Problems connecting to the wireless network at MIT

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Overview

Here you can find some common recommendations for resolving wireless connection problems in the MIT residence halls and academic buildings.

Self-service troubleshooting

Updating Wireless Drivers

This is important especially for computers that have Intel wireless cards. Intel drivers prior to Fall 2009 do not function well with the wireless infrastructure installed at MIT.

If you have a computer running the Windows operating system, please check to see if you have Intel Wireless drivers. This can be found by going to:

- Control Panel > System > Hardware > Device Manager
- You can search for Device Manager in the control panel of Windows Vista and Windows 7
- If you have an Intel wireless card, please update the drivers by going to http://www.intel.com/support/wireless/wlan/sb/cs-010623.htm

Disable power savings mode for the wireless card

Some operating system/computer combinations are capable of throttling the power delivered to a wireless card when it is either not heavily used or when the computer is in sleep mode. This can cause some connection problems or result in slower connectivity. If you're having trouble with the wireless network, please try to disable this feature.

Radio hardware and software switches

Each wireless card and computer manufacturer has a different way of disabling the radio or wireless card antenna. If you are receiving very low or no signal strength from the MIT wireless networks please be sure that your radio is on. First look for a hardware switch on your device. Some devices implement a hardware switch using the "Fn" key. Hold down "Fn" and press the key with a radio tower. You should get a message telling you if you have just turned WiFi on or off. Refer your laptop manual for more information.
Tip:

- In MAC OS X, you can click the airport icon in your system tray and select Turn Airport On.
- With Windows, almost all devices use the Windows utility. Look for the WiFi icon on the right-hand side of the taskbar.

Disable IPv6

For a full description of why disabling IPv6 can help you get a better connection on the MIT wireless network, please see the following knowledge base article: Disable IPv6

Setup your preferred networks

Most operating systems allow for an order of priority that wireless networks will be connected to. If you notice that your computer is connecting to a wireless network that is not one of the recommended MIT wireless networks, or if you want to always prefer 5 Ghz connections, you should update the order of your preferred wireless networks: How to remove preferred or saved networks from your wireless settings.

Interference

In addition to active interference caused by other radio waves, wireless network signals can be disrupted by physical obstacles including some types of windows, building materials, furniture, and appliances. Often refrigerators placed in the line of sight or near a wireless device can cause serious degradation of signal.

If you are noticing problems connecting to the wireless network, please keep these questions in mind:

Do you have a cordless phone?
Can you see or connect to networks not called “MIT”?
How far away is the nearest access point?
Are there large appliances, doors, walls, metal objects or structures between where you work and where the closest access point is?

Wireless access point antennas

Please DO NOT modify the antenna alignment.

The wireless antennas are aligned vertically by the Network Infrastructure group to take advantage of multipath interference to provide faster connectivity. Modifying the antenna alignment may diminish the effectiveness of the access points. The correct alignment is three top antennas facing straight up and the three bottom antennas facing straight down.

Reporting a problem to IS&T

IS&T is committed to resolving problems and concerns that are reported on the wireless network. Since there are many different types of outages on the wireless network, IS&T needs some additional information to help resolve them and determine if there are any trends. Connection issues should be reported to the IS&T Helpdesk by email, phone or by filling out a help request. The Residential Computing Consultants (RCCs), at the IS&T Helpdesk are responsible for troubleshooting wireless issues in dorms.

Overview of troubleshooting steps and Information requested:

- Update wireless drivers
- Building and Room number
- MAC address, BSSID, SSID (network name) - all included in Windows Vista/7 and Mac OS X IS&T script (below)
- Speed estimate (SpeedTest.Net is a reliable source for speed tests.)
- Description of the symptoms
- Date and time that the problem occurred

Description of the problem

Some problem reports are light on what the problem is or how it manifests.

- Is it slow, intermittent or does it never work?
- Does it work well in some places, not others?
- Is the signal strength high or low?
- Any other details you can think of

How to gather specific information (SSID, BSSID, MAC addresses)

IS&T Network Information gathering script

The page IS&T Network Information gathering script does not exist.

See Also:

The Wireless Networks at MIT
How to connect to the MIT SECURE wireless network
Eduroam Landing Page
The MIT GUEST wireless network
Troubleshooting and reporting problems on the MIT wireless network
List of devices that can or can't connect to MIT SECURE