



CIRF

**Converging Industries Research
Foundation**

Practical Solutions for Communications Policy

**Breaking the Mold:
Changing Policies to Meet Customer Needs**

July 26, 1993

*Presentation at the July 1993 NARUC Meeting,
San Francisco, CA*

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Project Information

**Telecommunications Industries Analysis Project:
Breaking the Mold:
Changing Policies to Meet Customer Needs**

Carol Weinhaus, Teresa Ralston, Mark Jamison, et al.
July 25, 1993.

The Telecommunications Industries Analysis Project is associated with the Center for Telecommunications Management at the University of Southern California School of Business Administration.

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List of Participants in the Telecommunications Industries Analysis Project, 1993

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State Regulators	NARUC representatives from: Iowa Utilities Board New York Public Service Commission Washington Transportation Commission
Regional Holding Companies	Ameritech Bell Atlantic NYNEX Pacific Telesis Southwestern Bell U S WEST
Large Independents	GTE Sprint Local Telecom Division Anchorage Telephone Utility
Small Telephone Company Representatives	OPASTCO NTCA
Interexchange Carriers	AT&T Sprint
Cable Television	Tele-Communications, Inc.
Foreign Domestic	NTT America
Switch Manufacturers	Northern Telecom
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List of Acronyms

ARPA	Advanced Research Projects Agency
CallerID	Caller Identification
CAP	Competitive Access Provider
CATV	Cable Television
DOD	Department of Defense
DOJ	Department of Justice
FCC	Federal Communications Commission
IXC	Interexchange Carrier
LATA	Local Access and Transport Area
LEC	Local Exchange Carrier
MFJ	Modification of Final Judgement
NSA	National Security Agency
OSTP	Office of Science and Technology Planning
PC	Personal Computer
PMR	Private Mobile Radio
PUC	State Public Utility Commission
RBOC	Regional Bell Operating Company
REA	Rural Electrification Administration
U.S.	United State

I. Introduction.

Introduction

This paper discusses how government oversight of communications industries might be changed to meet customer needs. New technologies are evolving and blurring traditional boundaries among industries that resulted from distinct technologies – offset press (publishing), telephone (long distance and local exchange), broadcast (radio, television, cable television), and computer (computer hardware and software). Furthermore, service definitions are blurring as various companies form hybrids across traditional boundaries. New technologies are giving individual customers greater choice.

Government policies that apply to the various communications industries no longer match the realities of technology and industry structures.¹ As a result, customer needs and government objectives may not be met. Government policies need a new paradigm.

This paper describes some policy approaches that might better serve the customer. Each of the next five sections describes a policy stakeholder, each facing a specific issue that arises when the focus shifts to customer needs:

- Section II: What are the Policy Objectives?

Competitiveness and Meeting Customer Needs

An analyst in the federal government examines communications policy changes that will keep the United States (U.S.) competitive in world markets. His vision is to create a domestic environment that responds rapidly to customer needs so that U.S. companies stay ahead of their foreign competitors. He develops objectives for universal service and new technologies in the context of the new competitive market place.

- Section III: Who will Provide the Services?

Market Structure

An operations manager with an interexchange carrier (IXC) is asked to produce a low price for a service requested by a customer. The customer requires nationwide services with a ubiquitous local service component. The manager works through problems and options associated with linking both IXC and local markets – local exchange company (LEC), cable television (CATV), competitive access provider (CAP), and cellular. This includes alternative policies for allowing services to transcend current regulatory boundaries.

¹Carol Weinhaus, Mark Jamison, Terry Monroe, et. al., *Square Pegs and Round Holes: Mismatches Between Government Policies and Converging Communications Markets*, Telecommunications Industries Analysis Project, Boston, MA, April 16, 1993, Figure 6, page 7.

I. Introduction, cont.

- Section IV: How will Prices be Determined?

Regulated Pricing in a Dynamic Market

The owner of a CATV company needs to produce new prices as mandated by the 1993 Cable Act. The owner must reconcile how to run an entrepreneurial business that is partly subjected to regulation on both local and federal levels.

- Section V: What will be the Regulatory Process?

Process Delays

The owner of a computer company develops a product that manages and delivers data and video effortlessly. This product needs telephone company services, but barriers make this difficult. She examines the barriers and decides to change her product. These barriers include legal processes, monopolies, and franchises.

- Section VI: Tying the Pieces Together

Some Guiding Principles for Resolving Communications Policy Issues

A state utility commissioner faces the problem of tying together the issues raised in the previous sections. Her policy objectives are simple and direct, but the current regulatory structures are so interconnected that she cannot address her concerns without affecting other pieces. She develops guiding principles for resolving the policy issues she faces.

