

TELECOM CHOICE, VOICE & CONSUMER PROTECTION (with Proposals for Long-Term Solutions)

Pending legislation to speed competition in broadcast television lacks important consumer protections such as:

1. Build-out Requirements;
2. Public Service Connections;
3. USF Audits;
4. Public Access Programming;
5. Local Authority;
6. Dispute Resolution;
7. Rights Management; and
8. Network Neutrality.

The legislative process and net neutrality debate raises several consumer concerns, including:

1. Consumer Voice is inadequate;
2. Consumer Choice is inadequate;
3. Consumer Protections are inadequate;
4. Past Behavior implies future performance;
5. Stated Intent to tier, degrade and block;
6. Misinformation from industry front groups; and
7. Crippled Networks sell short our digital future

Recommended long-term solutions include:

1. Strengthen Consumer Protection;
2. Prohibit False and Deceptive Representations;
3. Offer Conditioned Tax Incentives;
4. Allow & Encourage Public Infrastructure;
5. Separate Content & Services from Transport; and
6. Promote R&D through small business grants.

PARTICIPANT COMMENTS for **Project #32527:**

Texas PUC Workshop on SB-5, Section 30, Study to Determine whether Title 2, Utilities code, of PURA (Public Utilities Regulatory Act) Adequately Preserves Customer Choice in Internet Enabled Applications Associated with Broadband Service (Network Neutrality)

Respectfully submitted by
Wayne Caswell, Founder CAZITech Consulting
2613 Salerno Place, Cedar Park, TX 78613
512-335-6073, wcaswell@austin.rr.com
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ABSTRACT: *The Texas legislature, in SB-5, Section 30, tasked the public utility commission (PUC) to do a study and determine whether Title 2, Utilities code, of PURA (Public Utilities Regulatory Act) adequately preserves customer choice in Internet enabled applications associated with broadband service. On June 13, 2006, the PUC held a public workshop to discuss the issues of network neutrality protections and choice and solicited further comment from participants.*

This paper, written by a consumer, offers PUC feedback from a consumer perspective, arguing that policy makers need to more actively seek outside input from individuals, small businesses, and organizations not represented by highly paid lawyers and lobbyists.

After a brief background introduction, the paper identifies eight important consumer protections left out of PURA and pending federal legislation. It then notes seven observations and concerns about the net neutrality debate and concludes with six recommendations for long-term solutions.

Attached as an appendix are highlighted sections of PURA with specific comments inserted.

ACKNOWLEDGMENTS: *The ideas presented in this paper are a compilation of the growing concerns of consumer advocates, and much of the text was extracted from other sources as noted in footnotes.*

BACKGROUND

The Telecom Act of 1996, which was enacted before the Mosaic web browser made the Internet a success, did not achieve its goals of increasing competition and reducing regulation. That's largely because policy makers heard a lopsided debate and believed in plans of big phone companies who later changed their plans after receiving regulatory concessions and public subsidies.

It's happening again as Congress debates important legislation that would decide who will control the Internet – consumers and producers in a competitive marketplace, or network owners in an anti-competitive marketplace.

This effort is driven by the consolidating telecom “industry,” including AT&T (now a combination of SBC, PacBell, Ameritech, SNET, Cingular, and soon BellSouth) and Verizon (which acquired Bell Atlantic, NYNEX, GTE, and soon MCI). The new legislation would give industry more subsidies and concessions and override many state laws and consumer protections.

Policy makers must avoid a knee-jerk rush to legislation that increases cable television competition without understanding the full impact of these proposals and finding ways to protect citizens and encourage economic development in the information

Author BIO

Since it's important to understand one's perspective and bias, these comments start with a BIO.

Wayne Caswell is a digital home visionary with extensive IT experience in development, systems engineering, marketing, and strategy. After 30 years at IBM, he founded CAZITech Consulting, an independent practice that helps organizations find and exploit new opportunities in broadband, wireless and home networking markets.

While at IBM, Wayne introduced the company to the emerging Home Systems industry, influenced strategy and product development, helped pioneer Residential Gateway concepts and standards, and guided worldwide marketing of an industry specification for wireless home networking that converged voice, data and entertainment networks. This experience contributed to a broad perspective on the convergence of telephone services, cable TV, satellite, terrestrial broadcast, wireless, consumer electronics, personal computing, and the Internet.

Wayne writes and speaks often, promoting BIG Broadband and his vision of gigabit-to-the-home. During the 2005 session, he successfully lobbied the Texas legislature to protect the rights of communities to install municipal networks and is currently serving on the FCC Consumer Advisory Committee in three working groups: (1) Advanced Technology, (2) Homeland Security, and (3) Rural & Underserved Populations.

Wayne has a BS degree in Technology Management from American University, lives in Austin, and is a member of the American Marketing Association, Association for Community Networking, Austin Wireless Alliance, CABA (Continental Automated Buildings Association), Society of Industry Leaders, Telecom ThinkTank, and World Future Society.

age. To avoid mistakes of past, they need a better vision of the future, more aggressive goals & objectives, balanced perspectives from “all” stakeholders, and a set connectivity principals.

The Internet

For as long as we’ve had the Internet, we’ve also had “local area networks,” or LAN’s, operated within a single company as private networks. Service providers aren’t prevented from offering very large LAN’s or networks of LAN’s with whatever proprietary content and applications they want, but that’s not the Internet.

If providers also want to offer Internet access as well their own services, they must adhere to protocols that were developed through an international consensus standards processes and should not be allowed to subvert that process or disguise their own service as the Internet to unsuspecting consumers.

The danger is that such providers, if they were the only viable choice for Internet access, would have the power to replace open Internet access with a “walled garden” containing only the parts of the Internet that they allow. And only those companies willing and able to pay would have access – or best access – to their subscribers.

If they wish to create private global networks to control and manage applications, they can enter into appropriate processes and work to develop appropriate standards, and some consumers may even prefer the more limited access of these private networks. But such networks must compete on their own merits and not at the loss of competition for open Internet access. That’s because Internet participants worldwide have come to assume that their traffic will be passed without interference through a set of globally developed standards called the Internet Protocol, or IP.

IP-layer neutrality, where routers treat bits from every type of application the same, is not just a property of the Internet; it “is” the Internet – a set of agreements (protocols) that enable networks to work together. The heart of IP is the agreement that all data packets will be passed through without regard to which application created them or what’s inside. This reliable, uniform treatment of packets is precisely what made the Internet a marketplace of innovation and so critical to our economy.

So, when policy makers seek to preserve network neutrality protections, they need not do so by “regulating the Internet,” as it would be difficult and unnecessary to legislate fundamental global protocols of Internet router behavior. Rather, it is far better to allow Internet-connected services and specially tailored private networks to compete freely in the marketplace, regulating those who would misrepresent them as “Internet” services or “Internet access.” This has the critical advantage of not allowing the international standards to be overridden by custom modifications. Without such standards, there is no competition or ability to connect between networks.

Thus, this paper recommends that policy makers enforce a prohibition on false and deceptive representations pertaining to “Internet access” while leaving innovative networks free to develop their own proprietary services, so long as their nature is not misrepresented. This approach will enable consumers to make informed comparisons among the Internet access being offered as distinct from other products and services offered by their Internet access providers, while assuring that anyone who purchases true Internet access will get what they bargained for – access to the global Internet, unfettered communications throughout the globe, and access by myriad competitors, individuals, advocates, and news sources whose products, services and communications can be made available to them on a level playing field.

Pending Legislation

On June 8, 2006, the U.S. House of Representatives passed COPE (Communications Opportunity, Promotion and Enhancement Act of 2006 – H.252), and the U.S. Senate is considering its own bill (Consumer Competition and Broadband Promotion Act – S.2686). There seems to be a rush to committee where the real work on a compromise bill would be done behind closed doors, favoring lobbyists with inside contacts over public benefits.

Texas and national telecom reform bills that include state and national TV franchise proposals were intended to speed telco competition in broadcast TV markets, but they left out many important consumer protections, including:

1. **Build-out Requirements** – Breaking from the cable TV tradition, telcos will be allowed to bypass low-income neighborhoods and high-cost rural

customers while serving easy to reach affluent customers, skimming easy profits while leaving competitors with low-value customers.

