

A close-up, low-angle shot of a network port, likely a Cat5e or Cat6 RJ45 port, with a clear plastic RJ45 connector plugged in. The port is illuminated from the side, creating a strong highlight and deep shadows. The background is dark and out of focus.

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connected: your complete guide to home networking

by Matt Smith

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Introduction

Just five years ago the home network was rare. Most people had only one or two network capable devices and wireless connectivity was just starting to find a footing with the widespread adoption of the fast and reliable 802.11g standard.

Today a home network might consist of many devices including computers, smartphones and set-top boxes. Wireless routers are common and many support the newest [802.11n standard](#). Some Internet Service Providers now distribute wireless routers to customers of wired modems.

The proliferation of home networking is great for consumers, but it comes with some downsides. Home networking doesn't always work as simply as it should, and while every company is making efforts to simplify it, not all attempts have been successful. This guide will help de-mystify home networking for you.

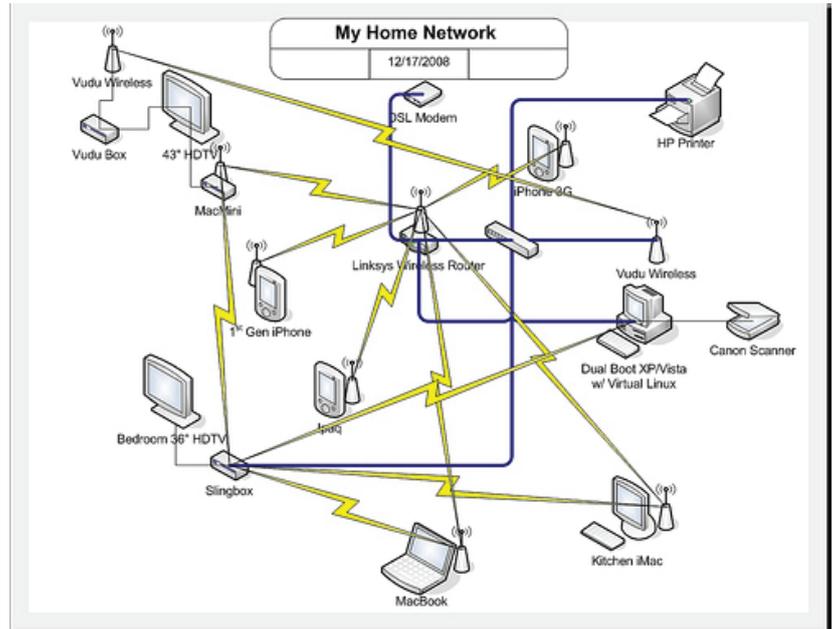


Image credit: [Willspot](#)

What's Covered In This Guide

Networking is a broad topic, but in this guide we'll be focusing specifically on *home networking*. This means setting up a network that will be used by a small number of computers and other devices, all of which are owned by people living in a single home.

This means that all information about software and hardware is approached from a consumer perspective. Price is important. Ease of use is important. And, of course, availability is important. We will only be talking about hardware that a consumer could easily buy at a local store or online from a retailer like Newegg.

In addition, we're going to be focusing on Windows and more specifically [Windows 7](#). It's the most popular operating system and there's plenty of ground to cover even if we narrow our perspective down to this one OS.

This doesn't mean that we won't be talking about devices besides the PC, however. There will be sections of this guide that focus on the use of mobile devices, printers and network attached storage. All of this hardware can be an important part of a home network, but they will be approached as complements to a network of PCs. We will be talking about how to share files between your PC and your mobile devices, but we won't be talking about how to set up a home network if you only own iOS or Android devices.



Chapter 1: Home Networking Basics

Before learning about more specific topics it's a good idea to learn the basics of home networking. Though different home networks may have different computers connected to them, they all rely on the same standards and the same basic networking hardware. If you understand this you'll be better equipped when buying a router or deciding the best way to connect the various PCs in your home.

If you already know the basics, feel free to move on. But if you're still not sure about the difference between a router and a modem, or you'd like to know more about wireless standards, pay attention. There's some important information here.

Modems, Routers And Adapters, Oh My! (What's The Difference?)



Before we begin, let's cover some words that will be used constantly in this guide. You may know these already, but I'm not going to assume that you do, and a refresher can't hurt.

Modems are the hardware that connects your home network to the Internet. They used to be products installed inside computers, but today are often stand-alone devices. Internet Service Providers usually provide you with a modem when you sign up for service, and sometimes the modem is built right into a router.

Routers are hardware that connects all the different devices on your network. They are responsible for assigning each device a network I.P. address and routing traffic to and from the Internet. They can be wired or wireless, but are usually both. If a modem is not built in to the router it connects to the modem with an [Ethernet](#) cord.

Adapters are the devices that connect computers to a home network. They can be wired, wireless, or both. All computers sold today come with some form of network adapter built into the motherboard.

Wired Networking 101

Wired networking is the old fashioned way of doing things. A home network with wired connections uses Ethernet cables to move data. These plug into the Ethernet jacks found on routers, desktops, laptops and almost every other piece of Internet-capable hardware besides tablets and smartphones.