The conclusion (**Section VII**) describes the need to start a process for changing the current policy structures.

In addition, there are appendices. **Appendix A** contains an expanded list of issues in communications. **Appendix B** is an expanded list of alternative policies.

This paper presents potential choices, or alternatives, but does not select which are appropriate. It is the role of policy makers in government and industry to make these selections.

I. Introduction, cont.

Background on the Telecommunications Industries Analysis Project

This paper builds on previous research on rate and cost deaveraging and on support mechanisms by the Telecommunications Industries Analysis Project². The goal of this project is to provide information to support the development of alternative telecommunications policies to meet the needs of stakeholders in an environment that includes competitive and non-competitive markets, federal and state regulatory jurisdictions, and a proliferation of new services made possible by technological advances. The purpose of the project is to produce research and analysis which will assist policy makers in making informed decisions.

The project is a neutral forum of communications industry stakeholders exploring multiple viewpoints of selected issues. This forum incorporates the following elements:

- Broad representation:
The current forum includes large and small local exchange carriers LECs, interexchange carriers IXCs, a CATV company, equipment and materials manufacturers, and federal and state regulators. In the next phase, this forum would be expanded to include other communications industry representatives, such as competitive access providers, companies, or publishers.

²For rate and cost deaveraging examples, see Weinhaus, Carol; Jamison, Mark; et al., *New Wine and Old Wineskins: Modeling Effects of Competition and Expanded Interconnection in the Local Exchange*, Presentation at the National Association of Regulatory Utility Commissioners (NARUC) Meeting, Seattle, Washington, Program on Information Resources Policy, Harvard University, July 27, 1992; and see Weinhaus, Carol; Jamison, Mark, et al., *Current Status, Alternative Costing Methods Project: Examples of Modeling - Transport and Other Issues*, Presentation at the NARUC Meeting, San Francisco, California, Program on Information Resources Policy, Harvard University, July 21, 1991.

For magnitude and examples of support mechanisms, see Weinhaus, Carol; Makeeff, Sandra; et al., *Who Pays Whom? Cash Flow For Some Support Mechanisms and Potential Modeling of Alternative Telecommunications Policies*, Presentation at the NARUC Meeting, Los Angeles, California, Program on Information Resources Policy, Harvard University, November 15, 1992; and Weinhaus, Carol; Makeeff, Sandra; et al., *Support Mechanisms: Issues and an Example of Potential Problems in the Future*, Presentation at the NARUC Meeting, Seattle, Washington, Program on Information Resources Policy, Harvard University, July 27, 1992.

I. Introduction, cont.

- **Multiple viewpoints:**
Each participant is required to have an active role in the research and analysis, to represent their own interests, to understand and to assist in developing others' perspectives, and to work toward the common goal of representing multiple views.
- **Analysis and results of alternative policies:**
Research tools, including a jointly-produced data base and computer software models, and data analysis developed by this forum create a common language for examining issues. The common language allows the participants to focus on underlying issues. Appropriate computer software tools are developed, including modifications to existing tools.
- **All data, analysis methods, and results are public:**
Data used by this project must be publicly available on a nationwide basis. Research products become public domain information. The current database will be updated to meet the research requirements of this forum.
- **Neutral setting:**
The project resides in a neutral setting, free of partiality, thereby ensuring objective and independent research.

II. What are the Policy Objectives?

What are the Policy Objectives? Competitiveness and Meeting Customer Needs

Frank leans back in his chair and sighs. The story is all too familiar. In ten years with the federal government, Frank had read many studies similar to the one he just finished. The U.S. is losing its competitive edge in telecommunications.

But this time the problem appears more acute. Other countries are implementing strategies for advanced communications. The U.S. has no plan, no strategy, no concrete policy to make itself globally competitive. Frank disagrees with the government-control strategies of other countries, but is concerned that the U.S. is using an incompatible mix of government control and competition. The traditional policies for universal service do not match the market realities. Customers may not get the services they need to compete in a global economy.

Frank goes to his computer and makes a list of all of the current and future communications capabilities he can think of that customers may need (**Figure 1**). The list is impressive, but is it really the new universal service? If the government dictates that everyone should have these, how will it be paid for? Would the government be locking the U.S. into technologies that will quickly become out of date? What does universal service mean anyway? For that matter, what does it mean to be globally competitive?

