



Getting Connectable Guide

Version 1.1 – 2012/02/18

1. WHAT IS "BEING CONNECTABLE" AND WHY DO I NEED IT?

Being connectable means being able to give back to others – it is the fundamental principle behind P2P and torrents. It benefits both you and your peers.

Most people's computers are connected to the internet by a modem/router. The router part takes care of making sure that the information coming in and going out gets to the right place. The other thing it does is hide your computer's local address from the outside world - this means that if you have several computers on your internet connection, to the outside world they all appear to have the same address.

In order for the router to be able to sort out which information is for which computer, it uses a Port Number; port numbers are also used to identify the type of service you are asking for, e.g. web page requests go to port 80, ftp to 21 etc. When you run a torrent client it does all the transfers via a particular port (defined by you or picked randomly by your client) so the tracker and the other peers know which port to ask for when contacting you for parts of a file that you are sharing.

Routers also do another very important job which is to shield you from the outside world, they only accept incoming requests on ports that you have told them to open, otherwise you could be open to all sorts of nasty attacks. So by default if you choose a port for your torrent client (say 22222 which we will use in the rest of this article) you have to tell your router about it, otherwise any requests coming in from peers for port 22222 will just get a "nobody home" reply.

You tell your router about this by using "**PORT FORWARDING**" (more about this later) where you set up the router to send any requests for Port 22222 straight to your torrenting computer instead of refusing them.

Now while you are downloading a torrent, Port 22222 is open because your router is responding to requests from you to exchange data with other peers using this port, as a result when any peers that you are connected to try to contact you on this port, they get put through by the router and you can upload to them. However, once you have finished downloading you are no longer using the port and it is closed. Any peers trying to get parts of the torrent from you will be refused. You are... (yes you guessed it) **UNCONNECTABLE**.

So to seed back what you have downloaded you need to be Connectable so that others can contact your torrent client for chunks of your files.

To add to the complication (don't worry it only appears complicated to begin with) your computer may have firewall software to further protect it from unwanted intrusions. This software may need to be told about the port that you are using so that it will allow incoming requests.