Ethernet cables are old technology, but they're also fantastically good at their job. A typical wired connection can move twenty to fifty megabytes of data per second and a well implemented wired network can be many times quicker. You also don't have to worry about signal degradation, so you'll receive that speed consistently.

A solid wired connection needs three things to work at its maximum potential. The first is a router that supports Gigabit Ethernet (abbreviated as GbE) or, even better, 40 Gigabit or 100 Gigabit Ethernet. You also need a network adapter in your PC that supports the same speed as the router. And you need a Category 5 Ethernet cable between them. The connection is only as fast as its slowest part, so even if you have a cutting-edge 100 Gigabit router, you won't use it to its maximum potential if none of your PCs have adapters that support the standard.

Setup is plug-and-play so long as networking is allowed by the software and operating system used (we'll cover these concepts later in this guide). If you make an Ethernet connection between a computer and a router the computer will be connected to the network almost instantly. There's no need to enter a password, select a network or pick the correct encryption standard.

Wireless Networking 101

Wireless networking was the new kid on the block, but it's common today. [Data is moved using radio waves](#), which are sent by wireless hardware in all directions. Other devices can pick up those waves and read the data carried on them, creating a network.

To make a wireless network work you need two things – a wireless router and a PC with a wireless adapter. Most modern routers are wireless, but not all are, so make sure to check before buying hardware.

All modern laptops come with a wireless adapter built in, but some desktop computers and many other devices (like game consoles) don't come standard with wireless. You'll need to buy a separate adapter, which usually installs via a USB port (which is easy to install, but sometimes slow) or a PCI Express slot (which can be difficult to install, but is very fast).

You also need to pay attention to wireless standards. The two most popular standards today are 802.11g and 802.11n. The former is older and found on almost every wireless device sold today. The latter is newer and faster, but not ubiquitous. Just like a wired connection, wireless is only as fast as the slowest part. If all your computers can handle both 802.11g and 802.11n, but your router can only handle 802.11g, every PC in your network will be forced to connect using the older, slower standard.

Wired vs. Wireless

Many newbies to home networking want to know: what's better, wired or wireless? Wireless is the hot new thing, but wired has been around for years and some homes are pre-wired with Ethernet jacks, particularly in larger urban centers and tech hubs like Silicon Valley.

Just two years ago I would have said a combination of both is required, but today I can confidently say that most users should buy an 802.11n wireless router and call it good. Unless you live in a place that has outrageously good Internet speeds the limitations of your Internet connection likely exceeds the limitations of an 802.11n connection. Reliability is

Image credit: [Johathan](#)





also greatly improved with the new standard. Random disconnects and periods of high packet loss are nearly extinct.

Wired connections can be a hassle for little or no improvement, but they do have their purpose. Extremely fast Internet connections will require a wired home network if you want to enjoy all of the speed you've paid for. There are also some homes and apartments that simply are not great for wireless. Metal structures, thick concrete and home plumbing can interfere with a wireless signal.

But even if you do choose to go wired, you'll still want a wireless router. Laptops are a pain to use without wireless and mobile devices, like tablets, require a wireless connection.

What Can Connect To A Home Network?

Home networking isn't just for PCs anymore. Anything with a network adapter can connect to your home network.

This includes game consoles, HDTVs, Blu-Ray players, smart phones, tablets, printers, cameras and more. It's amazing how many devices can connect to modern home network – it's been an explosion of options.

Granted, this doesn't mean that all these devices should connect to your network. The functionality they provide is sometimes redundant. You may not need to connect your HDTV if you already have a Roku, and you may never feel like connecting your smartphone if you have a good 3G/4G data connection in your home. But the option is there.

Chapter 2: Network File Sharing

[Sharing files](#) between computers is one of the most fundamental functions of a home network. It effectively makes all of your data available from anywhere in your home. If, that is, you set up your network to allow it.

For security reasons, new Windows computers have conservative default file sharing settings.

This may seem annoying, but just imagine if your computer automatically shared your content whenever you connected to a [public Wi-Fi network](#). Tech-savvy folks would know to turn it off, but everyone else would be happily sharing their information with everyone nearby.

Turning file sharing on in Windows 7 isn't difficult, but it does require certain steps.

Windows 7 Networking Basics

The cornerstone of a Windows 7 network is the HomeGroup. This is a networking concept introduced by Microsoft to make it easier for users to connect a computer and control home networking features.

HomeGroups are always formed starting with a single Windows PC that generates a password for the HomeGroup. If you have at least one Windows 7 PC, you should already have a HomeGroup. Starting (or joining) is a part of the Windows 7 installation process.