Frank starts another list (**Figure 2**). This list shows various policy objectives that could be applied to services. Universal service, the traditional objective, means nearly everyone has the service. But Frank believes there are at least four other policy options. For example, the government may target a service to simply be available to nearly everyone, but let the market determine who will buy it (universal access). Another policy objective is to facilitate development of a service or capability (create opportunity) either through direct government involvement or through facilitating markets. In this case, deployment and purchasing are left up to the market. A third approach is to have no government intervention (no intervention). The last policy option is to restrict certain capabilities (restrict). For example, some CallerID capabilities have not been allowed in certain circumstances.

Frank looks carefully at his list (**Figure 2**). Telecommunications policies have had universal service as the primary goal, but the policies themselves have been primarily prohibitive - e.g., limit price increases or prohibit diversification. A new policy of directly promoting a service is a far jump.

Figure 1
Various Customer Needs

Customer Interface

- Customer choice, including format in which information is sent and received.
- Easy for the customer to use.

Network Capabilities

- Services can be fixed geographically, mobile, or both.
- Simultaneous communication among multiple users.
- Communication can occur in real time and with time delays.
- Unimedia network indifferent to the information being carried and/or processed.
- Bandwidth available on demand.
- Two-way, voice-grade communications.

Ease of Interconnection

- Customers can obtain just the services that they want.
- Interoperable networks.
- Hybrid arrangements: public and private; transmission, processing, and content.
- Standard plug-ins.

Availability

- Reliability based on customer choice.
- Affordable.
- Not limited by geography.
- High penetration.

Control and Intelligence

- Customers can choose their services and who provides them.
- Customers can combine services of multiple providers.
- Users control information about themselves, access to their networks, and intellectual property rights.
- Information obtained about others' transactions can be used.
- User error protection.
- Flexible intercompany payment arrangements.
- Distributed intelligence.

Figure 2
Alternative Policy Objectives for Meeting Customer Needs

Policy Objective	Descriptions of Policies		
	Development	Deployment	Penetration
<i>Universal Service</i>	Service is mass market or is ready for mass market.	Available to everyone.	Virtually everyone has it. Service kept affordable, by subsidies if necessary.
<i>Universal Access</i>	Service is fully developed and has mass market potential.	Available to everyone.	Determined by market.
<i>Create Opportunity</i>	Service needs to be developed. Government may intervene or use markets.	Determined by market.	Determined by market.
<i>No Intervention</i>	No intervention.	No intervention.	No intervention.
<i>Restrict</i>	Service is not developed.	Service is not deployed, or is withdrawn.	Customers are not allowed to purchase it.

II. What are the Policy Objectives?, cont.

As he compares his two lists (**Figures 1 and 2**), Frank wonders which policies, applied to which capabilities, would make the U.S. competitive globally. Of course, even if he knew the correct approach, his agency lacks the money needed to play a leading role. The problem is that only customers will know which services they need or want to buy, and even they don't know without price information and experimentation.

No, that's not the problem. That's the answer! It's the customer! If the customer drives the future - if communications companies have to compete for customers, success is rewarded, and everyone bears the risk of their own failures - then customers will get what they need at prices they can afford.

Frank continues down this track. The key is to set up a regulatory system that empowers customers - that has the customer as the ultimate regulator. The current system is based too much on government making choices for customers.

Frank believes that to let the future be customer driven, without losing past achievements, government needs two types of policies:

- II Universal service policies for existing basic service, letting the definition of basic service evolve as additional services reach mass-market status.
- II Customer empowerment policies, letting the market determine what advanced technologies are developed and implemented.

Frank starts to relax, and then realizes that choosing the policy objectives is only one piece of the puzzle. There are many other issues to be resolved. He begins a third list (**Figure 3**) of potential issues. He stops after a while and decides to finish it later.³ One immediate issue will be who will provide the services.

³See **Appendix A** for Frank's final list of issues. Not all of these issues are addressed in detail in this paper. See also, Weinhaus, *Who Pays Whom?*, pages 32-45.

Figure 3
Examples of Issues

- What are the policy objectives?
- What issues should be decided by public policy? What issues should be left to the market place?
- Who should provide the services?
- What are the appropriate support mechanisms, if any?
- What are the interconnection rights of customers, including competitors?
- What are the prices?
- How will common carrier obligations be addressed?
- How will long term policy solutions and short term issues be balanced?
- Who will implement the government policies?

II. What are the Policy Objectives?, cont.

To clarify his thoughts, Frank draws a square on his computer screen (**Figure 4**). He labels the axes:

- The horizontal axis represents the number of companies competing in a single market. Moving from left to right, the market shifts from monopoly to competition.
- The vertical axis shows vertical integration. At the bottom left corner is a single company with complete vertical integration serving many markets. At the top left is a single company with no vertical integration – a monopoly in each market.