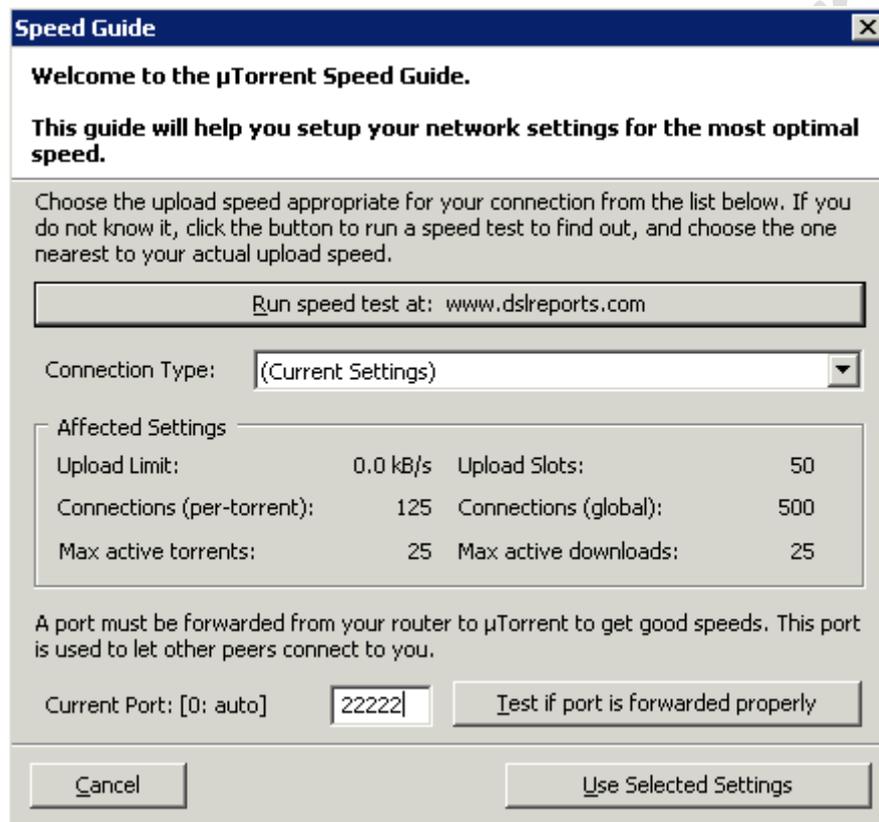


2. HOW CAN I TELL IF I AM CONNECTABLE?

The easiest way to tell if you are connectable is to use the in-built tester that you find in better torrent clients. For example in uTorrent if you press Ctrl-G it brings up the connection configuration wizard which has a button to test if the port is correctly set up. Pressing this opens a web page that tests to see if it can connect to your client on the port that you use and gives you the result. (Note: the latest version of uTorrent does not open a webpage but instead gives you the result directly in the wizard).

Below are examples of the uTorrent connection configuration wizards (Versions 1.x.x and 2.x.x, version 3 is not currently recommended, despite being announced as “stable”):

uTorrent V1





uTorrent V2

µTorrent Setup Guide

µTorrent will test your network and configure itself for best performance.

Bandwidth Germany, Hamburg

This test will use [Measurement Lab](#) tools to check and set your bandwidth limits.
If no location is near, you can test at [dslreports](#) and input your upload speed.

Your Upload Speed: Current Settings (491.51 kbit/s)

µTorrent Bandwidth Configuration			
Upload Limit:	60.0 kB/s	Upload Slots:	8
Connections (per-torrent):	50	Connections (global):	550
Max active torrents:	30	Max active downloads:	20

Network

This test will verify your router settings and highlight any configuration issues.

Current Port: (0:random) 22222 Automatic Port Mapping (Recommended)

Cancel Run tests Save & Close

You can run this test manually too. Make sure that your torrent client is running, go into the setup or options page and find out which port number it is using and then use your browser to go to the following address, substituting your port number for the "nnnnn":

* <http://www.clumpton.com/p2ptool/socktext.php?port=nnnnn>

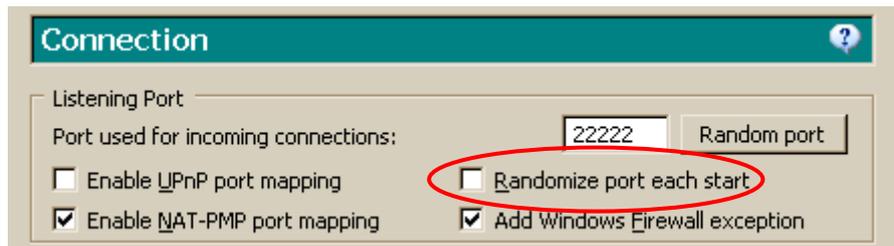
The web page will tell you if you are connectable or not.

3. YIKES! I'M NOT CONNECTABLE, WHAT DO I DO?

To get connectable you need to *forward the port* in your router.

You can do this manually with information and instructions that can be found at www.portforward.com. Alternatively Portforward sell an application that will do it more or less automatically, or better still there is a free application called SimplePortForwarding - the latter does not have such a wide range of routers in its database, but if yours is in there then it is the easiest way.

Before you start anything though, make sure that any option to automatically set the port number each time you start your client is turned off! If you don't do this then you may get it working to later find that it no longer works because your port number has changed.



Skip the next two sections if you want to use SimplePortForwarding.

USING PORTFORWARD.COM

You will need to know your uTorrent port and your torrenting computer's IP address.