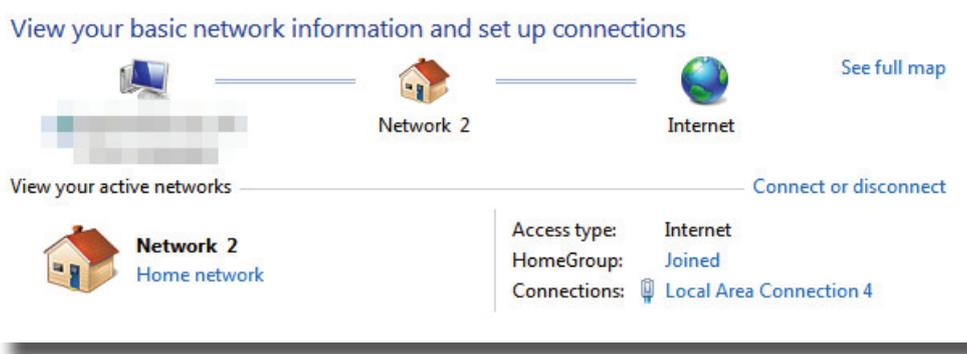
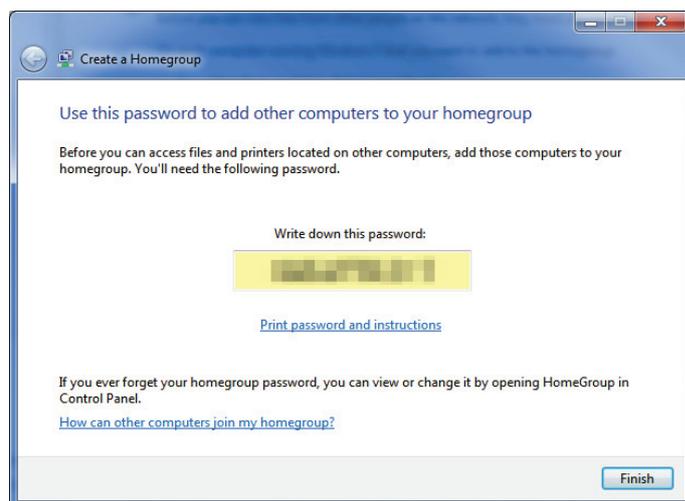
If you do not have a HomeGroup available, you can start one by doing a Windows Search for HomeGroup, which will bring up a window with a few options. One of them is a "create HomeGroup" button. Click it and follow the wizard - there's not much to it. You just need to create a password (one will be generated automatically, but you have the option to change it) and select what sort of files you'd like to have shared.

You can join a Windows 7 HomeGroup using the same window, but you'll click a "Join now" button instead. You will then be prompted for the password. If you are not sure what the password is, go to the computer on which the HomeGroup was created, open the HomeGroup settings and view the password or create a new one.

Configuring Advanced Sharing Settings

Even after you've created a HomeGroup you still may need to make adjustments to what is shared by your computer. To do this, open the Network And Sharing Center and then click on the "Change advanced sharing settings" link to the left.

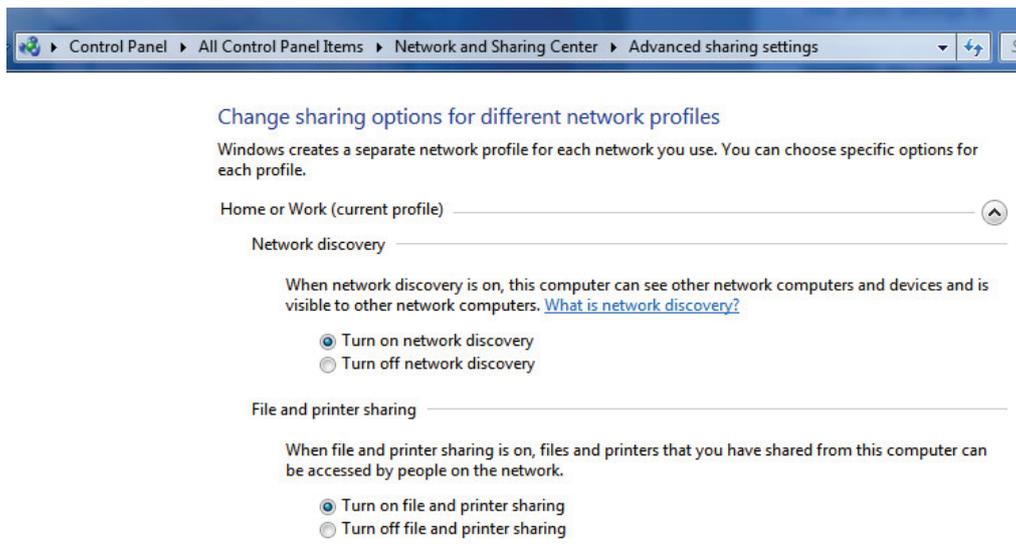
This will open a variety of settings. Let's go through them one



by one.

First is Network Discovery. This allows your computers to see others on a network, and allows others to see your computer when it is connected. If you've configured the computer on a HomeGroup this should be on. If it's not on, turn it on.

Next is File And Printer Sharing. This lets other users on the network potentially access shared files and printers once a computer is connected. This also should be turned on.