2. **Public Service Connections** – Telcos won't have to connect schools, hospitals, police & fire stations, and other essential government services, as local cable franchises required.
3. **Universal Service Fund Audits** – The USF concept is now being expanded to cover broadband Internet access but with funds going to the largest phone companies with no consumer protections or audit requirements. The FCC has already complained that it is so overwhelmed that it lacks the resources to perform audits on existing USF programs.
4. **Public Access Programming** – Laws requiring delivery of PEG (public, education & government) channels are being relaxed for telcos but remain for cable companies.
5. **Local Authority** – Municipalities will lose service provider regulatory authority and control over public rights-of-way (ROW) that they had with cable.
6. **Dispute Resolution** – The already overwhelmed FCC will be asked to assume responsibility for all consumer and antitrust complaints, removing this power from local authorities and slowing the resolution process. With non-elected officials in one government agency in charge, this could also let telco lobbyists gain more influence at the expense of public interests.
7. **Digital Rights** – A new rule would require future digital television (DTV) tuners to include "content protection" (aka DRM) technologies, watch for a "broadcast flag" embedded in programs by copyright holders, and demand that the devices be built so people can't modify them to enhance function. That would be like welding the car hood shut so owners can't enhance performance, and the result would limit individual innovation, products such as SlingBox, and the ability to move content from one type of device to another.
8. **Network Neutrality Protections** – Telco executives have already stated plans to degrade or block access to Web sites as they chose, for profit and for competitive advantage. If this were allowed to occur, it would threaten the fundamental nature of the Internet, which inspired so much innovation

and brought so much economic development to Texas, the nation, and the world.

The removal of net neutrality protections¹ might not be a problem were it not for the fact that consumers have little or no competitive alternatives to choose from – 98% of broadband is still provided by incumbent phone or cable companies, and 94% of U.S. households have no other choice. Wireless, satellite and BPL alternatives are suitable for the 10% of households with no broadband access but are no match for facilities-based phone and cable competition.

Network Neutrality protections have become such an important issue to consumers because of several observations and concerns, including:

1. **Consumer Voice** is inadequate;
2. **Consumer Choice** is inadequate;
3. **Consumer Protections** are inadequate;
4. **Past Behavior** implies for future performance;
5. **Stated Intent** to tier, degrade and block;
6. **Misinformation** from industry front groups; and
7. **Crippled Networks** sell short our digital future.

¹ For a great introduction to Net Neutrality, view the PBS Special on Net Neutrality at <http://www.savetheinternet.com/=videos>.

CONCERN #1 – Consumer Voice is Inadequate

Policy makers need perspectives from all stakeholders, but it's clear that PUC calls for public comment are aimed at industry and not consumers, arguably the most important stakeholder class.

Awareness

I was the only non-industry representative at the PUC workshop on June 13, 2006 and only learned of it because a friend at the PUC knew I was interested and knowledgeable of the issue. He sent me a "heads-up" note.

Workshop participants were asked to provide comments ahead of time, but that wasn't easy since even finding a copy of PURA proved extremely difficult. Regular consumers had no way of knowing of the PUC workshop and would not have been able to understand PURA's 417 pages of legalese.

As a consumer advocate, but with no formal legal training, I struggled through the PURA document and extracted relevant sections into just 11 pages, adding comments to highlighted points to show would be helpful or harmful to consumers. A copy of these markups is attached.

Complexity

Telecom is no longer just phone or TV service but has become a very complex mix of issues that will determine the future of the Internet, economic development, and competitiveness of our nation. Of the many stakeholders, some have more market power and lobby influence than others, which concerns consumer advocates who are fighting for an equal voice.

HandsOff.org

The telcos are spending millions of dollars a week on a campaign of misinformation, with print and TV ads inside the beltway to discredit legitimate consumer concerns. They've even funded fake consumer advocacy Web sites like handsoff.org. They are exploiting the problem of complexity and how few people outside of the telecom industry understand what's at stake.

Hands Off The Internet is an industry-funded coalition posing as a grassroots group to argue

against Net Neutrality protections. Their cute cartoons and noble sounding messages are intended to ridicule proponents of net neutrality protections and portray such protections as harmful. But for their real motivations, just follow the money.

SavetheInternet.com

The SavetheInternet.com coalition is a true grassroots, nonpartisan alliance of over 750 groups, over 6,000 bloggers, and more than a million concerned Americans who have joined together to protect Internet freedom and Network Neutrality protections. No corporation or political party funds the coalition. The group defines "Network Neutrality" as the guiding principle that preserves the free and open Internet – essentially the "First Amendment of the Internet" – and ensures that the public can view the smallest blog just as easily as the largest corporate Web site, by preventing Internet companies like AT&T from rigging the playing field for only the highest-paying customers.

CONCERN #2 – Customer Choice is Inadequate

Customer choice of which applications and content can be accessed over the Internet is especially important when there's little choice of how customers connect in the first place, and this is at the heart of the network neutrality debate. It's why this section will focus on the lack of broadband competition.

The markets for broadband Internet access are, by definition, not competitive. Both the U.S. Department of Justice and Federal Trade Commission consider markets with fewer than 10 equal-sized firms as concentrated and markets with fewer than six as highly concentrated.

If PURA includes language to protect consumers and encourage competition, then why is it that so many Texas CLECs and ISPs have been driven out of business and consumers left with inferior broadband service from a duopoly of cable companies and ILECs?

It's clear that anti-competitive market abuses have gone unchecked in the past and will likely continue without effective competition and adequate safeguards, and customer choice of competing services is far from adequate. In many cases, it's non-existent.

Policy makers should not rely on FCC figures showing 95% of U.S. zip codes with broadband. If DSL is on the other side of the zip code, consumers can't easily move over there. And if they want to be customers of a telco that doesn't give their call detail records to the NSA without a warrant, they can't just move to Qwest territory. They're stuck.

Carriers have also claimed that there's "inter-modal competition," but those arguments are weak since so few people have BPL (broadband over power line) or municipal Wi-Fi, and satellite is no match for landline competition. How many of us think our cell phone is a *competitive* way to access the Internet? Nearly zero percent.

The lack of effective competition is the primary reason U.S. broadband service has become the laughing stock of the world. The International Telecommunications Union reports that the U.S., which invented the Internet and once dominated high-speed access, has now fallen to 16th place in broadband adoption. That fall contributed to a loss of our 60-year lead in IT competitiveness, which fell in 2005 from #1 to #5, behind Singapore, Iceland, Finland, and Denmark.²

The FCC's decision last year to define broadband Internet access (and VoIP and IPTV) as an information service instead of a telecom service made matters worse by removing requirements that gave competitors access to incumbent wires at wholesale rates and eliminating long-standing consumer protections covering net neutrality.

From a consumer advocate perspective, whatever telecom reform eventually comes out of the Texas Legislature or Congress needs to promote robust competition in every city and town, and not just a shift from cable and phone monopolies to an Internet duopoly.

So far, legislators seem to have focused on TV competition, which most Americans understand. Now they need to address the Internet, where even techies are often confused by the implications of technical and business issues. This requires more thought, with insight from more stakeholders.

Market Forces Alone Won't Ensure Competitive Internet Choices

Policy makers know that the phone and cable industries are in trouble, with dieing business models that didn't keep up with technology and market innovations. If they are not sustainable in a network-neutral world, we have the option of (1) changing the demonstrably successful Internet so the telcos survive or (2) changing the demonstrably unsuccessful, non-competitive, non-innovative telcos so the Internet survives.

Each industry faces a natural conflict of interest with Internet applications that run across their networks. As they start offering triple play (or homerun) service bundles to lock in customers, they also have the means and incentive to block competitors and throttle bandwidth to make it scarce and justify high prices. So, it seems that market forces in a natural monopoly encourage regulatory gamesmanship and not competition.

How has industry reacted to telecom market forces? As telcos watch profit margins from phone services shrink, they're attracted by higher margins in the adjacent media business and want to leverage monopoly control over network infrastructure to siphon profits from the hard work of others and become media companies themselves rather than remain common carriers with a "dumb" pipe. This is fine except for the fact that their monopoly position removes incentives to do the hard work of creating compelling content that competes on its own merits. It's no wonder they oppose network neutrality consumer protections.

Incumbents Don't Want Competition.

While arguing against network neutrality and other consumer protections, these same companies keep trying to block competition from municipal networks. It is telling of their motives that Matt Davis, a broadband analyst with Yankee Group, has been urging the companies to work with, rather than oppose, municipal broadband networks, but they remain determined to block all competition, including the municipalities that want to partner with them.³

For over sixty years, telephone companies have had monopoly control over their network facilities and

² World Economic Forum's latest annual Global Information Technology Report (http://www.forbes.com/2005/03/09/cx_0309wef_print.html).

³ http://telephonyonline.com/ftp/news/Yankee_municipal_networks_090905/index.html

have been regulated as a monopoly, with strict rules prohibiting nondiscrimination to allow, for example, calls originating on one operator's network to connect with consumers on another network.

Likewise, cable companies were given monopoly control over their networks in local franchises. But the fact that these two industries are now allowed to compete with each other has only turned the two monopolies into one oligopoly while eliminating thousands of independent ISPs and hundreds of CLECs.