You will also need to know your make & model of router or modem/router and the admin password

Finally you will need the IP address of your modem/router. You should already know your uTorrent port from the tests above, you can get the IP addresses very easily as follows:

- Open a command window (XP and before: use Start->Run, type in cmd and press OK. Vista & above, just type cmd into the search bar and hit "Enter")
- Type in ipconfig and hit "Enter"

You should see something like this:

```
Windows IP Configuration

Ethernet adapter Local Area Connection 2:

    Connection-specific DNS Suffix  . : 
    Link-local IPv6 Address . . . . . : fe80::ed40:41de:6aa:a9ce%13
    IPv4 Address. . . . . : 192.168.1.10
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.1.1

Tunnel adapter isatap.<57DC624A-7AF7-4673-B83E-CC032E3DDF57>:

    Media State . . . . . : Media disconnected
    Connection-specific DNS Suffix  . : 

Tunnel adapter Local Area Connection* 9:

    Connection-specific DNS Suffix  . : 
    IPv6 Address. . . . . : 2001:0:5ef5:73ba:28f3:203f:c16c:3194
    Link-local IPv6 Address . . . . . : fe80::28f3:203f:c16c:3194%15
    Default Gateway . . . . . : ::
```

As you can see, only one network interface is fully active and has IP addresses (ignore all the IPV6 stuff for now). In this case *the computer IP* address is 192.168.1.10 and the *modem/router* (default gateway) is 192.168.1.1

Note 1: If you see more than one set of IP addresses then maybe you have your wireless link turned on as well as having a cable connection. If so, disconnect one or the other and start again

Note 2: If you are still using a USB connected ADSL modem to connect none of this applies – you should really upgrade



Armed with this information, make a visit to www.PortForward.com. This excellent web site has the necessary information to set up port forwarding on more makes and models of modem/routers than you can shake a stick at. You can do the changes manually (for free) or pay some \$'s to get an application that does it for you.

- Click on "Router List"
- Scroll down until you find your make & model of modem/router, click on it
- Ignore the advert :-)
- You will see a list of different applications, games etc. Find your torrent client and click on it.
- You should see instructions on how to find out what port your client is using, you can follow them if you want to make sure that you got it right.
- Below is a box for the static IP address (you can set up a static IP address later, for the time being let's just concentrate on getting it working). Type in the computer IP address you found using ipconfig.
- Follow the instructions on how to set up port forwarding.
- Don't forget to save the settings on your modem/router!

Run the connectable test again; if it works then go back to the Portforward page and follow the link on setting up a static IP.

ADJUSTING YOUR FIREWALL/SECURITY SUITE

It is possible that your firewall is also blocking torrent traffic. If, despite having set up port forwarding correctly, you are still not getting a positive result in the connectable test then you may need to open your firewall for the port and/or torrent client. You can check if your firewall is blocking your torrent client or port very easily by temporarily turning off your Firewall and running the connectable check. *DO NOT FORGET to switch the Firewall BACK ON when you have finished. Note that if it still doesn't work with the Firewall turned off it is still worthwhile configuring the Firewall, many products don't actually totally turn off when you tell them to.

When you install uTorrent it asks if it should add a Windows Firewall exception, if you said "no" you can always set it by going into the Options->Preferences menu and selecting "Connection" in the list. Check the box that says "Add Windows Firewall exception". If you are using a client that does not offer to do this for you, then follow these instructions to do it manually:

- Open "Windows Firewall" in the Control Panel
- Make sure that "Don't allow exceptions" is unchecked on the "General" tab
- Click on the "Exceptions" tab.
- Click on "Add port"
- Enter a name for the exception (e.g. TorrentsTCP)
- Enter your torrent client port number
- Select TCP and click OK
- Repeat with the same port number, but choose UDP (and call it TorrentsUDP)



WHAT IF YOU ARE USING ANOTHER FIREWALL PRODUCT?