Next we have Public folder sharing. If you turn this on all of the “public folders” will be shared. There is a public version of every library in Windows 7, such as Documents and Pictures. You should turn this setting on unless you are planning to use a customized structure of shared folders.

Next up is streaming. This allows other computers on a network to access your pictures, music and movies. Turn this on unless you specifically don't want to stream files over your home network. It will still be possible to move files across the network but you won't be able to stream media from other computers.

File sharing connections is next. This determines the encryption used to protect file sharing across your network. 128-bit is standard, but 40-or-56 bit supported as a legacy option. Since this is a home network that won't be open to strangers I suggest selecting the 40-or-56 bit option. This will eliminate any potential compatibility issues.

Password protected sharing dictates the need for a password when connecting to the computer's shared folders. If it is turned on, anyone trying to access shared folders will first need to enter username and password that is valid on the computer, just as if they were sitting in front of it and trying to log in. You will usually want this to be turned off, but you might want to turn it on if you have children or visitors and you don't want them to be able to access files without permission.

Next we have HomeGroup connections. This lets you bypass the normal HomeGroup process and instead use account usernames and passwords. I recommend just letting the Windows HomeGroup handle things.

Please keep in mind that these settings should be for your home network only. Windows manages these settings by grouping them under “home or work” and “public” but default. If you connect to a public access point with your home network profile by accident, other computers on that network may be able to access your shared files without your knowledge.

Be very careful and make sure that your home profile is only active when connected to your home network. You can check this at any time by opening the Network And Sharing Center and looking at the icon below the text “View your active networks.” You can also

Select a location for the 'Network 2' network

This computer is connected to a network. Windows will automatically apply the correct network settings based on the network's location.



Home network

If all the computers on this network are at your home, and you recognize them, this is a trusted home network. Don't choose this for public places such as coffee shops or airports.



Work network

If all the computers on this network are at your workplace, and you recognize them, this is a trusted work network. Don't choose this for public places such as coffee shops or airports.



Public network

If you don't recognize all the computers on the network (for example, you're in a coffee shop or airport, or you have mobile broadband), this is a public network and is not trusted.

change the network profile, if necessary, by clicking on the link beside that icon.

Sharing With Mobile Devices

Most of this guide covers Windows 7, but I think it's worth mentioning mobile devices. Tablets are becoming more common and are often used as extensions to desktop computers or laptop alternatives. Even smartphones can connect to a home network. My HTC Thunderbolt, for example, is always connected to my personal Wi-Fi instead of Verizon 4G LTE whenever I'm at home. It saves battery and provides similar Internet speeds.

Connecting a tablet or smartphone to your Wi-Fi router is easy. All you have to do is select it and enter your security password, just like you would when connecting a new Windows laptop.

File sharing, on the other hand, isn't simple. Most mobile devices are not able to communicate with Windows to share files by default, but it is possible with the right apps.



Sharing Between Windows 7 And iOS

If you'd like to share files between Windows 7 and an iOS device you will need to pick up one of several apps. Here are the best options.

- [FileApp](#) - A basic all-purpose file reader with the capability to read files from other networked computers. Can be obtained from the App Store for free.
- [FileBrowser](#) - A file browsing app that has the ability to browse files on networked computers. Can also open most image format and some popular video formats (like .AVI). Priced at \$4.99 on the App Store.
- [Air Video](#) - The perfect app for people who want to stream video over a home network from PCs to iOS devices. There is a stripped down free version, but the full app is \$2.99

Sharing Between Windows 7 And Android

Android, like iOS, can't share with networked Windows computers by default. You need an app that will allow you to explore your network and transfer files. There are a few options.

- [ES File Explorer](#) – This popular and loved app gives Android users the ability to easily explore their phone's files structure. It can scan your home network and detect folders shared by PCs. Best of all, it's free.
- [ASTRO File Manager](#) – The same story as with ES File Explorer, but this app is even more popular. It's also free.
- [WiFi File Transfer](#) – I've had some luck with this app, which was made specifically for sharing files. It is very easy to use and works with Windows computers 90% of the time. It's free, but the free version can't handle files larger than 4MB. The Pro version is \$1.40.

What You Should Share

File sharing can be convenient, but it also can cause security and privacy problems. You don't want to share everything that you have on your computer, do you? A policy of complete openness could cause your significant other to discover your plans for their surprise birthday party. And that's just a PG-rated example. Parents living with children probably don't want junior to run across R-or-M-rated movies.