And for years, the phone and cable giants have been bombarding the FCC with lobbyists and lawyers for years to get rid of network neutrality protections, and the FCC first tried to take away these protections in 2002, but the courts reversed them. The companies and FCC kept appealing, and eventually the Supreme Court heard the matter in July 2005. In the case of *NCTA v. BrandX*, the Court ruled that the FCC had the authority to make the decision, good or bad, but said nothing about the merits of the case. And so it happened that, last August, the FCC was finally able to hand total control of network facilities to the phone and cable companies to do as they please.

So while it's true that regulated monopolies (roads, airports, sewers, water works, electric utilities) can work, deregulating them without in-place consumer protections is asking for trouble. Senate Judiciary Committee chairman Arlen Specter apparently agrees. In a briefing on June 14th, he said, "*There are very important antitrust issues involved and I believe it is appropriate for the Judiciary Committees of both the House and Senate to play a significant role in the formulation of the legislation. ... This is something we don't want to rush to judgment on.*"

CONCERN #3 – Consumer Protection is Inadequate

Incumbent carriers, like "wealthy Goliaths," spend more time and money protecting franchised services than innovating, and they have enough lawyers, time and money to drag out disputes and put "poor David" companies out of business.

They fight to eliminate consumer protections and argue that the FCC already has the authority to police abuse complaints, but the FCC wouldn't have to referee disputes if the laws prevented abuse in the first place, rather than forcing victims to seek after-the-fact remedies.

It's quite clear that the overwhelmed FCC is ill prepared to take on additional policing responsibility since they already lack sufficient staff to conduct USF audits.

Reliance on antitrust law would also provide little protection, if any.

"My view of antitrust law is that they make glaciers look like they are speeding," says Senator Byron Dorgan (D-ND). *"Antitrust law in this town is almost completely, thoroughly nonexistent."*

Even when found abusive and slapped with fines, punishment to date has been nominal enough to be viewed as a cost of doing business and provides little deterrent to future behavior.

Service providers should be forced to clearly define service level agreements, and if they don't live up to them, customers should be allowed to break long term contracts without penalty and switch to competitors while keeping their personal identity (phone numbers, email IDs, etc.). But, of course, that remedy only works when there's competitive choice at the physical layer.

CONCERN #4 – Past Behavior Implies Future Performance

Bruce Kushnick, Chairman of Teletruth, wrote a controversial book⁴, "[\\$200 Billion Broadband Scandal](#)," that chronicles past behaviors and should serve as a warning for promises being made today. Before handing over more subsidies and concessions and taking back historic consumer protections, the Bell companies (AT&T, BellSouth and Verizon) should have to explain why this time would be different than times before.

How can legislators and regulators hold the Bells accountable if things don't work out this time? What if the merged companies don't produce the "efficiencies" and price savings they promised? And what happens if rate deregulation doesn't lead to the promised competitive Nirvana of cheap broadband and cheaper telephone service?

The book, which is based on a 20-year analysis of phone company records and market and census data, exposes a pattern of "deceit, fraudulent data and gaming of the regulatory system using fake consumer

⁴ <http://www.newnetworks.com/Scandalrelease13006.htm>

groups, biased research firms and campaign-financed politicians to control everything from the FCC to Congress and the state legislatures and commissions, to vote for phone-company-financed laws that are not in the public interest.”

It is a micro-history of how the Bells promised to deliver 45 Mbps bi-directional fiber optic connections to 86 million households by 2006. The networks were to be open to all competitors and deployed equally to the rich and poor in rural, urban and suburban neighborhoods – all in exchange for public subsidies and regulatory concessions.

The Bells got the money, an estimated \$200 Billion (or \$2,000 per household), but they never delivered the high-speed networks.

So what happened to the money? Was it invested in mergers and acquisitions that further increased market power? Was this scandal a deliberate case of fraud or just naive optimism and a series of mistakes and mismanagement? In any event, Kushnick also estimates the economic impact of not having these promised networks to be about \$500 Billion per year, or \$5 Trillion since the 1996 Telecom Act was passed.

The Bells again say they plan to invest billions in network upgrades, but under the ruse of improving customer experience, more of those investments are going into systems that let them control content and applications (through IMS, deep packet inspection and other elaborate client server subsystems) than into infrastructure upgrades that improve overall bandwidth. In fact, they’ve been depreciating network facilities faster than investing in them.

CONCERN #5 – Stated Intent to Tier, Degrade and Block

During the June 13 workshop, PUC staffers asked for Texas examples of blocking or degrading service, but no one anticipated the question and prepared list of examples. But the issue is less about whether Texas abuses occurred or if PURA will prevent future abuse, but whether Congress will override state laws and allow discriminatory tiering, blocking, and downgrading in the future.

Allowable Discrimination

As a network analyst, I can accept legitimate reasons for tiering, such as giving 911 calls and security or

health monitor alerts priority over movie and file downloads. Likewise, the automatic blocking of viruses, denial of service attacks, and disagreeable spam, adware, phishing emails, or porn sites may be legitimate. But giving one video site preference over another, for example, should not be allowed.

Carriers argue that Internet TV could overload the networks and want to add quality-of-service (QoS) guarantees for premium customers, but others argue that facilities without fancy service mechanisms are much cheaper. The academic leasers of Internet2 found that plain old Gigabit Ethernet interfaces cost 1/10th of GigE interfaces with TV, Phone and Data "services" built in, and that adding bandwidth was more effective than adding QoS controls.

Abusive Discrimination

Incumbent carriers have the motive, means and opportunity to block application layer applications and content for competitive advantage, and they have done this before. So when several telco senior executives announced plans to give preferential treatment to favored Internet sites for profit or competitive advantage, a wide range of Internet users and designers objected and felt that it somehow violated the very meaning of the term “Internet.” Examples include:

- Phone customers paid twice for VoIP service when they couldn’t buy “naked” DSL, and Cable customers paid twice for alternate ISPs.
- In 2004, North Carolina ISP Madison River blocked their DSL customers from using rival VoIP services. As I understand it, the FCC was able to stop ILECs from blocking competing VoIP services but had no authority to stop independent ISPs.
- Comcast and Shaw, a major Canadian telecom company, downgraded the "quality and reliability" of competing VoIP services to drive customers to their own.
- In 2005, Canada's telephone giant Telus blocked customers from visiting a Web site sympathetic to the Telecommunications Workers Union during a contentious labor dispute.
- In April 2006, Time Warner blocked emails that mentioned www.DearAOL.com – an advocacy campaign opposing the company's pay-to-send e-mail scheme.

- Cox blocked Craigslist while promoting its own classified ads site.
- Claude King, who deploys VPN DSL service all over Florida with many carriers, described a common practice when customers ordered a line from a competitor of BellSouth. BellSouth would screw up or delay the order or downgrade performance so customers thought the independent ISP was at fault. This would continue until enough people complained or started switching to cable if available. Once complaints found their way to regulators, it was easy for BellSouth to just say “sorry” and fix the problems, but the damage to the competitor’s brand image was already done.

Potential Discrimination

Thousands of independent ISPs and hundreds of CLECs were strangled by abusive policies of incumbent network operators and driven out of business, costing tens of thousands of jobs and tens of billions of dollars. This anti-consumer, anti-competitive discrimination took place while its legality was being challenged, so if net neutrality protections are not reinstated and discrimination becomes legal, it will likely get far worse:

- **Search** – Google worries that AT&T would make a sweetheart deal with a competing search engine and give them better performance with access to the “fast lane.”
- **Innovation** – Startups and Entrepreneurs worry that they’ll be left in the “slow lane” with inferior Internet service, unable to compete and muscled out of the marketplace by big corporations that pay Internet providers for dominant placing on the Web.
- **Music** – Time Warner could slow access to iTunes and steer consumers to a higher-priced music service that it owns.
- **Politics** – Blocking opposing views or asking advocacy groups to pay “protection money” so their websites and online features work correctly could control political opinion.
- **Charities** – Nonprofit websites might open slowly and online contributions grind to a halt if nonprofits can’t pay for access to “the fast lane.”

- **E-Commerce** – Big companies could pay extra to guarantee their online sales process faster than smaller competitors, distorting consumer choice.
- **Personal Productivity** – Small businesses and tele-commuters wouldn’t be able to choose more affordable providers for online video, teleconferencing, Internet phone calls, and software that connects their personal computers.
- **Choice** – Consumers could be directed to preferred services for online banking, health care information, sending photos, planning vacations, etc. and left with few options.
- **Consumer Content** – The cost of posting and sharing video and audio clips that are more interesting than broadcast TV could skyrocket, silencing citizen journalists and putting more power in the hands of fewer corporate-owned media outlets.

Network operators already throttle performance of their networks, limit the upstream bandwidth, and include language in usage agreements to prevent individuals from producing and hosting content that competes with what their own services. By eliminating this practice, anyone with a \$250 camcorder would be able to create and send video programming, including every school classroom, church, scout troop, and civic organization.