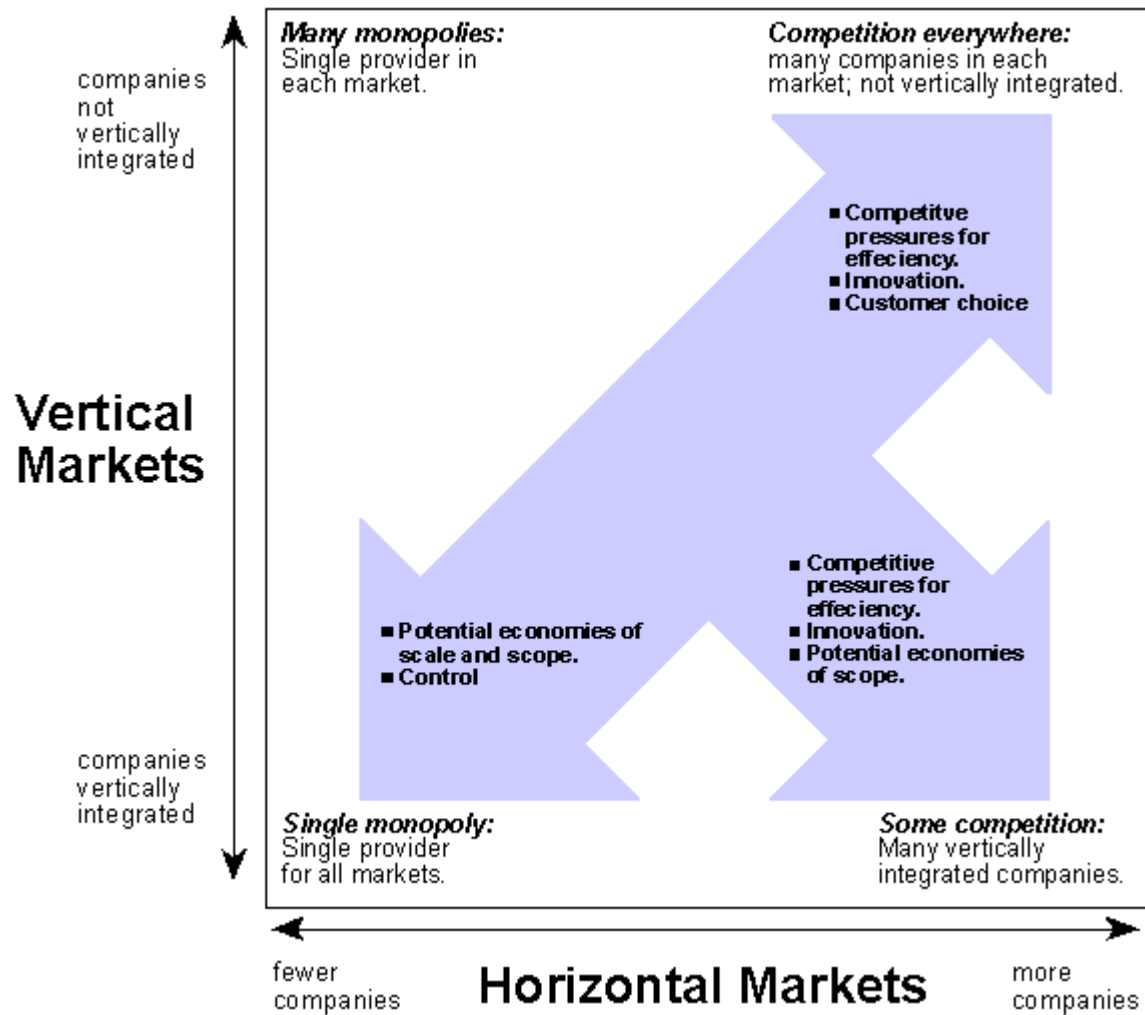
Frank then draws an arrow diagonally from the lower left hand corner to the upper right hand corner. Control and economies of scale dominate the lower portion of the arrow. Innovation, customer focus, and efficiency dominate the upper portion. He also draws an arrow extending into the lower right hand corner. Innovation and efficiency dominate this portion. If there are many competitors in each market, customer focus may also be present. Competition in each market appears to be key.

Frank's customer-based approach lies along the right side of the chart. By making competitive companies focus on the customer, Frank's approach results in:

- Customer options.
- Company success depending on satisfying customers.
- Global competitiveness with communications capabilities.

Frank mulls over his solution. His diagram does not show details. Competition means there will be boundaries between companies, but what will be the new boundaries? What new company and market structures will best meet customer needs?

Figure 4
Market Structure



III. Who will Provide the Services?

Who will Provide the Services?