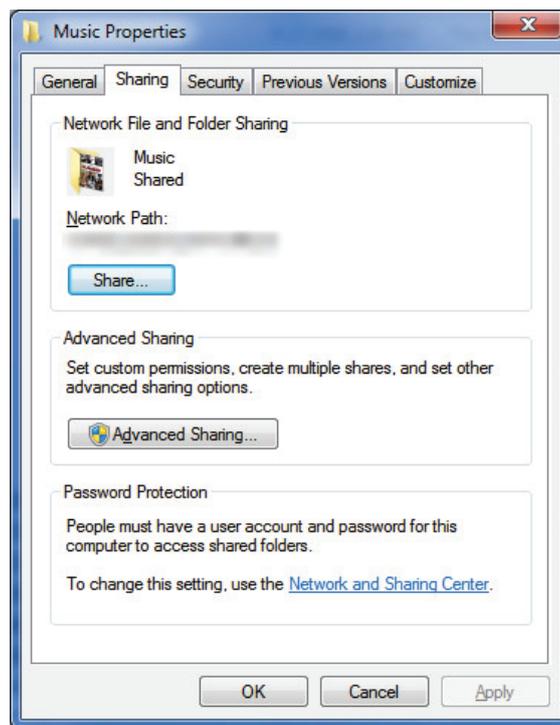
Fortunately, not every computer has to have access to everything on the others. Windows in fact limits access to certain shared folders by default, and if you don't have huge quantities of media to share and/or you don't add new media

frequently, this default option is a fine choice. You can drop what you want to share into the folders and forget about it.

If you do need to add other folders you can do so by right-clicking them, opening their properties and going to the sharing tab. You'll find an option to share the folder, along with all of its sub-folders, on your network.

You can also protect content on a certain computer by forcing password protection. This is done by opening the Networking And Sharing Center and clicking the "Change advanced sharing settings" link on the left. Open up your home and work profile and then find the password protected sharing selection, which is paired with two radio buttons - one that turns it off, and one that turns it on. Select the "on" radio button.

After you do this the computer's files will only be accessible by people who know the login name and password for a user account with access to the files on that computer. This is a great way to hide files that you don't want certain people with general home network access to see. Just make sure your password isn't easy to guess.



Network File Sharing Pitfalls

Once you have a HomeGroup set up you can potentially share files between your various Windows computers. You also can stream files, which is great for music and video. Why bother copying media files when you can just stream them from one location? Still, there are some common pitfalls. Let's cover them and their solutions.

- Conflicting I.P. Addresses** - Connecting multiple computers to a network can sometimes create internal I.P. address conflicts. This shouldn't happen, but it sometimes does, and it can knock a PC off the network because your router is confused about where data should be sent. Thankfully, the fix is easy - just unplug or reset your router. This should clear the current I.P. local addresses, forcing the router to assign new ones.
- Poor Bandwidth** - Slow file transfers or poor streaming is often caused by insufficient bandwidth between networked devices. If you are connected via wireless try moving one or both computers to establish a more secure connection. If connected via Ethernet cords, check to make sure they are undamaged and properly connected. Should you still have problems after these steps, double-check the capabilities of your network hardware and make sure it's running in the proper mode. Most brand-new 802.11n routers also support older standards, and it's possible to accidentally switch them to a legacy-only mode.
- Slow or Stuttering Data Transfer** - Old computers sometimes have trouble with new networking equipment and media players. Transferring large amounts of data requires that a computer's processor do work - it has to help figure out how data needs to be handled and where it should go. Open Windows Task Manager when transferring files over a network and see if your processor is heavily tasked. Unfortunately, there's no easy solution if you find this to be the case. It may be time to upgrade your PC.
- Undetected Hardware** - You may find that one PC doesn't appear on the network. First make sure that network detection is on in the Windows Networking And Sharing Center. If you have a firewall installed, check it to make sure that it is configured to allow local network connections. Should that not work, try turning the firewall off entirely. And if you still have trouble after that, try resetting your router.



Chapter 3: Sharing Printers

Printer sharing is a small but important part of many home networks. Despite all of our digital gadgets and gizmos, putting things into print is often required. Resumes, tickets, grocery lists, greeting cards, photos...these are all often printed by the average home user.

Having a printer for every computer is impractical and expensive, so many people own just one and attach it to a commonly used desktop. This works, but it's not convenient for homes with several active PC users. That's when a shared network printer becomes the best thing since sliced bread.

There are two types of printers that must be addressed when discussing this topic. One is a traditional USB printer and the other is a printer connect via built-in Wi-Fi. They connect to a network in different ways.



credit: [Sean MacEntee](#)

Setting Up A USB Printer For Sharing

If you have a USB printer your first order of business is deciding where to place it. For a USB printer to work it needs to be attached to a computer's USB port. This means that the printer will not be accessible if that PC is turned off. You'll need to identify which computer is most likely to be turned on and is in the most readily accessible location.

Once you've given that some thought connect the printer to the PC and install it as you normally would. Next, open the Windows Network and Sharing Center, go to "Change advanced sharing settings" and make sure that file and printer sharing is turned on. Then review the password protected sharing section. If this feature is turned on, other network users will only be able to print if they know the computer's login information.

You also should make sure that your computer is part of the same Windows HomeGroup as other Windows 7 PCs on your network.