CONCERN #6 – Misinformation From Industry Front Groups

Big telecom companies have spent more on lawyers, lobbyists, campaign contributions, and selective charity donations than investing in network upgrades. Their investment in developing personal relationships with legislators and regulators has paid off handsomely over the years for both sides.

The phone companies got most of the concessions and public subsidies they wanted; politicians got campaign contributions, and employees of the FCC and state public utility commissions got telecom job offers after “serving the public.”

No one disputes the value of personal and trusted relationships, but the line is crossed when information shared is intentionally misleading. A worrisome practice is the employment of “coin operated economists” from academic institutions that are paid to write reports to justify telecom positions. Also shady is the use of fake grass-roots (Astroturf)

organizations that hide their bias and funding source while seeming to act in the public's interest.⁵

Bells Accused of Wireless Spectrum Fraud

Teletruth exposed the use of fake fronts that allowed large telecom companies to bid on FCC wireless auctions as very small businesses to get valuable spectrum at discounted prices. The authors estimate that over \$8 Billion was pocketed through such deceptive practices.⁶

A full blown Congressional investigation is warranted, but the accusations alone should raise doubt about Bell company motives and business practices and serve as a warning to policy makers rewriting telecom law.

Network Neutrality Fact vs. Fiction

“Why Consumers Demand Internet Freedom: Network Neutrality Fact vs. Fiction”⁷ is a report written by Free Press, Consumers Union and the Consumer Federation of America that offers a point-by-point rebuttal of each of the major arguments made by opponents of Network Neutrality protections.

- **FACT 1: Network Neutrality protections have existed for the entire history of the Internet.** Opponents of Internet freedom pretend that Network Neutrality protections would mean new, onerous government regulations. But advocates of Network Neutrality are not promoting new regulations. We are preserving tried and tested consumer protections and network operating principles that have made the Internet the greatest engine of economic growth and democratic communication in modern memory.
- **FACT 2: Network discrimination through a “tiered Internet” will severely curtail consumer choice.** Network owners say discrimination will benefit consumers with higher-quality services. But winners and losers in

the content marketplace should be chosen based on the merits of a Web site or service, not the whims of the network owners. Without Network Neutrality protections, telephone and cable companies will have a strong financial incentive to distort the free market in favor of their own content and services.

- **FACT 3: Network discrimination will undermine innovation, investment and competition.** The genius of the Internet is that it always has allowed “innovation without permission.”¹ It has been a free marketplace of ideas where innovators and entrepreneurs rise and fall on their own merits. But on a “tiered Internet” without Network Neutrality protections, the upstarts and little guys will be at the mercy of the network owners to decide who can succeed or fail.
- **FACT 4: Network discrimination will fundamentally alter the consumer’s online experience by creating fast and slow lanes for Internet content.** Up to this point, the consumer has been the ultimate decision-maker online; the network owners simply transmitted data over the wires, regardless of its content. The network owners claim they won’t harm or degrade anybody else’s content in a world without Network Neutrality protections. But network prioritization is a zero-sum game. The fact is that every time one Web site is sped up, another must be slowed down.
- **FACT 5: No one gets a “free ride” on the Internet.** The network operators allege that if Network Neutrality protections are preserved, they won’t be able to build new, high-speed networks. This is a myth. With Network Neutrality, they’ll continue to generate revenues in the billions from monthly subscription fees, access rates from content producers (who already pay a fortune to get onto the network), and by competing in the free market with their own content and applications. Getting rid of Network Neutrality protections is just an attempt to extract monopoly rents from a new revenue stream.
- **FACT 6: Telephone companies have received billion of dollars in public subsidies and private incentives to support network build-out.** The phone companies say they should be able to do as they like with “their pipes.” But they ignore the billions of dollars in public

⁵ To better understand the pattern of telecom misinformation, visit <http://www.newnetworks.com/skunkworks101.html>. And for a list of other online resources discussing misinformation, visit http://www.cazitech.com/big_broadband_links.htm#Misinformation.

⁶ <http://www.newnetworks.com/wirelesscomplaint.htm>

⁷ http://www.freepress.net/docs/nn_fact_v_fiction_final.pdf offers more detail on each of these arguments and http://www.freepress.net/docs/roycroft_study.pdf offers an economic analysis of network neutrality.

subsidies and incentives they've received over the years that allow them to dig up public rights-of-way, build rural networks, and write off the depreciation of their wires. If they gave back even a fraction of the public money they've received, we could build fiber to every home in America.

- **FACT 7: There is little competition in the broadband market.** Network owners argue that Network Neutrality protections are unnecessary because there is plenty of competition for broadband access to deter bad behavior. But cable and DSL now dominate 98 percent of the broadband market (and a significant portion of the country has only a single broadband provider or none at all). If both the cable and phone companies are using their networks to discriminate, the consumer is trapped. There is nowhere else to go.
- **FACT 8: Consumers will bear the costs for network infrastructure regardless of whether there is Network Neutrality.** The network owners claim consumers will save money without Network Neutrality protections, because content providers will bear more of the delivery costs. But those costs will simply be passed on to consumers in the form of higher prices for consumer goods and Internet services. And with less competition on a "tiered Internet," the network owners will be able to raise their own prices with impunity. Higher prices, fewer choices and less competition are bad for consumers.
- **FACT 9: Investing in increased bandwidth is the most efficient way to solve network congestion problems.** There is more traffic flowing over the Internet every day. To avoid "traffic jams," network operators have two choices. They can increase the bandwidth to accommodate all content providers on an equal basis; or they can maintain scarcity and charge providers for the privilege of getting through the bottlenecks. Without Network Neutrality protections, phone and cable companies have an economic incentive not to relieve the congestion.
- **FACT 10: Network owners have explicitly stated their intent to build business models based on discrimination.** The Astroturf groups set up by the industry repeatedly claim that Network Neutrality is a solution in search of a

problem. But consumer advocates aren't imagining a doomsday scenario. In fact, the top executives of nearly every major telephone company have stated clearly in the pages of Business Week, the Wall Street Journal and the Washington Post that they intend to discriminate or degrade the content and services of their competitors who don't pay for a spot in the fast lane.

- **FACT 11: The COPE Act will not deter discrimination but will tie the hands of the FCC from preventing it.** The COPE Act's Network Neutrality provisions are inadequate to safeguard the Internet; deliberately impede clear enforcement mechanisms; and leave the network operators free to discriminate against consumers and content producers on the Internet. Legislation sponsored by Rep. Ed Markey in the House — and Sens. Olympia Snowe and Byron Dorgan in the Senate — offers clean and simple solutions to fix these problems.
- **FACT 12: Supporters of Network Neutrality protections represent a broad, nonpartisan coalition that joins right and left, commercial and noncommercial interests.** The campaign to preserve Network Neutrality protections is perhaps the most diverse set of public and private interests backing any single issue in Washington today. Hundreds of groups and hundreds of thousands of individuals from across the political spectrum are joining together to save this cornerstone principle of consumer choice and Internet freedom.

CONCERN #7 – Crippled Networks Sell Short Our Digital Future

Could it be that AT&T's Lightspeed and Verizon's FiOS are fronts designed to gain regulatory approval of additional acquisitions of Bell South and MCI, respectively? Consumer advocates aware of past misrepresentations and broken promises are concerned that the same behavior is repeating itself.

FiOS, and Lightspeed are inferior, crippled services that still can't compete with Asia's current services and may never be fully deployed. FiOS is up to 30 Mbps in one direction and cost \$199. Korea and Japan offer 100 Mbps in both directions for around \$40. In comparing the cost per-megabit, the US is

\$6.63 for FiOS, as compared to \$.34 to \$.41 cents in Korea and Japan.

Comparison Verizon's FIOS and DSL to South Korea and Japan

| | Price | Top Speed | Upstream | Cost/Mbps |
|-------|-------|-----------|------------|-----------|
| FiOS | \$199 | 30 Mbps | 2-5 Mbps | \$6.63 |
| DSL | \$18. | 768K | 128K | 23.42 |
| Korea | \$38 | 100 Mbps | 4-100 Mbps | \$.34 |
| Japan | \$41 | 100 Mbps | 35-100Mbps | \$.41 |

RECOMMENDED LONG-TERM SOLUTIONS

The following recommendations seek to avoid legislation that prohibit private network innovation or redefine the open Internet, by suggesting that both can, do, and should coexist.

1. Strengthen Consumer Protection
2. Prohibit False & Deceptive Representations
3. Offer Conditioned Tax Incentives
4. Allow Public Infrastructure to Encourage Competition and New Business Models
5. Separate Content & Services from Transport
6. Promote R&D Through Small Business Grants

They are derived from the work of:

- Seth Johnson and likeminded consumer advocates⁸ and
- The Information Technology and Innovation Foundation⁹, a bi-partisan think tank that sought a “Net neutrality compromise.”

