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"Best Effort" Versus "Guaranteed" Bandwidth

The faster data line was DSL. The slower line was T1. Other than the speeds of the two lines, there was another major difference: The T1 line had a guaranteed bandwidth of 1.5 Mbps up and down. The DSL line had a “best

If you connect to the Internet via DSL or cable, it is almost certain that you are receiving “best effort” service



- *Who We Are*





from your Internet Service Provider (ISP). While it is possible that occasionally you may receive all of the speed promised, most of the time you won't. Many times, the slow down isn't all that noticeable. When just browsing the Internet, most people would not notice a delay of a few tenths of a second. But, slowdowns do become quite noticeable when people download data or view online webcasts. While the downloads just take a lot longer than they should, viewing a webcast that repeatedly stutters and stops because the audio and video can't be delivered in a timely manner turns into pure torture.

So, what is it that makes DSL or cable a "best effort" connection?

One word: "Oversubscription". This is a very polite way of saying that the bandwidth used to connect a group of users to the Internet is less than the sum of the individual needs. The bandwidth is "oversubscribed". There's a large enough pool of bandwidth for everyone—as long as everyone doesn't need it at the same time. Reputable ISPs attempt to group users in such a way to balance out demands for bandwidth by creating a mix of users that don't all use the Internet at the same time of day. This doesn't always result in the perfect web surfing experience, but reputable ISPs will also monitor usage and begin to make adjustments as soon as they notice times of excessive demand or receive complaints from their users.

Some less-than-reputable ISPs rely completely on the "Customer satisfaction/feedback" approach: If customers aren't complaining, then they must be satisfied.

If a customer complains enough (some ISPs have a high complaint threshold), their data service is moved from group to group until they stop complaining (or find a different ISP).

Getting What You Paid for...

When signing up for DSL or cable data service, we sincerely doubt that the sales rep would ever throw cold water on a sale by announcing that their Internet service will meet or exceed your expectations—as long as you don't actually attempt to fully utilize it. Usually, you are promised unlimited usage and blazing speed. Unfortunately, the only way to judge the quality of an ISP is to pay your money and sign on the dotted line.

And if the speed of your new DSL service isn't as "blazing" as promised? Complain. Complain. Complain. It will probably require multiple telephone calls, but as we stated earlier, the ISP can make changes to your Internet connection that could improve its performance. When calling in to complain, it's best to call at the time that you are experiencing the poor performance. The ISP may be able to see the problem (and fix it). Don't forget to keep a log of all calls to the ISP in the event that there is a contract that must be terminated.

Your ISP made representations to you about the quality and performance of the connection to the Internet that they provide. You took them at their word and paid good money for the data line provided by the ISP. Make sure that they deliver what they promised.



Get Off the POTS

(Plain Old Telephone Service)

Before we get started with this article, we need to answer a question that many of you have: Yes, telephone systems that use 1 pair of copper wires per voice line are officially referred to as “Plain Old Telephone Service”, or POTS for short. We couldn’t make that up.

All of us are very familiar with POTS. It refers to the basic form of telephone service that has been around for more than a half a century. But the first two words in the term (“Plain Old”) should give everyone a hint that big changes have taken place. While organizations can continue to replace old outdated telephone systems with new systems that do the same as the old systems, changes in how telephone service can be delivered to an organization make it possible to add many useful and cost-effective features to office telephone systems.

The key to all of the new capabilities is the replacement of POTS lines with something called a T1 line. A T1 line can be thought of as digital carrier of 24 POTS lines. But instead of 24 pairs of copper wire extending all the way back to the telephone switching office, there are just 2 pairs of wires: 1 pair for transmitting and 1 pair for receiving. The pairs of wires don’t have to go all the way back to the telephone switching office. They

might only go as far as a fiber optic cable in the basement of the building. It is also possible that a T1 is fiber optic cable from end-to-end. It doesn’t matter what its physical characteristics are, the important issue is what it can do.

So, what choices does an office have if it switches to T1? Let’s go through some of the choices for telephone service:

Pure Voice T1

Voice T1 lines are extremely common among businesses and call centers with multiple telephone lines and large call volumes. Compared to POTS lines, they are more cost-effective. Each of the 24 channels on a T1 can be used for a single telephone line. Voice T1 lines use digital or analog transmission, so it can be used where the telephone equipment does not allow for the use of a PRI line, which is always digital.

PRI T1

A PRI (Primary Rate Interface) T1 line is somewhat different and more popular than a pure Voice T1 because it is completely digital, which allows for more advanced calling features. Instead of 24 voice channels, a PRI line provides 23 telephone lines per T1, and uses the 24th channel to carry useful data for signaling



information to the telephone control unit which gives it the following advantages:

- **Caller ID.** On a PRI line, this feature is included at no cost. On analog telephone lines, this feature must be purchased for each line.
- **Digital Inward Dialing.** When an incoming call is routed through a PRI T1 line, it uses one of the 23 available voice channels for the call and sends information about what telephone number was dialed and which voice channel it is using down the control channel.