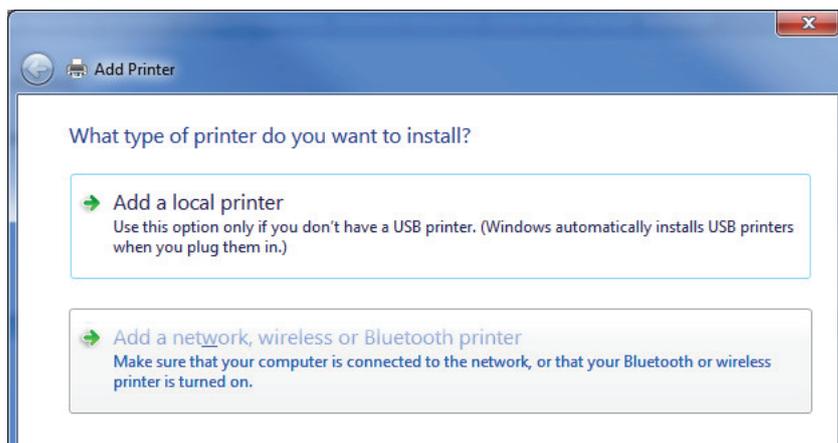
Now go to Devices and Printers. The printer you installed should appear in the list of printers and fax machines. Right-click on its icon and select Printer Properties from the drop-down menu, then click the Sharing tab in the resulting window. Click the "Share this printer" box and the "Render print jobs on client computers" box so that both are checked. Then exit by clicking OK.

The printer is now ready to be shared.

Detecting A USB Printer On Other PCs

Adding a network printer is fairly simple. Go to the Devices and Printers section on a networked computer and right-click in an empty space. Select the Add Printer option. This will open a wizard that gives you the choice between adding a local printer or network printer. Click the "network, wireless or Bluetooth" option.

The wizard should detect any networked printer. Select it and then add it the list of available printers. If the printer does not appear you can try adding it by its network name. The name will be in the format `\\com-`



[putername\printername](#). The “computer name” is the network name of the computer the printer is connected to. The “printer name” is the network name of the printer.

You can remind yourself of this by returning to the computer the printer is physically connected to and revisiting the Sharing tab of the Printer Properties menu.

Connecting A Wi-Fi Printer

Image credit: [Dexter Panganiban](#)



An easier alternative to using a USB printer is a Wi-Fi enabled printer. This kind of printer has its own wireless radio and doesn't need to be physically connected to any other PC to be accessible. These were once a bit of a luxury, but the technology has reached a point that only inexpensive printers commonly ship without it.

Setting up this kind of printer is simple. All you need to do is make sure the printer is accepting new connections (check your printer's manual to see if you need to press a certain button or enter a certain menu) and then go to the Devices and Printers section of each PC you want to use with that printer. Right-click and empty space and select Add Printer, then select “network, wireless or Bluetooth” printer. The Wi-Fi printer should appear and you can add it.

Alternatively, the printer might come with a setup CD that augments or circumvents this normal process. I personally like to just use the normal Windows setup process because the driver software shipped by manufacturers often comes with bloatware, but it's up to you.

Chapter 4: Network Storage

As your home network grows you may find yourself having trouble managing the files on it. Placing some files on each computer works as long as all computers are on the network all the time, but how often is that the case? Do you put computers into sleep mode or turn them off when they're not being used? And what about laptops? They often leave your network whenever you leave your house.

A central storage location, which is always on and accessible, is the solution to this problem. It also provides a superb backup opportunity. Let's explore what network storage offers.

Using A PC For Network Storage

The simplest, least expensive network storage option is an existing computer. Every PC has what it needs to be a file server and all but the oldest and slowest perform admirably in this role.

There is more to picking network storage than selecting a computer at random, however. You first must ensure that the computer used can always be connected to your home network. This usually puts laptops out of contention.

Network bandwidth can also cause a problem. Let's say that you use a primary desktop for a network storage computer and someone upstairs is streaming video from it to a media center PC or laptop. This will consume processor resources on the network storage machine and also consume bandwidth. Dad won't be happy if he dies in Diablo 3 because junior was streaming cartoons.

The way around this is to use a computer that is powerful and connected to the rest of the network with the best connection possible, such as 802.11n or Gigabit Ethernet. If the storage PC doesn't already fit this mold, upgrading it can be expensive. Alternatively, you can turn an old computer in to a dedicated file server, but this again may cost money and you may have trouble finding a place to put the computer that is out of the way.

Which brings us to our second (and probably best) network storage solution.

Network Attached Storage (NAS)

Network attached storage is basically a small computer that exists to serve network storage for other devices on the network. It only has the basic hardware needed to handle the load of serving up files, so it can be much smaller and less expensive than a normal computer built to handle the same task.

All the major hard drive manufacturers have NAS products and there is plenty of variety. The most basic solutions, which usually are priced around \$150 or less, are essentially external hard drives with some network capability built in. They're small, they have a capacity of one or two terabytes and they have to be connected to another PC or a router. They work fine for small home networks that aren't frequently accessed but aren't great for streaming content or accessing content from outside the local network. They usually come with relatively slow processors that impact performance. In other words, they do the job,



Image credit: Rob Stinnett



Image credit: Tom Royal



Image credit: Oliver H



but not incredibly well.