SOLUTION #1 – Strengthen Consumer Protection

Require network operators to clearly define usage policies and service levels, and give customers a way out of contracts if providers don't live up to the agreements. Give the Federal Trade Commission authority to prohibit false and deceptive claims and punish anticompetitive behavior under antitrust law while leaving innovative networks free to develop

⁸ Internet Platform for Innovation Act (<http://www.dpsproject.com/legislation.html>).

⁹ <http://www.networkworld.com/news/2006/060106-think-tank-offers-net-neutrality.html?nlhtsrc=0602saralert1>

their own proprietary services, so long as their nature is not misrepresented.

This approach would enable consumers to make informed comparisons among the Internet access and proprietary services offered by their Internet access providers. It would also assure that anyone who purchases true Internet access will get what they bargained for – access to the global Internet, unfettered communications throughout the globe, and access by competitors, individuals, advocates, and news sources whose products, services and communications can be made available to them on a level playing field.

SOLUTION #2 – Prohibit False & Deceptive Representations

Any entity with “market power” engaged in interstate commerce that charges a fee for the provision of Internet access must in fact provide access to the Internet in accordance with the following definitions, regardless of whether additional proprietary content, information or other services are also provided as part of a package of services offered to consumers.

- “**Internet**” means the worldwide, publicly accessible system of interconnected computer networks that transmit data by packet switching using the standard Internet Protocol (IP), some characteristics of which include:

(1) Transmissions between users who hold globally reachable addresses, and which transmissions are broken down into smaller segments referred to as "packets" comprised of a small portion of information useful to the users at each transmission's endpoints, and a small set of prefixed data describing the source and destination of each transmission and how the packet is to be treated;

(2) Routers that transmit these packets to various other routers on a best efforts basis, changing routers freely as a means of managing network flow; and

(3) Said routers transmit packets independently of each other and independently of the particular application in use, in accordance with globally defined protocol requirements and recommendations.

- **“Internet Access”** means a service that enables users to transmit and receive transmissions of data using the Internet protocol in a manner that is agnostic to the nature, source or destination of the transmission of any packet. Such IP transmissions may include information, text, sounds, images and other content such as messaging and electronic mail.
- **“Broadband Internet Access”** – is a basic level of open, unmanaged access at least as fast as an evolving FCC measure. Charge the FCC with establishing minimum speed targets that are adjusted over time to catch up with or surpass other nations. The FCC should also monitor performance to those targets and stated usage policies. And any firm with market power not meeting these targets would be prohibited from calling their services “broadband.”

Bandwidth speed targets should be sufficiently aggressive to encourage continued investment in network infrastructure, prevent providers from throttling back performance of the open Internet to favor their private network services.

- 2 Mbps down & 256 Kbps up (through 2006)
- 10 Mbps down & 2 Mbps up (by YE 2007)
- 45 Mbps down & 10 Mbps up (by YE 2008)
- 100 Mbps down & 45 Mbps up (by YE 2009)
- 1 Gbps down & 100 Mbps up (by YE 2011)

What makes this schedule reasonable (or even conservative) is the fact that the Bells promised 45 Mbps in both directions back in 1992. The targets emphasize fiber and apply to incumbents with “market power” but not to neighborhood coffee shops providing Internet access. Since the coffee shop lacks market power, they would be allowed to advertise “broadband” without meeting the same rules as incumbents.

One can stretch the definition of a ‘provider’ beyond a cable company or ILEC operating a very large network and also include a manager of a community network, a LAN administrator, or a shop owner offering free Wi-Fi. They are all pathways to the Internet, and it seems reasonable for any of them to charge more for some classes of service or types of applications. If the coffee shop owner is unable to justify free Wi-Fi solely on the potential for selling more coffee, for example, he should be allowed to supplement the service with fees for promoting

certain Internet services. But then again, the shop doesn’t have broadband market power.

Likewise, if Verizon enters the TV market as a new competitive alternative to cable by building its own private network for IPTV and not offering Internet access, they should be able to set prices at market rates. But discrimination and net neutrality protections come into play when Verizon also offers Internet access over the same cable, because of its powerful position in that market. In the case of FiOS, Verizon uses one color spectrum for analog, digital and PPV television, and another color for voice, VoD and information services. That should not make them separate networks.

SOLUTION #3 – Offer Conditioned Tax Incentives

To promote private investment and public-private partnerships, allow organizations investing in broadband networks to expense new broadband investments in the first year instead of the current 15 years, as Japan, Korea and other nations have done. Allow consumers to deduct broadband expenses from their taxes. And extend the temporary moratorium on broadband taxes, but tie this and first-year expensing to company behavior.

Congress might even consider additional tax incentives if broadband Internet is 10* faster than FCC targets as encouragement for additional private investment.

SOLUTION #4 – Allow Public Infrastructure to Encourage Competition and New Business Models

New legislation should allow public ownership of infrastructure and encourage innovative experiments in public-private partnerships to build and operate competitive services across that infrastructure when the market has failed to produce at least three equal size competitors offering similar services.

Towns without competitive broadband Internet access alternatives have already installed municipal networks for economic survival, or to further economic development, to bridge the digital divide, to enhance public services, or to ensure homeland security. To understand their views, visit Deceptive

Myths About Municipal Broadband¹⁰, MuniWireless.com, or CAZITech.com for a list of other references.

AT&T, BellSouth, and Verizon only compete in markets where they own the wires and not with each other. It's too expensive for them to build overlay networks and then fight for market share when dominant competitors are entrenched.

The Bells compete only with cable companies, who also avoid competing with each other for the same reasons. So it's clear that market conditions alone are not enough to bring competition into broadband markets. Why?

Without a large enough market share and a high enough average revenue per user (ARPU), the overbuild ROI would be too small for profit-driven private companies. And the long time it would take to capture market share would make the payback period too long.

With these economics, public networks may be our only hope of breaking the duopoly and encouraging meaningful competition. That's because it's easier for municipalities to justify public works projects that benefit the public since they don't measure success by revenue and profit and can afford longer payback.

Incumbents that oppose municipal networks or public ownership of network infrastructure show their true colors – wanting "deregulation" until it threatens their monopoly, and then demanding regulation to protect their monopoly.

Their net neutrality arguments are eerily similar to municipal network arguments, even though cities build the roads and airports, not airlines and car manufacturers.

Imagine United Airlines owning the airport and limiting access to American, or Honda owning the roads and charging Ford for access. Wouldn't that be like a Verizon affiliate launching its own music download services and limiting access to iTunes?

The analogies and examples of successful public works projects go on and on.

SOLUTION #5 – Separate Content & Services from Transport

The nations that surpassed us in broadband adoption did so with national policies that promote broadband deployment and force network operators to run neutral networks. They rely on competition for content and services, unimpeded by network gatekeepers and toll collectors, to drive adoption. The U.S. electric power industry also works that way.

Electric utility deregulation separated power generation and retail services from transport, which was kept as a regulated monopoly since it didn't make sense to build multiple overlapping power grids across the same public ROW and connecting to the same premises. As a result, consumers can buy electricity (or gas) from any of a number of supplier companies that all feed power across the common power grid (or through a common pipe).

The telecom industry also relies on monopoly access to public ROW, preferential treatment awarded precisely because they are providing public utilities. So separating network transport services from content and application services could solve the net neutrality debate if they still want to abandon their "common carrier" responsibilities and also offer content and services.

With wholesale access to transport and IP-layer net neutrality protections, content and application services could compete as deregulated retail industries, but this may require breaking companies into regulated and deregulated parts or erecting Chinese firewalls between them.

"Common Carrier" is not a term that telcos like since they don't see much profit in managing a "dumb" pipe. The term generally refers to an organization that transports essential telecom services to the general public using its facilities, or those of other carriers. Other common carrier examples include airlines, railroads, bus lines, cruise ships, trucking companies, and post offices. Whether privately owned or operated by governments, they generally exist under a different regulatory regime that subjects them to different laws and taxation.

A common carrier can be treated as a public utility when it holds itself out to the public for hire to provide utility services, such as communication by radio like cellular telephone and satellite TV; telecommunication by wire such as telephone, cable TV and the Internet; transmission by physical

¹⁰

http://www.broadbandproperties.com/2005issues/may05issues/Jim_Baller_Ten_Myths.pdf

connection of supplies such as electricity, natural gas, water and sewer services, etc.¹¹

We already know what common carriage is; indeed we have the laws already written. All Congress need do is pass the same laws with some slight change in wording to make clear that the FCC is not allowed to get around the law by re-defining telecommunications provision as "information services".

