Video Dial Tone - Will Anyone Come
to a Common Carriage Party.

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Regulators need to address the question of the telcos' role in video distribution to the home. This question has been fought hardest on the issue of whether fiber to the home can be economically viable as part of network evolution.

The issue of telcos delivering video is usually presented as an issue of whether to allow Regional Bell Operating Companies (RBOCs) into video services. In other words, should the conduit provider also provide content? To look at it this way muddies the waters. The core issue is not RBOCs and information services, but rather common carriage versus private carriage — specifically, can providers of content be assured access to the conduit. Video dial tone means basically a common carrier arrangement.

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[1] The views expressed herein are not that of the New York State PSC or of Columbia University.

1

This is not an obvious way to go. Cable companies are basically private carriers, not common carriers. They carry a few access obligations at the margin that make them a slightly common carriers for certain types of services. On the other hand, telcos have always been common carriers, which means that they must provide service on a nondiscriminatory basis to all lawful users and usages.

Today, however, we are in the midst of the celebrated convergence in which individualized media (telephone) and mass media (cable) are increasingly overlapping technologically. This raises the question about the regulatory status of these services.

Traditionally, these are three regulatory models for communications services: Common carriage, the broadcast model, and the print model. The question is whether future video services by telcos should be treated as a common carrier, a video publisher, akin to the print press with full First Amendment rights, or whether they are licensed like broadcasters and cable companies, enjoying substantial First Amendment rights but subject to some limited control over content.

Telcos find the private carrier model attractive despite their history as common carriers because if would allow them to shape the packages of programs to sell to customers. They argue that without program control their huge investments in fiber are too

risky because the only programs that might be offered on a common carrier basis could be "Ugly George's Sex Hour" and "Jim Bakker's Heavenly Ministry" for example.

On the other hand, opponents fear the telco's control over programming. They believe there is room for only one fiber to the home, which suggests a future when telcos would control both the conduit and the content.

This is also the telco's self-image or future vision: to become a super pipe that does everything. This includes not only data and voice, but also text and video programming. Telcos are promoting this scenario in Washington. Most people seem to believe that there will be only room for one broadband network in the future. Perhaps because everybody agrees with it, we should be suspect of this approach.

Unless one is blind to the institutional reality of telcos, one must recognize that this is not in fact the direction things are going. There is an increasing diversification of institutional communications providers and various ways telecommunications services are provided to users. As a result, the question is not "will telcos dominate in the future." This approach to the future sees only a single network. Yet the future network is really a collaboration or confederation or interaction of various telecommunication services. We should not expect a single super

3

pipe. Technical integration of networks must accommodate
institutional diversification.

The network of the future would include simple narrow-band ISDN,
but that is only one dimension of integration. There is Open
Network Architecture (ONA), which is not normally understood as a
force for integration, but in fact integrates traditional and
newer, narrow band service providers. What I call I^2SDN or the
doubly integrated network joins the two integrations across
services and across carriers. Next, there is the Integrated
Broadband Network, or IBN, which is essentially a super pipe
including video. IBN is normally premised on the unrealistic,
hardware-oriented blueprint based on a single monopoly network
provider. In that scenario, cable TV withers away. That
assumption is unrealistic, however: cable TV will not simply
wither, either technically or economically. Instead the IBN will
be required to integrate the various narrow and broad band media.
And this gets us to the triply integrated network environment of
the future, I^3SDN.

This becomes apparent if we move away from the hardware-oriented
model and conceptualize a network consisting of software and
hardware. Every element of the network can be mapped in this
model along a horizontal axis for hardware, such as central
office, local loop, etc., and a vertical axis for software
hierarchy. This map can accommodate television as well as

telecommunications.

For example, on the right is "program production," on the left is
"consumer segment," and in between there are various transmission
media, such as local TV, satellite and cable. These media are
connected to program providers by various supply arrangements.
The tendency in recent years has been toward various forms of
integration. For example, Sony and Matsushita from Japan have
initiated an integration of program and hardware from the two
sides of this model. TCI came from the center, transmission
media, and is now branching out into programming provision.
Others such as Time-Warner come from the program end and are
moving left.

