

## Using public wifi

Dear Surrey resident

Following on the theme of previous Alerts in getting you to understand the terminology and provide protection advice, this week we are explaining public WiFi and the things to look out for on the websites you access.

### Public Wi-Fi (or Wi-Fi Hot Spots)

A Wi-Fi hotspot is a location that provides internet access through a wireless network. These can be found almost anywhere – from airports to coffee shops and even on public transport. By signing into the wireless network, you can access the internet in the same way as you would using your own personal Wi-Fi at home.

### How secure is public Wi-Fi?

Wi-Fi signals can easily be intercepted and anyone with access to the network can 'sniff' all the activity taking place on the network. Wi-Fi that is installed in your own home is usually securely protected when set up, requiring a key or password to enter the network. This means that all traffic on the network is encrypted and only those with the key can access it. Anyone can access a public Wi-Fi network, meaning it is a lot less secure.

### Why is public Wi-Fi targeted by criminals?

Criminals can easily spoof a Wi-Fi hotspot, giving them information about connected devices and the ability to monitor network traffic. If passwords, banking information or other private information are sent across a public Wi-Fi network insecurely, it can be intercepted and used later. Fake Wi-Fi hotspots can also direct you to bogus web pages, which encourage you to enter credentials or personal information that can be stolen.

### How do websites secure my data?

Many websites use Hypertext Transfer Protocol over SSL (or https) to secure connections to them. This means that traffic to and from the website is encrypted, so eavesdroppers will be unable to decode intercepted communications. Using these sites can protect you from criminals attempting to target users of public hotspots. Remember that anyone can create a website using 'https', so it is vital you use the correct URL when visiting a website. For example, a criminal could try and direct you to a fake secure website called 'https://www.natvest.com' – rather than the real 'https://www.natwest.com'. To avoid these traps, use hyperlinks from your bookmarks toolbar or type them in manually rather than following a link.

### VPNs – extra security

The safest way to use public Wi-Fi is to invest in a Virtual Private Network or VPN. A VPN encrypts all your network traffic independent of the network itself, meaning that eavesdroppers can't see the data you are transmitting or receiving. Many organisations use VPNs to ensure the security of their information, but this can come at a cost. VPN providers often charge for the service and the quality of connections often depends on the provider.

### How can I tell if I am using https?

Sites employing https can often be identified by a green padlock or a closed padlock in the URL bar.

### SSL Certificates & Security

Web browsers need a way of ensuring the integrity of websites that you might visit. Digital certificates are used to verify the identity of the website meaning you can be confident in their security. These certificates can also be used to encrypt communications to and from the website.

Most browsers allow you to see details of the certificate used to secure the website by clicking on the padlock. You may also be able to view additional information about the security of the webpage such as permissions and cookies. Remember, anyone can obtain a certificate for their website (even the criminals) so it is still important to ensure you visit the correct URL as described above.

What else can I do?

You should be cautious when using Wi-Fi connections that are public and think about your online activity. Be careful about entering personal information or undertaking financial transactions. This is the kind of data criminals will target when accessing these networks. If you use your mobile devices, remember that apps will be constantly trying to automatically access the network and you rarely know how secure this connection is. If in doubt, use your mobile connection rather than public Wi-Fi – or wait until you get home!