Market Structure

Mary smiles as she considers the problem she has to solve. She enjoys the challenges she faces working for an IXC. This problem will not be an exception.

Her job in the company is to put together custom services at a price the customer can afford, and to do so fast. Mary's boss has just given her an assignment to assemble a package of voice, data, and video services with some interesting twists. The customer does not care what facilities are used, only that the services are provided.

The customer is a business that designs and builds custom robotics equipment. Design engineers are scattered around the country – these dreamers refuse to be corralled. The manufacturing engineers are all in one factory at corporate headquarters. Product testing and assembly occurs at the purchaser's location, which can be anywhere. The communications problem that needs to be solved is:

- Find the design, manufacturing, testing, and assembly engineers on short notice whenever a problem occurs.
- Connect the engineers with voice, data, and video services so they can quickly solve their customer's problem.

Mary starts by thinking about the communications capabilities she needs to assemble. All the pieces have to interconnect – islands have no value. Also, Mary must put a friendly face on the technology so that her customer will be able to use it easily.

Mary types a list of capabilities she needs:

- *Mobile communications*
Finding the engineers wherever they are means calling people, not places. Mobile communications will have to be used which means working with cellular, paging, and specialized mobile radio companies, and perhaps others.
- *Long distance capacity and flexibility*
Mary's own company has the long distance capacity and capabilities she needs, but she will need to work on the customer interface.

III. Who will Provide the Services?, cont.

- *High capacity local circuits for data, video, and voice*
Since the engineers could be anywhere, she needs the ability to get the circuits quickly and to use them for only short periods of time.

These local circuits pose a problem. Mary lists her options:

- Build them.
- Use LEC services.
- Obtain circuits from the new competitors □ for example, CATV, CAPS, and electric utilities.
- A combination of two or more of the above.

Mary quickly rejects having her own company build the local circuits. That would be too expensive because many of the facilities would be used infrequently. Whether to choose the new competitors and the LECs in a given market is the hard question. Mary's company has used the new competitors for some services, but these companies are not always good substitutes for LECs.

Her company has developed a list of barriers to local exchange competition (**Figure 5**) to help it develop its positions on local exchange competition issues. The traditional barriers are eroding, but Mary believes there is more to be done.

Figure 5
Limitations on Local Exchange Competition:
Traditional and 1993

Item	Traditional	1993
Pricing	<ul style="list-style-type: none"> ■ Prices based on value of service. ■ Support mechanisms contained within the traditional industry. 	<ul style="list-style-type: none"> ■ Prices moving towards cost. ■ No change.
Bundled services	<ul style="list-style-type: none"> ■ Facilities bundled. ■ Services bundled. 	<ul style="list-style-type: none"> ■ Unbundling of interoffice facilities. ■ No change.
Rights of way	<ul style="list-style-type: none"> ■ LECs control land rights of way. 	<ul style="list-style-type: none"> ■ CATV companies and CAPs obtaining land rights of way. ■ Radio spectrum becoming available.
Telephone numbers	<ul style="list-style-type: none"> ■ LECs control telephone numbers. 	<ul style="list-style-type: none"> ■ Proposals for telephone numbers to be available.
Interconnection	<ul style="list-style-type: none"> ■ Exclusive arrangements for traditional industry. 	<ul style="list-style-type: none"> ■ Equal access generally available for interLATA. ■ Limited intraLATA equal access. ■ Proposal to do away with exclusive arrangements.
Billing information	<ul style="list-style-type: none"> ■ Controlled by traditional industry. 	<ul style="list-style-type: none"> ■ Available for IXCs.
Technical standards	<ul style="list-style-type: none"> ■ Set by traditional industry. 	<ul style="list-style-type: none"> ■ Others may participate in standards bodies. ■ Controversy over whether LECs control standards bodies.

III. Who will Provide the Services?, cont.

Mary's company concerns itself with local exchange competition for two reasons:

- **Competition generally means better prices and service – those were the results of competition in both telephone equipment and long distance.**
- **The Regional Bell Operating Companies (RBOCs) and GTE want to be allowed to sell interLATA (Local Access Transport Area) services.⁴**

RBOC and GTE entry into interLATA services concerns Mary's company. Forty-five percent of IXC costs are payments to the LECs for access (**Figure 6**).⁵ From Mary's perspective, if the RBOCs and GTE are allowed into the interLATA markets, they could use her company's dependence on them in anticompetitive ways. Mary wants competition in the local exchange so that her company has viable alternatives to RBOC and GTE access services. She would also like the opportunity to take advantage of any economies there might be from integrating long distance and local exchange services.

