

Leveling the Playing Field #5

By Dave Olson

Free the Internet! — Open Access

There are many ways for you to get an Internet connection to your home, office or wherever. What you likely don't realize is the morass of politics, tariffs and such-nense that goes on behind the scenes in order to provide a high-speed digital data link to your house.

Indeed, it is often a double-edged sword as laws that were made to de-construct Telco monopolies often hinder the progress of open-access. The accepted standards aren't necessarily driven by the best technology and consumer-demand but rather by what the Telcos lobby for and decide to release (often based on the benefit to the bottom line).

As is the normal custom in this column, we will glance into the past somewhat to get a sense of how we got where we are now.

First, the Legal Stuff

In 1984 a major anti-trust suit was settled between AT&T (Ma Bell) and the US Dept. of Justice by the signing of a "consent decree" breaking up the entrenched phone monopoly. The rulings were presided over by the now infamous Judge Harold Green (may his tortured soul rest in peace). Part of his ruling distinguishes new Competing Local Exchange Carriers (CLECs, such as MCI) from the Incumbent Local Exchange Carriers (ILECs.) ILECs are most frequently the former chunks of AT&T (known as the "Baby Bells") who have enjoyed a 100 years of nursing from the mighty bosom of their guaranteed monopoly for years. However, many "mom and pop" local telephone carriers, such as Yelm Telephone Company, also qualify as ILECs, since they have been providing local service since before the date of the consent-decree breakup.

As an "essential public utility," Telco franchises are regulated and supervised by the Washington Utilities and Telecommunications Commission & the Federal Communications Commission. All actions involving service and rates undertaken by an essential public utility (such as US West) must be approved by WUTC whose job it is to ensure fair and equal access for all. Part of these regulations say that the ILEC has to provide quality, equitable service in each area in it's territory, regardless of geographic location or perceived economic potential. If they will not provide this level of service they must dismiss that market, in which case it is made available by bid to other phone companies. This opened the doors for competition.

This industry "de-regulation" begat the introduction of regional CLECs. With fewer regulations and often times more progressive business leadership, some of these companies have moved in to areas to compete with US West by offering either whole suites of phone/data services or just DSL. This is much like what happened with pager and cellular networks a few years ago, suddenly there were a whole bunch of companies.

Some the companies are "facilities-based" which means they have equipment, switches, circuits, routers, Network Operations Center etc. Others are re-sellers in that they buy bulk access from ILECs or other CLEC providers to re-sell. These lines are purchased and resold in many forms, including local dialtone, high-speed T1 lines for business and multiple tenant buildings, alarm circuit lines, for alarm and system monitoring, and DSL (Digital Subscriber Line) for high speed digital Internet access and packetized voice and long distance.

All of these companies however are to some degree held hostage by ILEC phone carriers (in our area, US West) when attempting to deploy their services as the ILEC "controls" the lines going into the houses. Because they "own" the facilities used to provide service by all carriers, it is possible for an unscrupulous ILEC to interfere with CLEC's ability to provide lines for DSL, and maintain a high quality of service.

Now, the Technical Stuff

DSL was really developed in around 1986 when engineers found they could "piggy-back" a hi-speed data signal along the existing copper infrastructure. This is accomplished by using the higher frequencies of the available radio spectrum. The telephone network only uses the lowest part of the radio spectrum to transmit our normal voice and modem conversations.

Because a traditional T1 can cost up to \$1000/mo., US West had very little financial incentive to deploy with this low-cost DSL service to new market segments at a lower cost. Instead, they used the DSL technologies to lower their own cost for providing T1 and fractional T1 data services, thus increasing their margin. Couple this with a hundred year plus corporate business culture created by AT&T's monopoly, and you get USWest's (and other ILEC phone companies) failure to see the Internet coming. They were unwilling to utilize any of the technologies they helped to invent to lower access costs and increase availability to the aforementioned "revolutionary" computer network. Instead they watched for years as regular folks suffered with dial-up modem, BBS, and Internet access and businesses coughed up big money for 56K and T1 connections. It wasn't until small ISPs started coming up like "week-old bean sprouts in a deadhead's kitchen" and taking control of this new economic opportunity that the entrenched former-monopoly ILECs finally saw the light and decided to start providing a lower cost, low margin high-speed access solution to consumers utilizing DSL.

