

Overview

More and more devices have the ability to be connected to networks, from netbooks, notebooks and computers to televisions, media players and mobile phones. With this rise in the number of devices that are connected to the home network and the greater number of network components and configuration required to enable this, it is becoming increasingly difficult to setup and keep home networks running effectively. Going forward more consumer devices will become network enabled, meaning that this situation will only get worse.



The areas that present the greatest challenges are as follows:

Complicated and error prone initial connection

Taking a network device out of the box and connecting it correctly can be very complicated due to the number of different cables and setup required. Additionally, there are many networking configuration options on a user's PC which can lead to complications and difficulty when setting up and using a network. The result of this is time consuming and unpleasant setup of a home network that often requires several calls to a technical support centre.



Difficult and time consuming network setup

Setting up a wireless home network presents many challenges that can take a long time to solve or in some cases are not solved, leading to dissatisfied and unhappy end users. Successfully setting up a network requires networking and computer skills and can take a considerable amount of time.

Networks setup insecurely

In some cases wireless networks may not be configured securely. This could result in the stealing of sensitive data, identity theft, fraud or unauthorised use of your Internet connection. There are currently three types of wireless security to choose from and users often do not know which is the most secure and which is less secure. In addition users often configure simple passwords that are easy for an attacker to guess or to discover using common hacking tools, for example 12345678! The more devices that are connected to the network the risk of having an unsecured network increases because each device requires to be configured to connect to the wireless network.

Managing home network

In today's world the home network is constantly changing with new devices been added and removed from the network, new applications been used on the network and new users been granted access to the network. Currently there are many devices and applications that use networks including IPTV (television) and VOIP (telephone). Going forward more and more applications will be developed for the home that require network connectivity for example energy management, home security, media management, Managing the network is becoming a more difficult and daunting task.

Intruder Detection

It is important that all devices that are on the Home Network are accounted for. Unauthorised devices need to be quickly identified and appropriate action taken, such as resetting your wireless security keys.

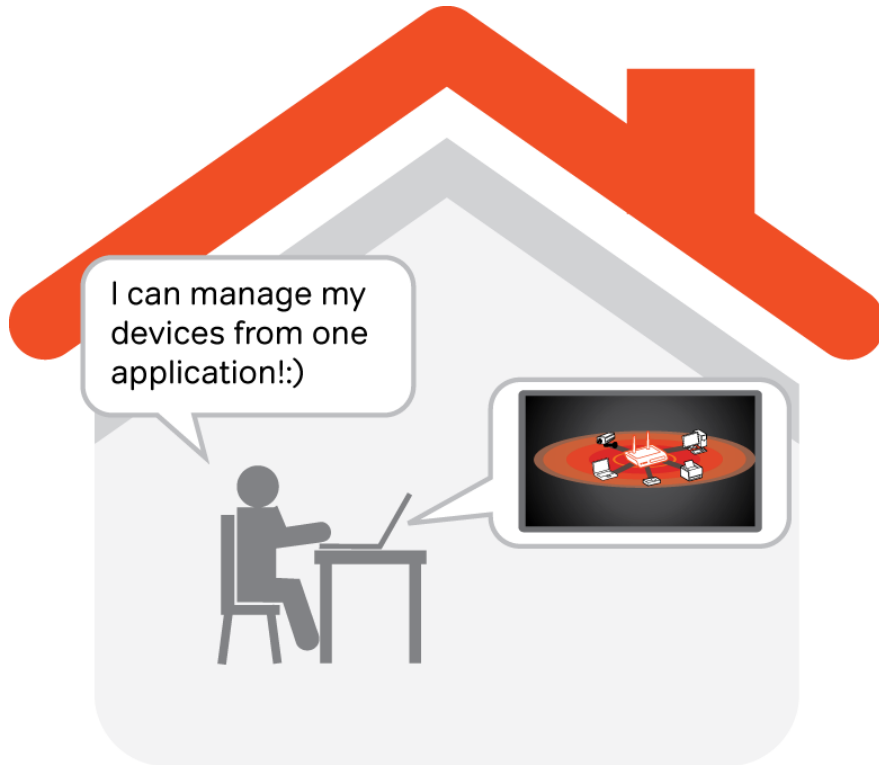


The Solution

There are various techniques and tools that are available to monitor and manage networks. The difficulty is that these tools require a high level of technical knowledge and experience to understand and use, which is considerably more than the average home user should be expected to possess.