And by separating content and application services from transport, greater opportunities would exist for companies to specialize in any core business they choose, thus giving consumers more freedom to match the best services to meet their needs.

SOLUTION #6 – Promote R&D Through Small Business Grants

To encourage networking technology innovation within the U.S., promote local research and development projects through small business grants aimed at the innovation that's occurring in small companies at the edge of the network, since so many of them are having trouble finding funding as investments move offshore.

A personal example comes from an early stage startup company I've been working with for free. ip optics™ was nominated as one of The World Economic Forum's Technology Pioneers because of its low cost gigabit-to-the-home technology¹², but the company may be forced to sell its patents. It would be a shame if another nation gets this key technology because ip optics was unable to find funding here.

Summary

Pending legislation to speed competition in broadcast TV lacks important consumer protections such as:

1. Build-out Requirements;
2. Public Service Connections;
3. USF Audits;
4. Public Access Programming;
5. Local Authority;
6. Dispute Resolution;
7. Rights Management; and
8. Network Neutrality Protections.

The legislative process and net neutrality debate raises several consumer concerns, including:

1. Consumer Voice is inadequate;
2. Consumer Choice is inadequate;
3. Consumer Protections are inadequate;
4. Past Behavior implied future performance;
5. Stated Intent to tier, degrade and block;
6. Misinformation from industry front groups; and
7. Crippled Networks sell short our digital future

Recommended long-term solutions include:

1. Strengthen Consumer Protection;
2. Define False and Deceptive Representations;
3. Offer Conditioned Tax Incentives;
4. Allow Public Infrastructure;
5. Separate Content & Services from Transport; and
6. Promote R&D through small business grants.

¹¹ http://en.wikipedia.org/wiki/Common_carrier

¹² <http://www.cazitech.com/G2Home/G2Home.htm> presents the author's vision of BIG Broadband and Gigabit-to-the-Home.

Excerpts from: **TEXAS PURA (PUBLIC UTILITY REGULATORY ACT)**

<http://www.puc.state.tx.us/rules/statutes/Pura05.doc>

Sec. 12.202. PUBLIC PARTICIPATION.

(a) The commission shall develop and implement policies that provide the public with a **reasonable opportunity to appear before the commission** and to speak on any issue under the jurisdiction of the commission.

WCaswell - How do general consumers hear about PUC hearings and industry petitions? I learned about this from a PUC analyst who knew of my role with the FCC Consumer Advisory Committee and my interest in Net Neutrality protections. There must be a better way to seek public comment.

Industry is far more aware of pending rulings than consumers, because they hire attorneys and policy analysts to follow such things, and because they are the likely ones requesting the rulings in the first place. The fact that Public Notices and comments are posted on the PUC does NOT mean consumers know anything about them, their existence, or their significance. This is made worse by deadlines for comments, the legalese of language that makes them difficult for most people to understand, and convoluted procedures for submitting comments. These obstacles actually discourage public comment, and I worry that the elderly and people using English as a second language have no voice at all. They are the ones needing consumer protection the most.

Sec. 13.064. PUBLIC HEARING.

(a) The office annually shall conduct a public hearing to assist the office in developing a plan of priorities and to **give the public, including residential and small commercial consumers, an opportunity to comment** on the office's functions and effectiveness.

Sec. 14.001. POWER TO REGULATE AND SUPERVISE.

The commission has the general power to regulate and supervise the business of each public utility within its jurisdiction and to do anything specifically designated or implied by this title that is necessary and convenient to the exercise of that power and jurisdiction.

Sec. 17.001. CUSTOMER PROTECTION POLICY.

(a) The legislature finds that new developments in telecommunications services and the production and delivery of electricity, as well as changes in market structure, marketing techniques, and technology, make it essential that customers have **safeguards** against fraudulent, unfair, misleading, deceptive, or anticompetitive business practices and against businesses that do not have the technical and financial resources to provide adequate service.

Sec. 17.003. CUSTOMER AWARENESS.

(a) The commission **shall promote public awareness** of changes in the electric and telecommunications markets, provide customers with information necessary to make informed choices about available options, and ensure that customers have an adequate understanding of their rights.

Sec. 17.004. CUSTOMER PROTECTION STANDARDS.

(a) All buyers of telecommunications and retail electric services are **entitled to:**

(1) **protection** from fraudulent, unfair, misleading, deceptive, or anticompetitive practices, including protection from being billed for services that were not authorized or provided;

(2) **choice** of a telecommunications service provider, a retail electric provider, or an electric utility, where that choice is permitted by law, and to have that choice honored;

(3) **information** in English and Spanish and any other language as the commission deems necessary **concerning rates**, key terms and conditions, and the basis for any claim of environmental benefits of certain production facilities;

(4) protection from **discrimination** on the basis of race, color, sex, nationality, religion, marital status, income level, or source of income and from unreasonable discrimination on the basis of geographic location;

(5) impartial and prompt **resolution of disputes** with a certificated telecommunications utility, a retail electric provider, or an electric utility and disputes with a telecommunications service provider related to unauthorized charges and switching of service;

(6) **privacy** of customer consumption and credit information;

(7) **accuracy of metering and billing**;

(8) bills presented in a clear, readable format and easy-to-understand language;

(9) **information** in English and Spanish and any other language as the commission deems necessary **concerning low-income assistance** programs and deferred payment plans;

(10) all consumer protections and disclosures established by the Fair Credit Reporting Act (15 U.S.C. Section 1681 et seq.) and the Truth in Lending Act (15 U.S.C. Section 1601 et seq.); and

(11) after retail competition begins as authorized by the legislature, programs provided by retail electric providers that offer eligible low-income customers energy efficiency programs, an affordable rate package, and bill payment assistance programs designed to reduce uncollectible accounts.

(b) The commission may adopt and enforce rules as necessary or appropriate to carry out this section, including rules for **minimum service standards** for a certificated telecommunications utility, a retail electric provider, or an electric utility relating to customer deposits and the extension of credit, **switching fees**, leveled billing programs, and termination of service and to energy efficiency programs, an affordable rate package, and bill payment assistance programs for low-income customers. The commission may waive language requirements for good cause.

***WCaswell** - Consumers need remedies to protect them from broken promises of service providers and the damage caused as a result. As I understand it, the Cellular Telecommunications & Internet Association (CTIA) wants the FCC to remove some of those remedies. Here's a personal example of why consumer protection should be increased, not reduced, and why when promises are broken, consumers should be allowed to terminate service contracts with no penalty while keeping their phone number, or their email ID in the case of broadband.*

Months after signing a service contract and shifting all long distance calls onto my pool of cellular minutes, signal strength in my neighborhood degraded dramatically. I complained to my carrier and told them that the increased number of dropped calls was hurting my home-based business. After several more complaints, I noticed a network engineer parked in front of my house testing signal strength, so I went out to talk to him. He confirmed my belief that two things contributed to my problem:

(1) Tower antennas serving the neighborhood were recently reconfigured to support nearby new business development, and

(2) New services like Internet access, photo sharing, and music downloads were consuming more bandwidth and in irregular patterns, sometimes leaving less capacity for voice calls, which was more noticeable when signal strength was low.

The carrier made these changes for its benefit, was unable to restore consistently strong signal strength at my house, and refused to provide a local device to amplify signal strength. Still, I was told I could not cancel without paying an early termination "penalty." As a result, we still have the same cellular service in our new home, but with even worse reception. But we now subscribe to VoIP as the only feasible option for home phone service since my wife got tired of going outside in her pajamas to stand on the car top with the phone held high in speaker-phone mode so her head wouldn't block the signal.

It's situations like this that should warrant contract termination while forcing the network operators to honor local number portability commitments, and it's why I support even stronger consumer protection when promises are broken.

Sec. 51.001. POLICY.

(a) Significant changes have occurred in telecommunications since the law from which this title is derived was originally adopted. To encourage and accelerate the development of a competitive and advanced telecommunications environment and infrastructure, new rules, policies, and principles must be formulated and applied to protect the public interest. Changes in technology and market structure have increased the need for minimum standards of service quality, customer service, and fair business practices to ensure high-quality service to customers and a healthy marketplace where competition is permitted by law. It is the purpose of this subtitle to grant the commission authority to make and enforce rules necessary to protect customers of telecommunications services consistent with the public interest.

(b) It is the policy of this state to:

- (1) promote diversity of telecommunications providers and interconnectivity;
- (2) encourage a fully competitive telecommunications marketplace; and
- (3) maintain a wide availability of high quality, interoperable, standards-based telecommunications services at affordable rates.

(c) The policy goals described by Subsection (b) are best achieved by legislation that modernizes telecommunications regulation by:

- (1) guaranteeing the affordability of basic telephone service in a competitively neutral manner; and
- (2) fostering free market competition in the telecommunications industry.