Once the market opened up to other CLECs who's sole business plan was to build and deploy DSL networks, US West began sensing possible competition and moved forward with their consumer DSL product. To their credit, they have been one of the ILEC leaders in bring this product forward, driving the market with their innovation.

An oddball issue with the Judge Green's phone company

breakup ruling is that is the ILECs can't carry voice or data across LATA (Local Area Telephone Access) boundaries. This rule was designed to prevent ILECs from being both the local and the long-distance company. You can see what the Judge was getting at but this is somewhat like asking someone to pass a note along to someone else even though they are sitting right next to you.

In the case of an ISP, if you want to install a T1 line to a new market which is outside of our LATA (let's say Spokane), you have to use a 3rd party vendor to transfer your data from US West to US West. The reason being that US West, being an ILEC can't offer both the Local and the Long Distance services. Confused? Sure, especially when you realize you almost have to buy the phone lines from US West but also go through the "technically unnecessary" coordination time and expense of contracting with a 3rd party and co-locating a router in their data facilities, wherever they may be.

Indeed on Snoqualmie pass where the LATA boundary is, AT&T maintains a fairly involved facility which takes data from US West customers coming from the west of the pass and hands it off to US West lines headed East. And yes, the consumer (in this example, an ISP) pays AT&T a mighty fee for this service.

Two Pieces of the Pie

You must understand that Internet access through a DSL line consists of two parts, both necessary.

Part one is the phone circuit magic that the telco (US West) does which allows this digital signal to be carried along your phone line. Part two is ISP stuff, packet services, basically the routers, and servers to send and receive your requests over the Internet and stuff like e-mail account and web page hosting.

When US West first began to release this service, they had to go through a series of tariff hearings with the WUTC who held them to task to ensure competition thanks to aggressive

lobbying and testifying by members of the ISP business community. USWest; sensing the regulatory agencies would not allow them to provide the whole enchilada (Phone and ISP), not allowing any other ISPs to compete with them using their own services, came up with a plan that allowed ISPs and other large businesses to provide the data portion of the service. The details were worked out between the regulators, the lobbyists, and USWest, (who is euphemistically referred to in WUTC hearings as "The Company",) providing a set of rules and guidelines that ensured that the incumbent monopoly USWest would play fair and level.

Because US West already controls the phone service, allowing them to be an exclusive provider of what is essentially a public resource, would be devastating for the pricing and quality of the service. One of the remaining problems is that US West is slow to provide service to areas which aren't targeted as population-dense and profit-rich.

Some new providers aim to provide services to locations that USWest won't. Example: to get the DSL service, your phone line must travel no more than 3 miles physical loop length to the phone Central Office (CO) where there is a piece of equipment called a DSLAM. So first US West tests to see if your line "qualifies."

If yes, you can get aDSL or xDSL. Speeds ranging from 256kbps to 1.5Mbps., depending on your loop length and the use of repeaters Because of the asynchronous nature of DSL that speed is always available for upload, (and you may find that you get much faster speeds downloading).

In you don't qualify, all hope is not lost. Behold iDSL, which is DSL technology delivered over ISDN lines, which is possible up to a seven-mile phone loop length. ISDN, which stands for Integrated Services Digital Network is an older means for providing digital service over phone lines, but the phone companies, reeling for years following the breakup of Ma Bell, did not widely deploy this product, due to poor marketing and pricing decisions.

CLEC DSL providers offer iDSL service in areas US West won't. The problem is that the pricing and service are a drag. Again because the ILEC monopoly has control over the lines and has a distinct advantage in accessing the lines and the customers. Because CLECs can't provision lines, install equipment in US West facilities and provide timely connections, these other companies offering iDSL, often garner a very poor reputation. Again, in this scenario consumers lose.

Now about the Cable Modem Thing

Cable modems are a whole different ball of goo. Since Cable TV deregulation, it is overseen primarily by the city and county governments who negotiate with Cable companies to allow usage or "right of way" along the roads, poles and into the house. Each municipality or local government negotiates its own "franchise agreement", and has complete control. In this area TCI has the contract which has carried over with their recent acquisition by AT&T. There are also not as stringent "standards of quality" with Cable as with electricity or phone, although some cable consumer groups have started pushing a "Cable Subscriber Bill of Rights". Because of the "one way" nature of cable, and the lack of real competition, most cable companies build their networks cheap and planning only for the short term so they can get more customers, enhance the bottom line, stock share value, etc.