AirTies Network Assistant is a novel and innovative application that runs on users' Personal Computers and allows all users to setup, configure, monitor and control their home network, whatever their technical understanding is. All functionality is delivered in a user friendly way and is very easy to use.

AirTies Network Assistant contains the following features to allow users to manage their home network.



Setup Guide

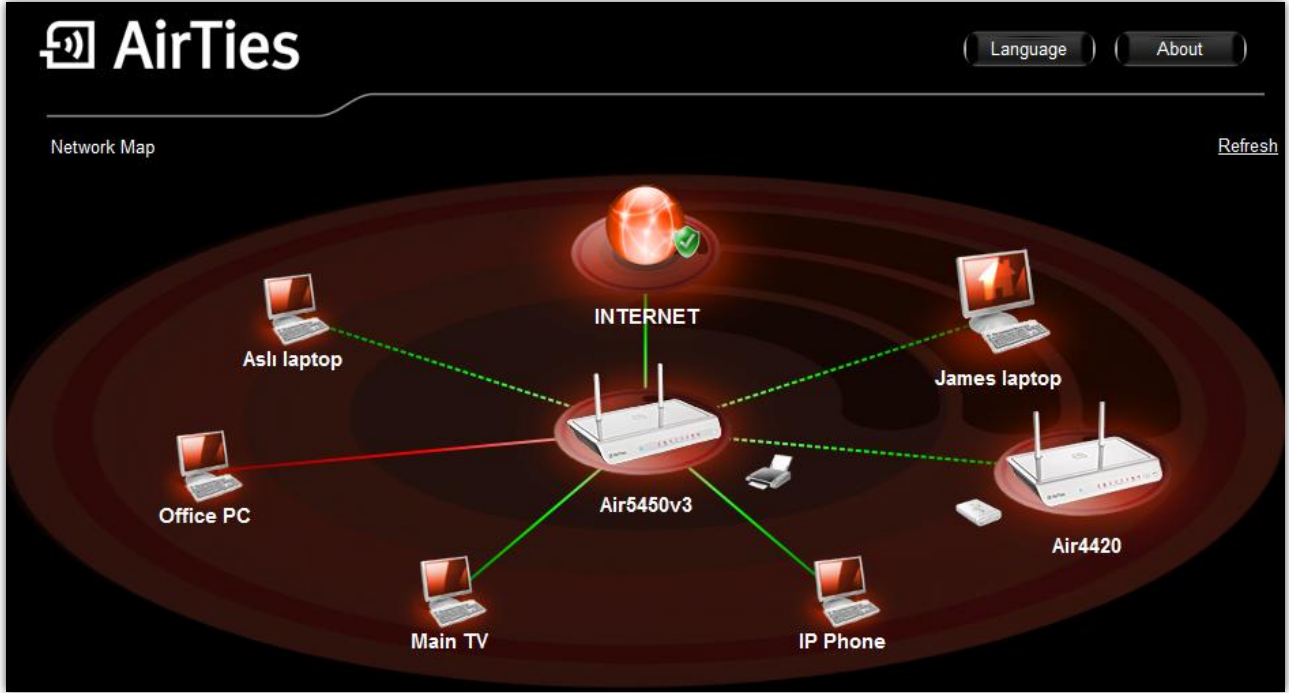
The first time that Home Network Manager is installed and executed an animated setup guide is displayed to the user. This shows a step by step guide of how to setup the modem. Each step displays a graphical animation of what is required and also a voice guide to further clarify what is required to be done. Following this provides the user with an extremely easy and clear method of setting up their device. If they are familiar with how to setup the device then steps can be skipped.

The setup guide was developed closely with AirTies' technical support agents, their first hand experiences of dealing with customer problems and common confusion when setting up a device were included in the design of the setup guide.



Network Diagram

The home network is displayed visually on a network diagram. Every device on the network is displayed. Any unauthorised devices on the network can be quickly detected and removed from the wireless network by changing the security settings of the network. The state of connections between devices is displayed, allowing a user to quickly identify when a device is disconnected from the network.