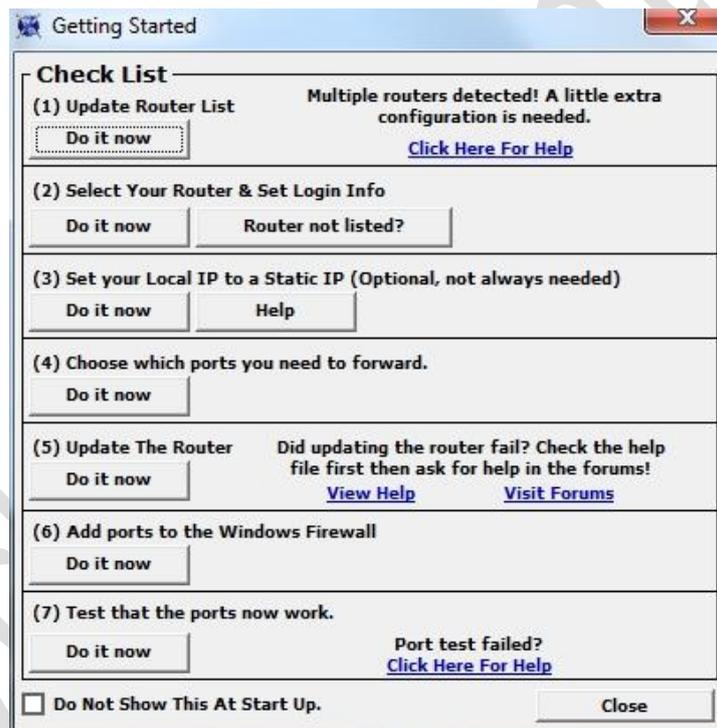
Well it would take forever to list the instructions for all the different products so all we can say is:

- Look for an “exceptions” item in the firewall/security suite menus.
- Add the torrent client port both inbound and outbound, TCP and UDP if there is a “Port Exceptions” item.
- Add your torrent client exe file if there is an “Application Exceptions” item.

USING SIMPLEPORTFORWARDING

- Go to www.SimplePortForwarding.com and download the software
- Install the software and run it (if under Vista or Windows 7 it is probably a good idea to right-click on the shortcut and choose "Run as Administrator")

Once it starts it will show the main screen and a screen of suggested actions like this:



Follow the instructions one by one (i.e. start by updating the list of routers, then choose your router etc.). It's as simple as that!



4. OK I'M CONNECTABLE, IS THAT ALL I NEED TO DO?

If you tested your connection and found that you were connectable without having to make any changes to your router or firewall, chances are that you are using uPnP and your router knows how to deal with it. This should be OK, but sometimes it goes wrong so you should keep an eye on your torrent client if it has a connection warning, or run the connection test every now and then just to make sure that everything is still OK.

Some Internet Service Providers (ISPs) take a dim view of people using P2P and so try to block any traffic that they can recognize. Although it doesn't always work, it is worthwhile enabling encryption in your torrent client.

5. HELP! I'VE FOLLOWED ALL THE STEPS AND IT STILL DOESN'T WORK!

If you have followed all the necessary steps and you think that your router and firewall are set up correctly but you still cannot get the connectable tests to work; or if the connectable test says "OK" but your client doesn't seem to be uploading to anybody you can always get in touch with the site staff.

Please give them as much information as possible in your message, notably:

- Country, Internet provider,
- Make & model of modem, router etc.,
- Computer operating system and torrent client & version,
- List of torrents that you are trying to seed back.

Before you do contact them, remember that torrents do not seed back all the time; you may just be seeding things that nobody wants.

6. I'VE CHANGED COMPUTERS AND IT'S ALL GONE WRONG!

If you set up your router to forward your port to a specific computer name or IP address, you need to change that to reflect your new computer name/IP. Just run through the instructions again and all should start working.

7. I WANT TO RUN TORRENTS ON MORE THAN ONE COMPUTER

No problem! All you need to do is choose a different port number in your torrent client on each computer. That way the router can tell them apart, as can the tracker and the peers.