Telecommunications shows similar characteristics. It also has
content production, which includes information processing and
electronic publishing, with transmission on different pathways,
whose number is rapidly growing, such as LAN, MANS, etc. On the
other side is terminal equipment such as fax machines,
microcomputers, etc. Almost all of this map used to be occupied
by AT&T. In recent years, however, new suppliers and providers
have been entering the market at an increasing rate. The key
issue is how those various new suppliers access and interconnect
with each other. Many of the most important regulatory decisions
of the last two decades can be framed in interconnection terms,
whether they refer to car phones, AT&T divestiture, etc. Similar

issues exist for the broadcast television industry.

In the past up to today, the TV universe and the telecom universe were separate because regulators kept them apart. This will change radically, and soon, because cable TV will be able to offer telecommunication services. There is a potential for leased lines, switched lines, and concentration of traffic to be moved and bypassed services to be moved to points of presence with interexchange characteristics. Traffic could be moved to a local exchange company.

The implication is that these two sectors will increasingly overlap each other. This is essentially the problem for regulators: how to make sense and efficiency out of all this mess. The key issue is to establish interconnection points within the network placed in such a way so as to establish a system of modularity. Any number of various providers should be able to interact, while charges could be established for transmission from one module to another. The principal regulatory problem is how to deal with the relation of the modules with each other. Key issues will include software inter-operability, privacy, etc.

In the 1990's, the regulatory priorities will shift from entry and competition (though these are still going to be important) to issues of integration and how to fit all the pieces of the

network environment together.

This raises the significance of common carriage principles in a modularized network system. One could defend modularization on free speech grounds and apply the First Amendment in telecom. The main argument is that it is the flow of information in such a complex network that is at stake. The general trend towards private forms of networks (i.e., not non-public, but non-general or not open), begins to create problems for the distribution of information.

For example, Columbia University, a private university, runs its own private telephone system. It dictates the rates and services and could discontinue service to a radical political group if it chose. Similarly, a major videotex service, Prodigy, prohibits its users from discussing politics, Prodigy, or Prodigy's competitors. If you do, your message gets erased and your account may be closed. In effect, petty monopolies are emerging, unencumbered by the protections built into the network by law, custom, and public regulation.

The problem with such restrictiveness is not so much the effect on direct users; this could be dealt with by market forces and by users moving to other networks. The major problem is the cumulative drag on the free flow of information. If each segment operates with its own test of acceptable content, the overall

impact is one of frequent bottlenecks. Either there must be a content test like censorship at each interface point, which creates major transaction costs and inefficiencies, or the most restrictive rule applies to the entire system, in which case the entire convoy is governed by its slowest ship. Either case is inefficient.

The alternative is to look by analogy at the rule of legal tender, or commercial paper, where the flow of commerce is deemed to be more important than the peculiarities of each individual transaction. Similarly, free flows of information must be maintained in society to facilitate the entire system.

We do have common carriers and private carriers. I am not suggesting that we change rules in mid-stream. I am suggesting that we develop a means to accommodate both.

Similar to easements and rights of way in real property, we could establish common carrier pathways or rights-of-way from the various modules that interconnect. We can have private networks, which the owners control. Public networks provide some private networks. The key is that private networks cannot block common carriage through traffic. For example, cable TV networks would have to permit an easier way into their leased network systems so that one could interact with other forms of networks. This approach does not negate the existence of some non-common carrier

video over telco. In other words, there could be both common carriage and non-common carriage video channels next to each other on telco conduit as long as common carriage was adequately provided.

In my view, the protection of common carriage is essential to the well functioning of a future integrated network confederation. The suggestion that common carriage should be sacrificed in order to insure the viability of the fiber conduit is not helpful because it kills one of the strong points of a fiber broadband telco service. By opposing common carriage, telcos create political opposition and assure that their conduit function, their infrastructure function, is opposed. The political result is that they will limit their conduit function in video, too.

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