Because of this, an organization can have as many different telephone numbers as they choose. They can purchase blocks of telephone numbers that can be assigned to multiple main calling numbers (based on client needs), individual staff members, or special purpose mailboxes. These phone numbers can be configured to ring directly to each extension without going through the main telephone number.

Based on the telephone dialed, the control unit routes the call to the desired extension. It allows multiple organizations to operate on the same phone system.

- **Outbound Caller-ID** information can be set on an extension-by extension basis, so that returned calls can go directly to an individual's extension rather than through the switchboard. You can block caller-id from specific extensions or only display the organization's main number.

- Calls connect faster because the digits are sent digitally.
- Per-minute long distance rates are typically less expensive than with analog POTS phone lines. If you connect with a T1, you will qualify for "Dedicated" long distance rates rather than "Switched" long distance rates. Depending on your telephone carrier, dedicated rates can be significantly lower.
- Some vendors do not charge for local calls made via PRI T1 lines.

Need more than 23 voice lines? More than one PRI T1 can be added to a telephone system. Many of the larger telephone systems can be scaled up to easily handle multiple T1's.

Integrated T1 Line

For some small organizations, 23 voice channels are beyond overkill, but that doesn't mean that there is no way to take advantage of the benefits of a T1 or T1 PRI line. What if the unneeded voice channels could be used for some other purpose, such as an Internet connection? An Integrated T1 Line is another popular T1 solution for small organizations because it provides local telephone service, long distance, and an Internet connection on a single T1. While not quite as cost-effective as a full T1 dedicated to voice traffic, it is a way to gain the benefits of current technology at a more appealing price.





More Online Trainings Available for Legal Services Staff

CLE Credit Available

Western New York Law Center (Buffalo, NY) and Empire Justice Center (Rochester, Albany, White Plains, NY) have made 2 additional trainings available for viewing over the web by attorneys and staff. There is no charge for viewing these trainings, but everyone who wishes to view these trainings must register. There is a processing fee for CLE credit requests. These trainings will be available July 16, 2007:

Immigration Status & Public Benefits Eligibility

This is a training on immigration status as an eligibility requirement in various federal and state public benefits programs. The focus of the session will be immigrant eligibility rules in "means-tested" benefit programs, specifically the Family and Safety Net Assistance Programs, the Supplemental Security Income program (SSI), Food Stamps and Medicaid. It will cover the immigrant documentation requirements of the benefits agencies and some special issues that arise in the context of immigrant use of benefits programs, including public charge, sponsor liability and reporting.

Date of original presentation: April 27, 2007

Presenter(s): Barbara Weiner, Esq., Empire Justice Center

Viewing time: 3 hours

CLE Credits: 3.0 Professional Practice

Cost for CLE credit: \$90.00 Not-for-Profit Agencies; \$150.00 Private Practice Attorneys

Using the Social Security Rulings

This session includes a brief introduction of Social Security Rulings (SSRs) in general, and focuses on using SSRs in disability claims involving back impairments. It is designed for advocates with some experience in handling disability claims.

Date of original presentation: June 11, 2007

Presenter(s): Catherine Callery, Esq. and Louise Tarantino, Esq., Empire Justice Center

Viewing time: 1 hour 42 minutes

CLE Credits: 2.0 Professional Practice

Cost for CLE credit: \$60.00 Not-for-Profit Agencies; \$90.00 Private Practice Attorneys

To view the trainings...

- Start up your web browser and go to this location: <http://onlineresources.wnyc.net>
- On the left side of the screen, click on "Online Training"
- Click on the desired training; a registration form will be displayed
- Fill out the registration form; then click on "Submit form"
- A link to the presentation will be sent to the email address provided in the registration form

If you are an attorney and wish to receive CLE credit, you must fill out the course evaluation and attorney affirmation forms and mail it to the address on the form along with payment for processing of the CLE credit request. New York State Bar Association rules require that the forms be mailed. They cannot be submitted electronically.



WNYLC Web Statistics For May 2007

Total Hits.....309,654
 Number of Pages Viewed.....121,411
 Total Visitors.....65,133
 Average Hits/Day.....12,969
 Average Pages /Day.....3,794
 Top Web Browsers Used:
 Internet Explorer 6.x.....52%
 Internet Explorer 7.x.....28%
 Firefox.....10%
 Safari.....1%

Top Operating Systems Used:

Windows XP.....77.76%
 Windows 2000.....8.88%
 Mac OS.....2.43%
 Windows 98.....2.41%
 Windows Vista.....1.24%



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