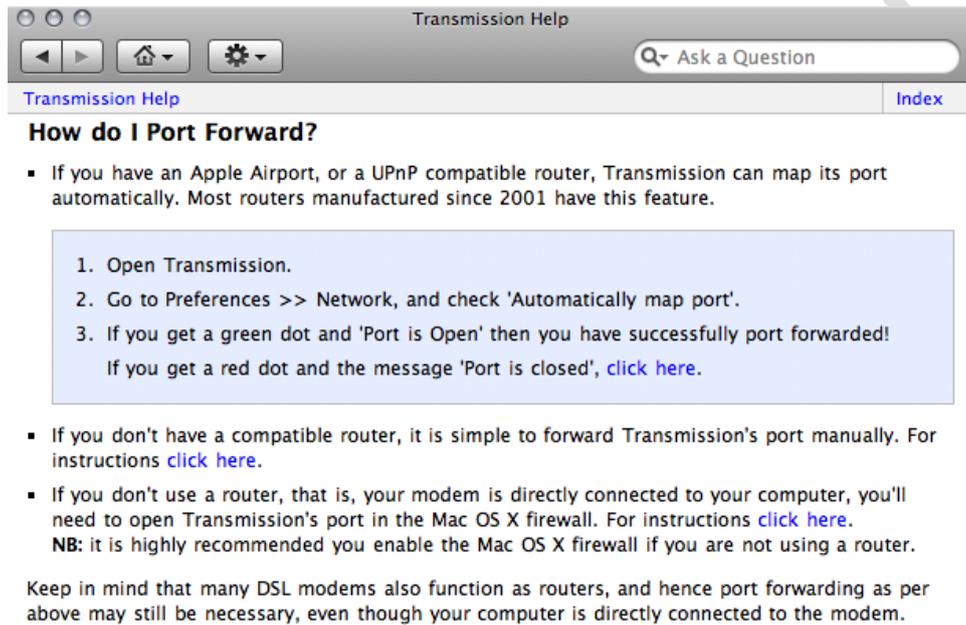
Please note: If you do run more than one torrent client on your Internet connection you will lose some bandwidth due to the added messages being exchanged with trackers and peers. You should also avoid connecting to the same tracker from more than one client on the same connection as this can cause confusion; both to the tracker and to the site staff.



8. I'M NOT RUNNING WINDOWS, WHERE CAN I GET INFORMATION ON LINUX, MAC OS X ETC.?

The information on port forwarding is applicable whatever operating system you are using. However the firewall configuration is another kettle of fish. Our Linux/Mac experts are working on this :-)

In the meantime, if you are using Transmission on your Mac, the Help can get you connectable...

A screenshot of the Transmission Help window on a Mac. The window title is "Transmission Help". It features a search bar with the text "Ask a Question" and a search icon. Below the search bar, there are navigation buttons: a back arrow, a forward arrow, a home icon, and a settings gear icon. The main content area is titled "Transmission Help" and "Index". The main heading is "How do I Port Forward?". Below this heading, there is a list of instructions and a note. The instructions are: 1. Open Transmission. 2. Go to Preferences >> Network, and check 'Automatically map port'. 3. If you get a green dot and 'Port is Open' then you have successfully port forwarded! If you get a red dot and the message 'Port is closed', click here. The note is: NB: it is highly recommended you enable the Mac OS X firewall if you are not using a router. At the bottom, there is a paragraph: Keep in mind that many DSL modems also function as routers, and hence port forwarding as per above may still be necessary, even though your computer is directly connected to the modem.

Transmission Help Index

How do I Port Forward?

- If you have an Apple Airport, or a UPnP compatible router, Transmission can map its port automatically. Most routers manufactured since 2001 have this feature.

1. Open Transmission.
2. Go to Preferences >> Network, and check 'Automatically map port'.
3. If you get a green dot and 'Port is Open' then you have successfully port forwarded!
If you get a red dot and the message 'Port is closed', [click here](#).

- If you don't have a compatible router, it is simple to forward Transmission's port manually. For instructions [click here](#).
- If you don't use a router, that is, your modem is directly connected to your computer, you'll need to open Transmission's port in the Mac OS X firewall. For instructions [click here](#).
NB: it is highly recommended you enable the Mac OS X firewall if you are not using a router.

Keep in mind that many DSL modems also function as routers, and hence port forwarding as per above may still be necessary, even though your computer is directly connected to the modem.