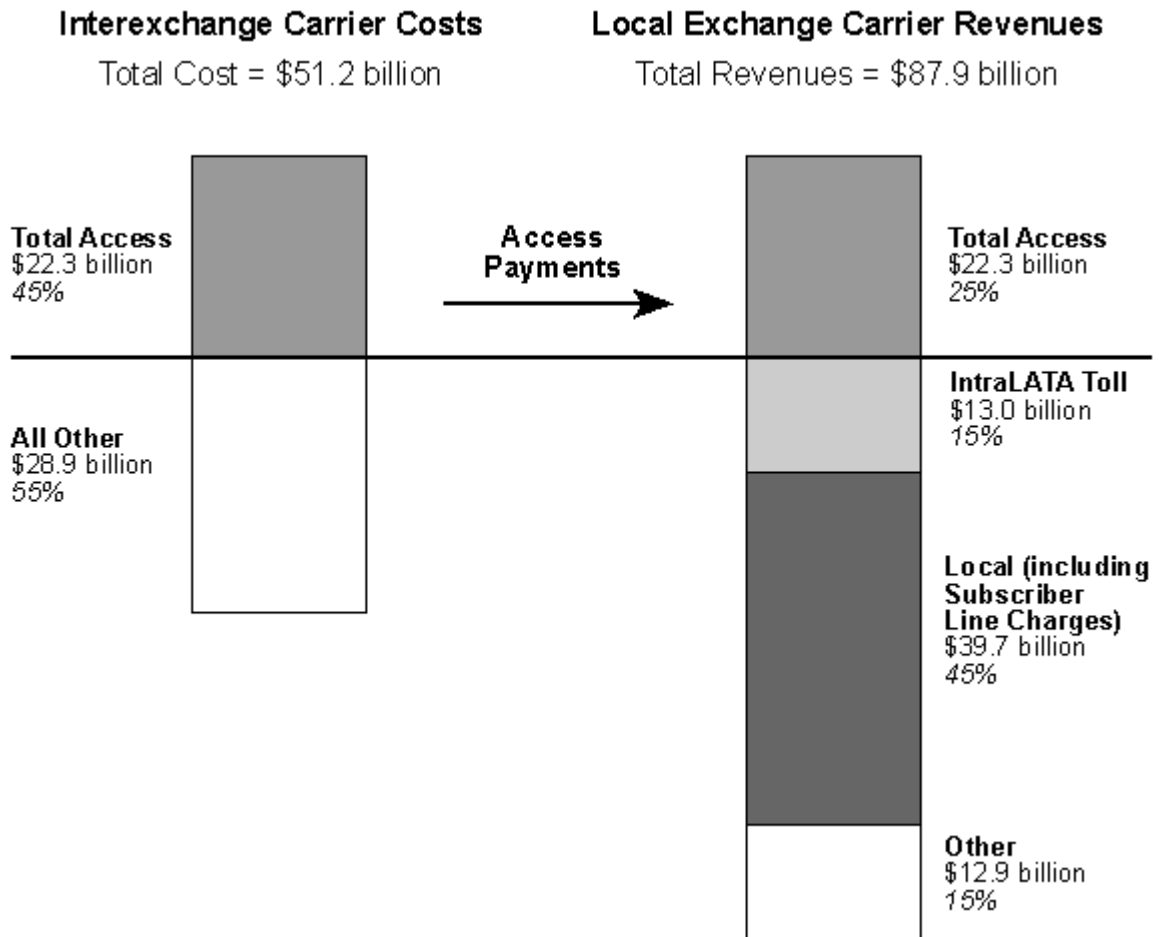
However, Mary also understands the RBOC and GTE perspective on this issue. She used to work for an RBOC. Twenty-seven percent of LEC revenues are access payments from IXCs (**Figure 6**). Mary's former company knows that such large payments give the IXCs an incentive to control those costs by using competitive alternatives to the LECs. Her former company also believes that new competitors will take away significant amounts of revenue which must be replaced by revenues from new markets if the company is to survive.

⁴LATAs are areas created during the breakup of AT&T to prevent the RBOCs and GTE from hindering competition in the long distance. LATA boundaries are calling regions similar to area code. RBOCs and GTE are restricted from providing services that cross LATA boundaries (interLATA). State public utility commissions (PUCs) are allowed to determine whether there would be competition long distance within LATA boundaries (intraLATA). Most states have allowed intraLATA competition to varying degrees.

Another view is that LATAs were created to divide the long distance market between AT&T, the RBOCs, and GTE.

⁵IXCs pay "access charges" to LECs. These payments are for use of LEC facilities to complete long distance calls.