When TCI/AT&T launched their @home cable modem service, they decided to not allow any other ISPs to provide access using what they consider "their" cable network. The thing with cable modems is, unlike DSL, the connection "node" is shared and the upload is vastly different from the download. So if 10% of your neighborhood has @home service and are all on at once (likely around prime time 5-10pm) your speeds will slow to near modem-esque. Since the upload spectrum for cable modems is narrow and susceptible to radio frequency interference, cable modems are not well suited as servers because the traffic is going "upstream". However the download speeds on cable modems when not congested can be wicked good.

A few things you'll notice in the near future:

AOL/Time Warner think "It's not the Connection that matters, it's the Content"

AOL is the McDonalds of the Internet (certainly not premium quality but convenient, well marketed, heavily-funded). Used to be that to use AOL's content, chat rooms etc., you had to use AOL's dial-up service. They do have numbers in most every city but the modem to user ratio was poor resulting in busy signals and slow-downs. (You may remember the horrible service when they went flat rate and a few million people signed on, flooding the system and delaying/denying access for millions more.)

In the wake of the AOL / Time Warner merger, the new entity has announced that the "content business" is more important to them the "connection business". In other words, they want to sell their content (Warner Brothers cartoons for example) and they don't really care how you connect. Users can pick most any ISP and connect to the AOL/Time Warner service via their DSL, Cable modem, T1, Dial-up, wireless, etc.

Yes Folks, Tacoma is a high-tech city

Click! Network in Tacoma is a unique and very practical case study for open access and the good that can come out of public/private partnerships. Along with Ashland, Oregon, this is the first of its kind. The city utility has spent {Dr. Evil Voice} "100 million dollars" to build out a state-of-the-art Fiber Optic Cable (Radio Frequency) network.

Designed to be a multi-purpose communications link, the wire is fiber-coax hybrid, quad-shielded for protection from the elements or stray electrical disturbances. The coolest is that they just want to be the utility, not the ISP. Hence they are partnering with various local ISPs to allow consumers a choice. Tacoma City will make money on this (they already have the lowest util rates around), the Consumers will have a

choice of Cable/Internet or both as well as a choice of ISP & programming and several local ISPs will have the opportunity to make some cake too.

Our local cities/county should look at this example and the Click! Network people would be happy to tell our policy-makers how to do it, how much it costs, how to build it, how to pay for it. Heck, one less reason to not move to Tacoma.

Qwest / USWest continue to be confused

Qwest USWest merger could do a few things, improve (or not un-improve) US West's service and make things weird for current Qwest long distance customers since customers in US West areas will not be able to use Qwest long distance.

The new company (they will probably come up with some weird new name, oh yeah "Qwest" is already weird) will make a lot of commercials explaining how this confusion is an improvement (and give away free caller id boxes to everyone they piss off along the way).

Perhaps many customers will switch to CLECs during this period (especially when you hear the US West execs who are quitting are getting like 20 million dollar bonuses).

Phone Company Mania

So you as a consumer may want to enjoy your new found freedom of choice. You have likely noticed billboards, trucks and newspaper ads for a few new CLECs in town. Some of these want to provide home dial-tone, some sell bundled package which may include dial-tone, DSL, long distance, webhosting, e-mail service all on one bill.

Whoa, sounds good but choose carefully, make sure they are "facilities-based" and have local humans to talk to if you have a problem. If you going to change, phone companies, you might as well improve your service and get your service

I guess you call them "Media Communications" companies

Right now, the Telephone, Cable and ISP industries are courting and trying to carve partnerships, market niche and race off to IPO so it is a little confusing with all the mergers and hype. That being said, the future looks pretty good for consumers and that is the important thing.

Yes Dave Olson does work for an ISP and has spent months trying to make sense of this kinda stuff. Usually he just asks his colleague Jay when the questions are really difficult. Dave uses a USWest DSL connection & phone line, a DirecTV satellite dish, and AT&T cable TV so he has myriad vested interest in Telco/Cable/ISP/Content companies all getting along so he can be entertained. He remains daveo@olywa.net.