

# NETWORK SPEEDS ETC

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Name / #	Description	# LINES	SPEED
<b>DS0</b>		<b>1</b>	<b>64 Kbs</b>
<b>DS1</b>	A telephone company format for transmitting information digitally. DS1 has a capacity of 24 voice circuits at a transmission speed of 1.544 megabits per second.	<b>24</b>	<b>1.544 Mbps</b>
<b>DS3</b>	A terrestrial and satellite format for transmitting information digitally. DS3 has a capacity of 672 voice circuits at a transmission speed of 44.736 Mbps	<b>672</b>	<b>44.736 Mbps</b>
<b>DS4</b>		<b>4032</b>	<b>274.16 Mbps</b>
<b>ISDN</b>	Integrated services digital network. Allows data to be transmitted at high speed over the public telephone network. ISDN operates from the <b>Basic Rate of 64 kbits/sec to the Primary Rate of 2 Mbps (usually called ISDN-30</b> as it comprises 30 Basic Rate channels). Most of the Western world currently has the capability to install <b>ISDN-2 with 128 kbps</b> and very rapid growth is predicted for ISDN generally. In the television and film industries, audio facilities are already using it. The cost of a call is usually similar to using a normal telephone. <b>Two DS0 lines plus signaling (16 kilobits per second), or 128 kilobits per second</b>		

**T1 - 1.544 megabits per second (24 DS0 lines)**

**T3 - 43.232 megabits per second (28 T1s)**

**\*OC-Prefex stands for "Optical Carrier" aka Fiber Optic**

**OC3 - 155 megabits per second (84 T1s)**

**OC12 - 622 megabits per second (4 OC3s)**

**OC48 - 2.5 gigabits per seconds (4 OC12s)**

**OC192 - 9.6 gigabits per second (4 OC48s)**

(OVER)

## OTHER SPEEDS

USB (Universal Serial Bus) [http://www.usb.org/info/usb\\_nomenclature](http://www.usb.org/info/usb_nomenclature)

USB 1 = 1.5 Mb/S

USB 1.1 = 12 Mb/S

USB 2.0= 480 Mb/S

1394 "Fire Wire"

100, 200, and 400Mbps

<http://kb.indiana.edu/data/ahxe.ose.help>

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<http://www.macspeedzone.com/archive/5.0/usbcomparison.html>

The "uwpwireless" network uses 802.11b network components that run at a maximum speed of **11 Mbps**. In comparison, **most desktop wired connections at UW-Platteville run at Ethernet speeds of up to 100 Mbps**. The speed of the "uwpwireless" network is also dependant on your proximity to the access point you are connected to. Also, the "uwpwireless" network is a shared network, meaning that you are sharing the available bandwidth with any other wireless devices that are connecting to the same access point.

2/22/05 <http://www.uwplatt.edu/oit/faqs/wireless/technology001.html>

## Wi Fi

**802.11a** transmits at 5GHz and can move up to **54 megabits of data per second**. It also uses orthogonal frequency-division multiplexing (OFDM), a more efficient coding technique that splits that radio signal into several sub-signals before they reach a receiver. This greatly reduces interference.

**802.11b** is the slowest and least expensive standard. For a while, its cost made it popular, but now it's becoming less common as faster standards become less expensive. 802.11b transmits in the 2.4 GHz frequency band of the radio spectrum. It can handle up to **11 megabits of data per second**, and it uses complimentary code keying (CCK) coding.

**802.11g** transmits at 2.4 GHz like 802.11b, but it's a lot faster -- it can handle up to **54 megabits of data per second**. 802.11g is faster because it uses the same OFDM coding as 802.11a. Real-world speeds of about **24 megabits of data per second because of network congestion**.

**802.11n** is the newest standard that is widely available. This standard significantly improves speed and range. For instance, although 802.11g theoretically moves 54 megabits of data per second, it only achieves real-world speeds of about 24 megabits of data per second because of network congestion. 802.11n, however, reportedly can achieve speeds **as high as 140 megabits per second**.

**Bluetooth** Bluetooth networking transmits data via low-power radio waves inexpensively with automatic protocol . It communicates on a frequency of **2.45 gigahertz** (actually between 2.402 GHz and 2.480 GHz, to be exact- weak signals of about **1 milliwatt** . - range 10 meters (**32 feet**) - **doesn't require line of sight**- up to **8 devices simultaneously** - **spread-spectrum frequency hopping**( **79 individual**, randomly chosen frequencies **changing 1,600 times every second** makes it **unlikely that 2 transmitters will be on the same frequency at the same time** - forms a **personal-area network (PAN)**, or **piconet** the members **randomly hop frequencies in unison** so they **stay in touch with one another** and **avoid other piconets that may be operating in the same room**

**1.0** 1 megabit per second

**2.0** 3 Mbps. Bluetooth 2.0 is backward-compatible with 1.0 devices.

**Ethernet**

- 10 Mbps 10Base-T Ethernet
- 100 Mbps -100Base-T Ethernet (Fast Ethernet)
- 1 Gbps -Gigabit Ethernet
- 10 Gbps -10G Ethernet (IEEE 802.3ae)