Figure 6
Relation of Interexchange Carrier Costs and Local Exchange Carrier Revenues, 1989



Source: Adapted from Weinhaus, Carol; Makeeff, Sandra; et al., *Who Pays Whom? Cash Flow For Some Support Mechanisms and Potential Modeling of Alternative Telecommunications Policies*, Presentation at the National Association of Regulatory Utility Commissioners Meeting, Los Angeles, California, Program on Information Resources Policy, Harvard University, November 15, 1992; Figure 7, Page 6.

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IV. How will Prices be Determined?

It bothers the company that some of the competitive pressure is coming from markets RBOCs and GTE are legally prohibited from entering - interLATA and CATV.⁶

"Oh, well," Mary thinks, "back to the customer." Mary schedules time to check service availability, response times, and prices of the LECs and the new competitors. As she does so, she notices a new memo from her boss reminding her that she will need to prepare tariffs for the new service.

⁶LECs are limited in the amount of ownership interest they can have in CATV companies. This limit applies to CATV companies that operate in the LEC's local exchange areas. It does not apply to rural areas, nor to what the Federal Communications Commission (FCC) considers non-dominant local carriers such as CAPs.

IV. How will Prices be Determined?

How will Prices be Determined?

Regulated Pricing in a Dynamic Market

Business by rote. That's the thought that keeps running through Ed's mind as he reads the memo. It all looks like a waste of time.

Ed began building his CATV company 20 years ago. The first few years had been tough, but Ed loved it. Hustling to lay cable, negotiating franchises with city managers, finding programs people were willing to pay for, raising capital, building a company - the pressure and uncertainty □ Ed loved everything about building his own business.

The future could be equally exciting. Racing the telephone companies to build an even more powerful communications system - choosing the right technologies at the right time, finding and developing new kinds of programming - that's what Ed has been looking forward to.

Then there is this memo from his attorney. The government is going to start regulating some of his prices. The attorney explains that the prices are going to be set - by formula. Ed is dumbfounded. How will he know how much value customers place on programming? How will this affect his ability to build his new networks? What do all of these formulas have to do with how he runs his business?

The memo explains that the formulas are not as complex as those used by the telephone companies. But as CATV starts looking more like telephone service, all bets are off. It might lead to even more regulated accounting records, multiple allocations of these accounting records, and regulation by numerous state public utility commissions (PUCs) in addition to local governments and the FCC.

Ed's friends in the telephone business have described to him the teams of employees allocating and reallocating the accounting records. All of this is for regulation, not for business. They explained that if they start to lose customers, the allocation systems says they should raise their price. A lot of sense that makes. His friends also explained that if they lose business to competition in one market, the allocation systems shift costs to areas where there is no competition. This means price increases in these monopoly markets. Ed sees two

IV. How will Prices be Determined?, cont.

problems. First, the higher prices invite new competition. Second, cost shifting means that captive customers underwrite the accounting costs.⁷

Ed finds the whole thing unfathomable. How is he to develop a new communications system if his business is run by formula?

Ed continues reading the memo. It notes that there may be some reasonable alternatives to the current telephone pricing system. Maybe there's hope! He reviews his attorney's list of some alternatives (**Figure 7**). None of these look reasonable to Ed. Don't people realize that regulation has arrived just in time to watch competition arrive? Not only is Ed facing competition from traditional broadcasting, but now there is direct broadcast satellite and microwave cable television. Ed would prefer that only the telephone companies were regulated. He sees them as the only monopoly in telecommunications.

Wait, there's more. The attorney explains that Ed must carry certain programming. He may also have to pay for programming that customers can get for free from traditional broadcasting. And he must lease capacity on his network to others. "They have nationalized my network!" thinks Ed, "and strengthened my competitors. Whatever happened to the monopoly I was assumed to have?"

Ed scans the last paragraph of the memo. He cannot make sense of it. Something about hearings, comment cycles, briefs, and testimony. All time references are stated in months and years. Ed decides the typist made a mistake. The attorney couldn't possibly be talking about Ed's business. Ed thinks of change in terms of three to four months, not years.

⁷For further explanation, see Weinhaus *New Wine and Old Wineskins*.

Figure 7
Some Alternative Pricing Mechanisms

Following are some alternatives to the current pricing mechanisms for telecommunications. Items may be considered individually, or in combinations.

Type of Control

- Price bands.
 - Maximum prices for captive customers of basic services and network access.
 - Minimum prices for services that use non-competitive network capabilities as inputs.
 - Support payments for universal service provided to customers. Payment is equal to difference between affordable price and what basic service should cost.
 - All services available for resale.
 - All services available to all customers without undue discrimination.