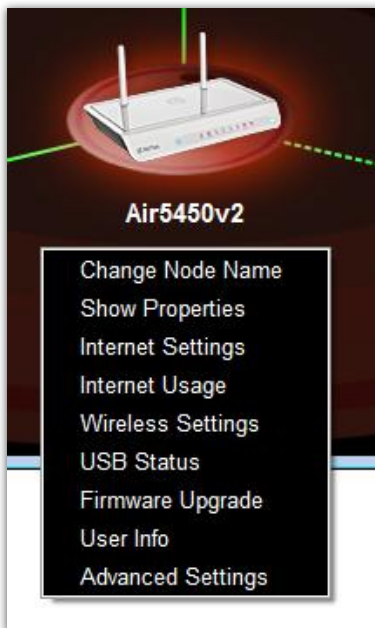


AirTouch Set Up

Creating a secure connection between a wireless Access Point and a PC can take time and can possibly lead to an insecure setup. AirTouch setup allows for a secure connection to be created between a computer and wireless access point by pressing the AirTouch button on the device and clicking the AirTouch button in the Home Network Manager application. This creates a very secure connection between the PC and access point (n characters long).



Update device settings

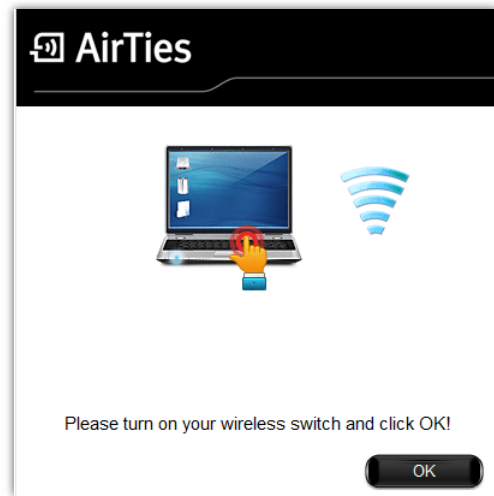
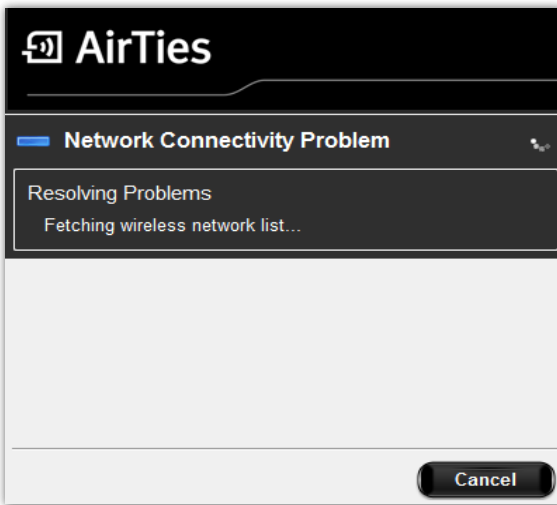


Settings for all AirTies devices on the network can be changed at the click of a button. For MESH networks the settings changed on one device will automatically be propagated through the entire network.



Troubleshooting

AirTies has captured our call centre experience into an intelligent troubleshooting application. When a problem is detected the troubleshooting application runs and identifies and attempts to fix the problem based on many common problems that AirTies has experienced in the past. The troubleshooting application attempts to automatically fix the problem or instruct the user what action is required, such as connecting cables, restarting devices or checking on the status of the device.



Auto firmware / software update

Home Network Manager continues to check for updates for all your AirTies devices and for the Home Network Manager application. If an update is discovered then the user is prompted to update their device, when the user confirms the device is updated to the latest firmware. This ensures that the network continues to work effectively and that security is maximised.

Download / Upload Counter

Data uploaded and downloaded on AirTies gateways is counted and stored on the device. Using Home Network Manager a user can check to see how much data they have downloaded or uploaded in the current or previous months. This is particularly useful if a quota is enforced from your Internet Service Provider and additional charges made when this quota is exceeded. A live view is also included to see how much data is currently being uploaded or downloaded.