(d) The technological advancements, advanced telecommunications infrastructure, and increased customer choices for telecommunications services generated by a truly competitive market play a critical role in Texas' economic future by raising living standards for Texans through:

- (1) enhanced economic development; and
- (2) improved delivery of education, health, and other public and private services.

(e) The strength of competitive forces varies widely between markets, products, and services. It is the policy of this state to require the commission to take action necessary to enhance competition by adjusting regulation to match the degree of competition in the marketplace to:

- (1) reduce the cost and burden of regulation; and
- (2) protect markets that are not competitive.

(f) It is the policy of this state to ensure that high quality telecommunications services are available, accessible, and usable by an individual with a disability, unless making the services available, accessible, or usable would:

- (1) result in an undue burden, including unreasonable cost or technical infeasibility; or
- (2) have an adverse competitive effect.

(g) It is the policy of this state to ensure that customers in all regions of this state, including low-income customers and customers in rural and high cost areas, have access to telecommunications and information services, including interexchange services, cable services, wireless services, and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at prices that are reasonably comparable to prices charged for similar services in urban areas. Not later than November 1, 1999, the commission shall begin a review and evaluation of the availability and the pricing of telecommunications and information services, including interexchange services, cable services, wireless services, and advanced telecommunications and information services, in rural and high cost areas, as well as the convergence of telecommunications services. The commission shall file a report with the legislature not later

than January 1, 2001. The report must include the commission's recommendations on the issues reviewed and evaluated.

Sec. 52.001. POLICY.

(a) It is the policy of this state to protect the public interest in having adequate and efficient telecommunications service available to each resident of this state at just, fair, and reasonable rates. *[WCaswell – Some still only have dial-up, but these days, cable and DSL are not adequate. Texas should establish much more aggressive goals, such as 100+ Mbps symmetric bandwidth. See Bruce Kushnick's "The \$200 Billion Broadband Scandal" for examples of Bell company broken promises.]*

(b) The telecommunications industry, through technical advancements, federal legislative, judicial, and administrative actions, and the formulation of new telecommunications enterprises, has become and will continue to be in many and growing areas a competitive industry that does not lend itself to traditional public utility regulatory rules, policies, and principles. As a result, the public interest requires that rules, policies, and principles be formulated and applied to:

- (1) protect the public interest; and
- (2) provide equal opportunity to each telecommunications utility in a competitive marketplace.

Sec. 52.002. AUTHORITY TO REGULATE.

(a) To carry out the public policy stated by Section 52.001 and to regulate rates, operations, and services so that the rates are just, fair, and reasonable and the services are adequate and efficient, the commission has exclusive original jurisdiction over the business and property of a telecommunications utility in this state subject to the limitations imposed by this title.

(b) The commission's regulatory authority as to a telecommunications utility other than a public utility is only as prescribed by this title.

Sec. 52.004. COMMISSION MAY ESTABLISH SEPARATE MARKETS.

(a) The commission may establish separate telecommunications markets in this state if the commission determines that the public interest will be served. The commission shall hold hearings and require evidence as necessary to:

- (1) carry out the public purpose of this chapter; and
- (2) determine the need and effect of establishing separate markets.

(b) A provider determined to be a dominant carrier as to a particular telecommunications service in a market may not be presumed to be a dominant carrier of a different telecommunications service in that market.

Sec. 52.051. POLICY.

In adopting rules and establishing procedures under this subchapter, the commission shall:

(1) attempt to balance the public interest in a technologically advanced telecommunications system providing a wide range of new and innovative services with traditional regulatory concerns for:

- (A) preserving universal service;
- (B) prohibiting anticompetitive practices; and
- (C) preventing the subsidization of competitive services with revenues from regulated monopoly services; and

(2) incorporate an appropriate mix of regulatory and market mechanisms reflecting the level and nature of competition in the marketplace.

SUBCHAPTER C. TELECOMMUNICATIONS UTILITIES THAT ARE NOT DOMINANT CARRIERS

Sec. 52.106. QUALITY OF SERVICE REQUIRED.

The commission may require the quality of telecommunications service provided in a local exchange in which the commission determines that **service has deteriorated** and become unreliable to be adequate to protect the public interest and the interests of customers of that exchange. *[WCaswell – My cell phone example should apply.]*

Sec. 52.107. PREDATORY PRICING.

(a) The commission may enter an order necessary to protect the public interest if the commission finds by a preponderance of the evidence after notice and hearing that an interexchange telecommunications utility has:

- (1) engaged in **predatory pricing**; or
- (2) attempted to engage in predatory pricing.

[WCaswell – Calling features are a good example. In 1999, the Florida PUC found the profit margin on BellSouth's Call Waiting feature to be 48,680%. The company charged \$7.50 per month for Caller ID, which cost only \$0.22 to deliver – a profit margin of 3,264%.]

Sec. 53.001. AUTHORIZATION TO ESTABLISH AND REGULATE RATES.

(a) Except as otherwise provided by this title, the commission may establish and regulate rates of a public utility and may adopt rules for determining:

- (1) the classification of customers and services; and
- (2) the applicability of rates.

Sec. 54.001. CERTIFICATE REQUIRED.

A person may not provide local exchange telephone service, basic local telecommunications service, or switched access service unless the person obtains a:

- (1) **certificate** of convenience and necessity;
- (2) certificate of operating authority; or
- (3) service provider certificate of operating authority.

[WCaswell – Should not apply if avoiding switched access, such as P2P VoIP.]

Sec. 54.003. EXCEPTIONS TO CERTIFICATE REQUIREMENT FOR CERTAIN SERVICES.

A telecommunications utility is **not required to obtain a certificate** of convenience and necessity, a certificate of operating authority, or a service provider certificate of operating authority for:

- (1) an **interexchange** telecommunications service;
- (2) a **nonswitched** private line service;
- (3) a **shared tenant** service;
- (4) a **specialized communications common carrier service**; *[WCaswell – ???]*
- (5) a **commercial mobile service**; or

[WCaswell – Why differentiate wireless & wired? Does this apply to VoWiFi?]

- (6) an operator service as defined by Section 55.081.

Sec. 54.158. INTERFERENCE WITH RESOLD SERVICES PROHIBITED.

An incumbent local exchange company may not:

- (1) delay providing or maintaining a service provided under this subchapter;
- (2) degrade the quality of access the company provides to another provider;
- (3) impair the speed, quality, or efficiency of a line used by another provider;
- (4) fail to fully disclose in a timely manner after a request all available information necessary for a certificate holder to provide resale services; or
- (5) refuse to take a reasonable action to allow a certificate holder efficient access to the company's ordering, billing, or repair management system.

[WCaswell – This directly applies to NET NEUTRALITY.]

SUBCHAPTER E. MUNICIPALITIES

Sec. 54.201. CERTIFICATION PROHIBITED.

The commission may not grant to a municipality a:

- (1) certificate of convenience and necessity;
- (2) certificate of operating authority; or
- (3) service provider certificate of operating authority.

Sec. 54.202. PROHIBITED MUNICIPAL SERVICES.

- (a) A municipality or municipal electric system may not offer for sale to the public:

[WCaswell – This no longer includes municipalities working through a 3^d party partner, opening the municipal wireless and muni-fiber option. There seems to be no restriction of wholesaling services.]

- (1) a service for which a certificate of convenience and necessity, a certificate of operating authority, or a service provider certificate of operating authority is required; or
- (2) a nonswitched telecommunications service used to connect a customer's premises with:
 - (A) another customer's premises within the exchange; or
 - (B) a long distance provider that serves the exchange.

(b) Subsection (a) applies to a service offered either directly or indirectly through a telecommunications provider. *[WCaswell – Does this contradict what I noted above?]*

(c) This section may not be construed to prevent a municipally owned utility from providing to its energy customers, either directly or indirectly, any energy related service involving the transfer or receipt of information or data concerning the use, measurement, monitoring, or management of energy utility services provided by the municipally owned utility, including services such as load management or automated meter reading.

[WCaswell – This entire section is completely different than what I remember being passed in SB5, and I wonder if any of the municipal network advocates know about it.]

Sec. 54.205. LEASE OF FIBER OPTIC CABLE FACILITIES.

Nothing in this subchapter shall prevent a municipality, or a municipal electric system that is a member of a municipal power agency formed under Chapter 163 by adoption of a concurrent resolution by the participating municipalities on or before August 1, 1975, from leasing any of the excess capacity of its fiber optic cable facilities (dark fiber), so long as the rental of the fiber facilities is done on a nondiscriminatory, nonpreferential basis.

Sec. 54.204. DISCRIMINATION BY MUNICIPALITY PROHIBITED.

- (a) Notwithstanding Section 14.008, a municipality or a municipally owned utility may not discriminate against a certificated telecommunications provider regarding:

- (1) the authorization or placement of a facility in a public right-of-way;
- (2) access to a building; or
- (3) a municipal utility pole attachment rate or term.