Networks that are frequently accessed should step up to a dedicated NAS product that allows for the installation of multiple hard drives. These often come without any hard drives at all, which raises the price. You can expect to pay at least \$150 for the NAS unit itself and about \$50 for each 1TB hard drive. High-end solutions with support for four or more hard drives can cost \$1000 or more.

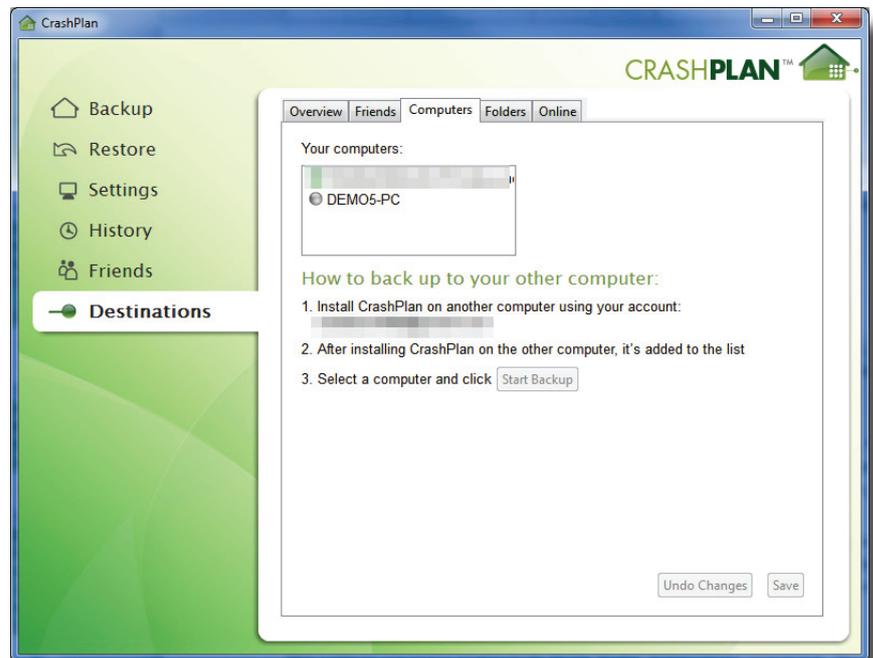
In exchange you receive expandable storage, more ports and a much faster processor, which translates to faster network transfer speeds. For the average home network this solution might be overkill but if you like to stream media across your network, or you need to reliably access your network while you are away from home, buying a more expensive and powerful NAS product will be money well spent.

Using Network Storage For Backups

User surveys consistently show that many people do not backup their data. This is often due to the inconvenience of backing up. Users need to own an external hard drive of sufficient size, connect it, and then start the backup.

Network storage is a great solution if you have dedicated network storage. Your network storage will always be there, ready to accept a backup. This means you can schedule automatic backups and be assured that they will take place when they're supposed to - if your PC is on, of course.

Windows Backup & Restore does offer the ability to backup to a network, but only if you own Windows 7 Professional or Windows 7 Ultimate. Users with either of those versions don't have a lot of reason to pick another backup solution, but if you use Home Premium (like 90% of consumers) you will need third-party software.



The options are many and include [Pure Sync](#), [CrashPlan](#) and [more](#). These are just the free options - a large number of utility software and even some security suites include their own backup solutions. Choose whatever fits your budget and needs, because while some software does include a better interface or some extra features all backup software does the same basic job.

Chapter 5: Home Network Security

Security is often on the minds of people setting up a home network, and if it isn't, it should be. Home network security is an important topic.

Identity theft is the issue most people are concerned about, but it's unlikely that you'll have your identity stolen because of poor network security. Hackers with criminal intent have more efficient ways of stealing data than driving around in cars and accessing open Wi-Fi hotspots.

The main problems are degradation of performance, the chance that others will access your shared files and the possibility of someone using your home network to access less-than-legal content. Such issues are rare, but they do occur, and you should take security seriously.

Image credit: [Jason Kuffer](#)



Wireless Networking Security

Most concerns about home networking security stem from wireless. This is not without merit. The average wireless router spews radio waves in all directions, and those waves continue until obstacles and interference stop them. Worse, those radio waves can be captured or used by anyone.

Having an unsecure wireless router as the basis of your home network is a bad idea. At the least you'll be giving your neighbors free Internet access. At worst, you'll open your network to snooping by strangers.

The good news is that securing your network is easy. All you need to do is select a network encryption algorithm. WPA2 is the most recent and strongest, so that's the one you should use unless you have old network equipment which is not compatible with it. You should avoid WEP, which is older and easier to crack. If you have old network hardware that doesn't support a newer encryption algorithm, now is good time to upgrade.

Setting up security is easy. You only need to access your router and select the encryption you'd like to use. Then you need to set up an access password. Refer to your router's manual for specifics - the steps are not the same for all routers. If you do not have your router's manual you should be able to find a .PDF version on the website of the router manufacturer.

Router Security

Consumers generally buy routers because they allow for the creation of a home network, but they also offer security benefits because they act as a firewall.

