies.

Recently the IT industry has started to make the jump to N standard wireless. The big deal here is that a wireless laptop can now connect at 300Mbps. In most schools, desktop PC's only run at 100Mbps, so this will revolutionise the way laptops are used in schools and we will see a noticeable change in methods of teaching and learning.

So what is CSE doing about all this? CSE, being HP partners, are providing customers with the new HP Centralised MSM Wireless solution. This will allow schools to run wireless laptops at optimum speeds (up to 300Mbps) while providing legacy support for older laptops running at 54Mbps.

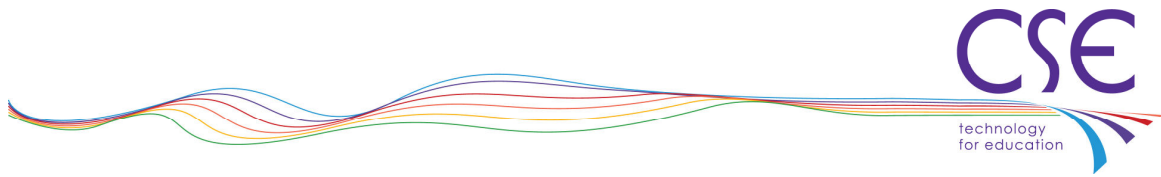
One of the standout features of the solution CSE are providing is that the Central Controller, unlike on some other wireless networks does not manage all the traffic. It sends out configuration to the Access Points and they deal with traffic. This means that no longer does all your wireless traffic have to visit the Central Controller to then be sent off to where it really wants to go! This allows for much reduced traffic on the wireless network and also



means that a Central Controller failure does not take down your whole wireless network as with some other centrally managed solutions.

Other fantastic features include:

- Provide N wireless to any N enabled laptops in your school, enabling up to 300MBps connections for each one of them.
- Access Points are centrally configured so configurations on the central box are automatically adopted onto new Access Points (meaning new Access Points can be added with no extra configuration or install time).
- Dual and Triple A/B/G/N Access points available, providing the school with for example N-standard going through Radio A (at 5Ghz) and B/G (2.4Ghz) going down Radio B. This means legacy laptops will not slow down the wireless available to N-standard devices.
- Allow students to bring in their own devices, and only allow them access to the internet, or a secure list of local resources.
- Students can be configured to attach to the network and are then prompted for their network username/password to continue. Until they successfully do this they are completely separated from the network.
- Configure guest accounts for your school visitors. Visitors to a school can be given a username/password by a receptionist for a limited time, just like you get in hotels. Access to local resources can be allowed or restricted totally, depending on your wishes.
- The HP MSM system can be secured in many ways, by WPA2 and a pre-shared key, but guest accounts created by a nominated staff member(s), or through Active Directory, making sure that only allowed users can log on their own device to the network.
- Throttle (QoS) the bandwidth to the various networks. Allow only the schools N wireless devices to use the faster N wireless system if you wish. If anyone brings an N enabled wireless laptop in as a guest or student user, they are automatically bumped onto the other aerial where they have to run at 54MBps, so they do not take up the schools lesson bandwidth.
- Name and group your access points, enabling you to offer wireless networks in one part of a building, and not another (conference areas).
- Locally mesh Access Points, meaning you can add an Access Point to the network without having to get a network cable to it. As long as the Access Point is in reach of the school, wireless access is provided (Sports Field). The advantage here is that schools do not have to secure a permanent outdoor Access Point. As long as there is power (car cigarette lighter perhaps) you can take one to wherever you are working.



Many Access Point options are available from single to triple radios and Central Controllers to manage the number of Access Points you need, while providing an easy upgrade should you need one.

Due to the extra speed available, you may also want to discuss your network infrastructure. As an HP Gold Partner, CSE can give you the best prices on all HP switches and accessories.

Also, should you not need to upgrade to N-standard wireless at the moment, CSE will be happy to provide a B/G solution that will slot into your HP 53xx or 54xx core switch. This comes with many of the features you need in a wireless solution and may be a more cost effective option.

For more information on the options available contact CSE on 0845 3458775, or email [support@cse-net.co.uk](mailto:support@cse-net.co.uk).