(b) In granting consent, a franchise, or a permit for the use of a public street, alley, or right-of-way within its municipal boundaries, a municipality or municipally owned utility may not discriminate in favor of or against a certificated telecommunications provider regarding:

- (1) municipal utility pole attachment or underground conduit rates or terms; or
- (2) the authorization, placement, replacement, or removal of a facility in a public right-of-way and the reasonable compensation for the authorization, placement, replacement, or removal regardless of whether the compensation is in the form of:
 - (A) money;
 - (B) services;
 - (C) use of facilities; or
 - (D) another kind of consideration.

(c) A municipally or a municipally owned utility may not charge any entity, regardless of the nature of the services provided by that entity, a pole attachment rate or underground conduit rate that exceeds the fee the municipality or municipally owned utility would be permitted to charge under rules adopted by the Federal Communications Commission under 47 U.S.C. section 224(e) if the municipality's or municipally owned utility's rates were regulated under federal law and the rules of the Federal Communications Commission. In addition, not later than September 1, 2006, a municipality or municipally owned utility shall charge a single, uniform pole attachment or underground conduit rate to all entities that are not affiliated with the municipality or municipally owned utility regardless of the services carried over the networks attached to the poles or underground conduit.

(d) Notwithstanding any other law, the commission has the jurisdiction necessary to enforce this section.

Sec. 54.205. MUNICIPALITY'S RIGHT TO CONTROL ACCESS.

This title does not restrict a municipality's historical right to control and receive reasonable compensation for access to the municipality's public streets, alleys, or rights-of-way or to other public property.

Sec. 54.206. RECOVERY OF MUNICIPAL FEE.

(a) A holder of a certificate of convenience and necessity, a certificate of operating authority, or a service provider certificate of operating authority has the right to collect a fee that a municipality imposes under Section 54.204 or 54.205 through a pro rata charge to the customers in the boundaries of the municipality.

(b) The charge may be shown on the customer's bill as a separate line item.

Sec. 55.001. GENERAL STANDARD.

A public utility shall furnish service, instrumentalities, and facilities that are safe, adequate, efficient, and reasonable. *[WCaswell – Again, dial-up Internet access is not adequate, and neither is DSL or cable. And the rates are not reasonable, at least not compared with other nations.]*

Sec. 55.002. COMMISSION AUTHORITY CONCERNING STANDARDS.

The commission, on its own motion or on complaint and after reasonable notice and hearing, may:

- (1) adopt just and reasonable standards, classifications, rules, or practices a public utility must follow in furnishing a service; *[WCaswell – Why can't the PUC set performance standards?]*
- (2) adopt adequate and reasonable standards for measuring a condition, including quantity and quality, relating to the furnishing of a service;

(3) adopt reasonable rules for examining, testing, and measuring a service; and

(4) adopt or approve reasonable rules, specifications, and standards to ensure the accuracy of equipment, including meters and instruments, used to measure a service.

Sec. 55.014. PROVISION OF ADVANCED TELECOMMUNICATIONS SERVICES.

(a) In this section, "advanced service" means any telecommunications service other than residential or business basic local exchange telephone service, caller identification service, and customer calling features.

(b) This section applies to a company electing under Chapter 58 or a company that holds a certificate of operating authority or service provider certificate of operating authority.

(c) Notwithstanding any other provision of this title, beginning September 1, 2001, a company to which this section applies that provides advanced telecommunications services within the company's urban service areas, shall, on a bona fide retail request for those services, provide in rural areas of this state served by the company advanced telecommunications services that are reasonably comparable to the advanced services provided in urban areas. The company shall offer the advanced telecommunications services:

(1) at prices, terms, and conditions that are reasonably comparable to the prices, terms, and conditions for similar advanced services provided by the company in urban areas; and

(2) within 15 months after the bona fide request for those advanced services.

(d) Notwithstanding any other provision of this title, a company to which this section applies shall, on a bona fide retail request for those services, offer caller identification service and custom calling features in rural areas served by the company. The company shall offer the services:

(1) at prices, terms, and conditions reasonably comparable to the company's prices, terms, and conditions for similar services in urban areas; and

(2) within 15 months after the bona fide request for those services.

(e) This section may not be construed to require a company to:

(1) begin providing services in a rural area in which the company does not provide local exchange telephone service; or

(2) provide a service in a rural area of this state unless the company provides the service in urban areas of this state.

(f) For purposes of this section, a company to which this section applies is considered to provide services in urban areas of this state if the company provides services in a municipality with a population of more than 190,000.

(g) Notwithstanding any other provision of this title, the commission has all jurisdiction necessary to enforce this section.

(Added by 1999 Amendments: SB 560, § 20)

SUBCHAPTER F. GENERAL INFRASTRUCTURE COMMITMENT

Sec. 58.201. STATEMENT OF STATE GOAL.

(a) It is the goal of this state to facilitate and promote the deployment of an advanced telecommunications infrastructure to spur economic development throughout this state. This state should be among the leaders in achieving this objective.

(b) The primary means of achieving this goal is through encouraging private investment in this state's telecommunications infrastructure by creating incentives for that investment and promoting the development of competition.

(c) The best way to bring the benefits of an advanced telecommunications network infrastructure to communities in this state is **through innovation and competition** among all the state's communications providers. Competition will provide residents of this state with a choice of telecommunications providers and will drive technology deployment, innovation, service quality, and cost-based prices as competing firms try to satisfy customer needs. *[WCaswell – Municipalities can and should be competitors, especially when no real competition exists.]*

Sec. 58.202. POLICY GOALS FOR IMPLEMENTATION.

In implementing this subchapter, the commission shall consider this state's policy goals to:

- (1) ensure the availability of **the widest possible range of competitive choices** in the provision of telecommunications services and facilities;
- (2) **foster competition and rely on market forces where competition exists** to determine the price, terms, and availability of service;
- (3) **ensure the universal availability** of basic local telecommunications services at reasonable rates;
- (4) encourage the **continued development and deployment** of advanced and reliable capabilities and services in telecommunications networks;
- (5) ensure **interconnection and interoperability**, based on uniform technical standards, among telecommunications carriers;
- (6) **eliminate unnecessary administrative procedures that impose regulatory barriers** to competition and ensure that competitive entry is fostered on an economically rational basis;
- (7) ensure **consumer protection and protection against anticompetitive conduct**;
- (8) regulate a provider of services **only to the extent the provider has market power** to control the price of services to customers;
- (9) encourage **cost-based pricing** of telecommunications services so that consumers pay a fair price for services they use; and *[WCaswell – Florida's Caller ID example was exploitive.]*
- (10) subject to Subchapter C, develop appropriate **quality of service standards** for local exchange companies so as to place this state among the leaders in deployment of an advanced telecommunications infrastructure.

CHAPTER 66. STATE-ISSUED CABLE AND VIDEO FRANCHISE

Sec. 66.002. DEFINITIONS.

In this chapter:

- (2) "Cable service" is defined **as set forth in 47 U.S.C. Section 522(6)**.

[WCaswell – Here's an example where consumers just can't follow along. What about an individual who offers IPTV programming from his home, or a school classroom, church, or civic group? 'Need clarification on this definition.]

- (3) "Cable service provider" means a person who provides cable service.

(C) For purposes of this definition, a provider's network consists solely of the optical spectrum wavelengths, bandwidth, or other current or future technological capacity used for the transmission of video programming over wireline directly to subscribers within the geographic area within the municipality as designated by the provider in its franchise.

Sec. 66.003. STATE AUTHORIZATION TO PROVIDE CABLE SERVICE OR VIDEO SERVICE.

(a) **An entity or person seeking to provide cable service or video service in this state after September 1, 2005, shall file an application for a state-issued certificate of franchise authority with the commission as required by this section.** An entity providing cable service or video service under a franchise agreement with a

municipality is not subject to this subsection with respect to such municipality until the franchise agreement expires, except as provided by Section 66.004. *[WCaswell – Need to clarify definition of cable service.]*

Sec. 66.009. PUBLIC, EDUCATIONAL, AND GOVERNMENTAL ACCESS CHANNELS.

(a) Not later than 120 days after a request by a municipality, the holder of a state-issued certificate of franchise authority shall provide the municipality with capacity in its communications network to allow public, educational, and governmental (PEG) access channels for noncommercial programming.

[WCaswell – Once anyone with a \$250 video camera can produce and host video programming, we won't need PEG channels. Today, network operators throttle back their upstream bandwidth to prevent this, since they fear competition from potentially more entertaining content. My RoadRunner service, for example, is 4-5 Mbps down and less than 384K up. That severely limits the quality of telepresence and apps like distance learning, telework, telemedicine, etc.]