Part of a router's job is sending information from networked computers to Internet - and back again. To do this properly the router has to assign each computer in the network an internal I.P. address. The router also monitors the port used by network traffic and automatically restricts ports that are not usually needed, cutting off an avenue of attack used by many worms.

Routers do a great job managing security on their own. In my opinion users generally won't want to touch their router's firewall settings. They can be complex and you may end up doing more harm than good.

You may, however, occasionally need to bypass the router's port blocking feature for software to work properly. Online games are a common example, as they sometimes use a port that is blocked by a router.

Instead of turning off this security feature entirely (which is not even possible on many routers) you should set up port forwarding. This allows information sent from a specific port or range of ports through. As with setting up

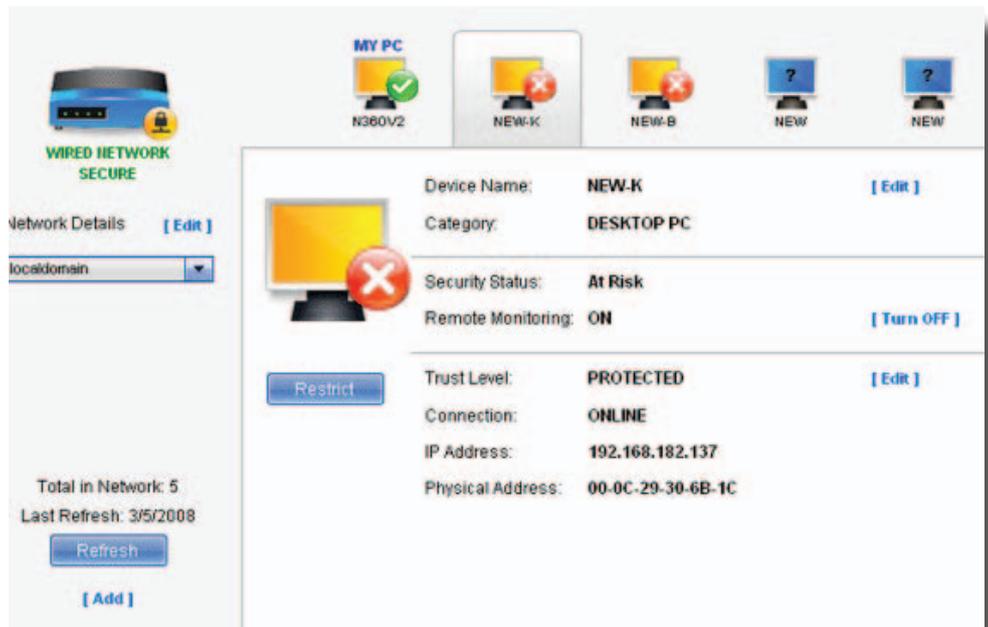


wireless security, the exact details of setting up port forwarding will depend on your router's make and model. Look up the instructions in the device's manual.

Network Monitoring

If you're a bit paranoid about your network's security you may wonder if there's any way to tell who is currently connected. This would let you discover any unauthorized devices that are connected. In my opinion, this bit of security is unnecessary for the typical home network - but it doesn't hurt to set it up, either.

Most network monitoring software is rather complex and is oriented towards the IT departments of small and large businesses rather than home networks. I'm referring to choices like Capsa Free and WallWatcher. The average user will have a fairly hard time figuring these out, but they are free, so you may want to give them a try anyway.



Easier home networking software can be found in many Internet Security suites and from companies that usually specialize in business solutions but have branched out to home network products. Some examples are PRTG Home Network Monitor and Norton Internet Security. These solutions will usually cost you, and are sometimes expensive, so you may want to think about the benefits you are receiving. If you have no particular reason to think someone would want to go to the trouble of hacking your home network you can safely save the dough.

Conclusion

I hope this home networking guide has cleared up the basics for you. There is still more that you can learn, but everything that you need to know about setting up a great home network has been covered here. Going deeper into the subject will just be like putting cool-whip on your sundae - it's still a sundae, but now it's that much better.

Check out the links below if you'd like to do some additional reading. These are MakeUseOf articles related to home networking that you may find helpful. Some of them reinforce concepts that you already learned about in this guide while others recommend software useful for home networks or touch on advanced networking techniques that can be fun to try out.

Additional Reading

[The 3 Easiest Ways To Share A Printer Over A Network](#)

[A Simple Guide To Setting Up A Home Network](#)

[Convert An Old PC To Network Attached Storage](#)

[How Does A Router Work?](#)

[How To Check If Someone Is Stealing Your WiFi](#)

[How People Are Hacking Wireless Networks & How To Protect Yourself](#)

[How To Build A Home Media Sever From An Old PC](#)

[How To Easily Share Files Between Mac & Windows Computers](#)

[How To Hide Your WiFi Network & Prevent It From Being Seen](#)

[How To Set Up Your Own Secured Wi-Fi HotSpot](#)

[How To Share Your Windows Internet Connection With Any WiFi Device](#)

[How To Test Your Home Network's Speed \(And Decipher The Results\)](#)

[Understanding Common WiFi Standards](#)



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