1. Which is right for me or my business for Internet connectivity?

A. Cable (Coax/cable modem)

A local cable television company along with a cable modem, provided by the local CATV Company, provides Cable or a coax connection to the Internet. The cable modem is connected to a P.C. via a 10/100BT-network interface card or NIC using networking topology. These connections using the cable modem are 24 hour a day live connection to the Internet.

Depending on your application, whether it is for your home use or your business use, is how your cost and band width are determined by the provider (CATV Company). BandWidth is the speed and of the Internet connection provided, anywhere from 256k, to 1.544k being full DSL capable. Just as a reference your computer you have at home or in your office now may have a 56k modem, a cable connection to the Internet is anywhere from 5 to 100 times the speed of your current 56k modem. For home or residential use the cable connection is generally 1.544k the slower bandwidths are offered to businesses for Network wide Internet connections. Some providers for businesses will start selling connections at 256k then 512k and finally 1.544k depending on the size of the business and the number of users on the network that will be using the Internet.

The one draw back to using a cable modem as your Internet connection is security. As being connected to the Internet using cable you are a node or individual user on a larger network. Making it is easier and more frequent that someone can hack your computer or network.

B. DSL (Digital Subscriber Line)

A Digital Subscriber Line or DSL is a special line or circuit provided by your local telephone company and or long distance carrier, not only for Internet connectivity but also for WAN (Wide Area Network) connectivity. DSL's are being offered more and more by Internet Providers for residential use.

Wide Area Network or WAN refers to companies who have offices in multiple cities around the country to share data and to use their local server or Intranet email system and also Internet email.

A DSL is composed of 24 channels or digital lines that come into your business on 2 pair of copper wires. The DSL can be fragmented for data only or for data and voice depending on the needs and the growth of your company. By fragmenting the DSL you can split off however many channels you would need for data and however many are needed for voice. Phone companies will sell these at discounted prices if not all channels are being used.

Depending on the type of DSL that is installed and or ordered. You can have voice, data and video applications processed across the DSL at the same time. This of course would involve purchasing multiple pieces of equipment, such as a T1 ready phone system and a special DSL modem called a CSU/DSU to separate the voice channels from the data channels.

C. ISDN (Integrated Services Digital Network)

An ISDN is another type of digital circuit provided by a local telephone company for either voice or data transmission. ISDN's have been in use for several years for Internet connectivity and for voice connectivity. The speed of an ISDN is 128k to 160k for Internet connectivity it is two times the speed of a 56k modem and $1/10^{th}$ the speed of a cable modem or a DSL.

The ISDN was brought online originally to give companies a more cost efficient method of connecting to their other offices for voice and data transmissions. As the Information Superhighway or Internet came online telephone companies started selling ISDN circuits for residential use for high-speed connections to the Internet. Until the mid to late 1990's when CATV companies came out with cable modems and telephone companies started making DSL's and T1's more readily available and affordable for general use.

An ISDN could be the way for a smaller company to go, for Internet connectivity, because of cost efficiency and better ease of installation. Unlike a DSL that uses two pair of wires or four conductors, an ISDN only uses one pair of wires, so this would make installation of this type of line into a home or business easier for the Phone Company and more cost efficient to install.

2. What is "Voice and Fax over Internet telephony", and can I really talk and or fax for free over the Internet?

3. Why do data cables (Category 5) need to be certified?

In preparation for the install of your computer network and all your computer hardware you will need to have your office wired or cabled for network connectivity. In doing this the most common type of network topology is a CAT5 (10/100BT) network.

At the time of your network installation the cable technicians installing the CAT5 cable will terminate the wire at each station on a Category 5 data jack and in the computer / server room the cables will be terminated on a Category 5 data patch panel. When all the cabling is in and complete the technician will test each cable location from station location to patch panel location using a data scanner to assure proper wiring, and speed of network. This scanner will supply the tech with a printable report for each data location for either a **PASS** or **FAIL**. On a **PASS** that report will tell the tech that the jack the wire and the patch panel are all correct. If there is a Fail this report will let the tech know where the **FAIL** is and he/she will know where to repair the problem.

The purpose for certifying data cable is to be able to give these printed reports to the data/network personnel so they know the cable has been installed and tested properly by the cable Installation Company. The other purpose behind certifying data cable is that some jack and cable manufacturers offer better warrantees with these certifications.