Determining Price Level

- Set prices according to what it should cost a reasonably efficient company to provide the service. Cost estimates based upon cost models that are public.
- Index non-competitive prices according to competitive ones.
- Auctions.
- Cost index.
- Inflation index.
- All companies pay same for exchanged traffic.
- Oversee profits, not prices.
- Regulate price structure, not prices.
- Index according to profits or dividends.
- Minimum prices of competitive services: imputation of prices of non-competitive inputs and cost estimate of competitive inputs.

Determining Price Structure

- Regulate a basic price structure only. All others by contract.
- No regulation.
- All price structures available to everyone.
- Structure varies, but same average price is available to all similar customers.
- Postalized rates.

System to Determine Prices and/or Price Structures

- Government issues.
- Industry group develops.
- Contracts.
- Contracts with option for anyone to join.
- Only one government agency sets prices.

V. What is the Regulatory Process?

What is the Regulatory Process? **Process Delays**

"These people are nuts!" Sarah throws the letter into her waste basket and starts looking for her attorney's telephone number. If the telephone company can't give her what she wants, she will do it herself. Sarah needs to get her product to market fast. The competition is breathing down her neck.

Sarah has developed a software product that will allow personal computer (PC) users to effortlessly work in teams, allow different electronic mail systems to easily act as a single system, and allow PCs to receive video programming. It's a great product, it's unique, and if she can produce it fast enough, she may stay ahead of the competition. Sarah will offer a seamless service - physically interconnecting her customers' networks.

However, Sarah needs some switched data services from the telephone company to make her service work. The standard data lines are too expensive. The telephone company sent her a letter saying that the services she has requested are technically feasible and will be available in a few months in select locations. The letter went on to say that the services will be made available in additional locations "depending on technical availability." The company didn't literally say, "No," but Sarah gets the message.

Her attorney answers his telephone, and Sarah asks him if he has seen the letter. Yes, he has, and he has already talked to the telephone company about it. He asks if Sarah has gotten his fax. She has, and reads through some of the telephone company's explanations:

Tariffs:

Sarah's service requires an FCC determination as to whether the service is defined as a new service or as an existing one. State tariffs may also be required. There will be delays in one state since the company is in the middle of a major rate proceeding.

Accounting:

The company also needs to discuss cost accounting with the FCC to avoid changes in the tariff at a later date. If the FCC considers this service to raise separations issues, even more regulators will be involved. (Sarah considers asking what separations is, but her intuition tells her to leave it alone.)

V. What is the Regulatory Process?, cont.

Earnings:

The telephone company wants to estimate how the service could affect earnings. Different jurisdictions have different rules. The telephone company does not want regulation to take some of the profits.

Migration:

If the telephone company can provide Sarah's service, it wants to migrate other customers to this new tariff. This migration requires very careful pricing strategies to keep customers from migrating either too fast (not enough capacity) or too slow (requires continued support of old technologies and services). The regulators may not allow strategic pricing.

This all sounds very Greek to Sarah. What kind of company operates this way? Sarah wants the service and is willing to pay for it, so what's the problem?

Sarah tells her attorney she is tired of messing with these people. She will build the data facilities herself.

Her attorney explains that that would solve some of the problems, but not all. Only large telephone companies have to worry about most of the FCC cost allocation and tariffing rules. However, she may need to certify as a telephone company and file limited tariffs in some states and with the FCC. He will have to check.

"Do that," Sarah says, and hangs up. She knows this isn't his fault, but Sarah is growing impatient. She doesn't really want to build the data facilities, but time is running out.

The next day, Sarah's attorney calls back. He has done some preliminary checking. Some states where Sarah has potential customers would require her company to obtain a certificate before offering the product. She would also be required to file tariffs and may need to follow regulatory accounting rules. Also, some states would restrict her from offering services within exchange boundaries (whatever those are). Adding insult to injury, telephone companies, CATV companies, and everyone else in the world would be free to review Sarah's product and object to her filings with government agencies, all before she

V. What is the Regulatory Process?, cont.

would be allowed to put her product on the market. She would be mailing her business plan to her competitors!

Her attorney tries to explain that there may be no problems - things could go quickly and smoothly Sarah thinks, "Yeah, big bucks for the lawyer," and tells him to forget it. He then offers to set up some meetings for her with some political representatives to help move things along. "No," she says. There is no way Sarah will let the government get involved in her business. She has no interest in becoming like the telephone companies.

Sarah hangs up and calls a meeting of her software engineers. She will redesign the product, cutting out the pieces that require interfaces with the telephone companies.

VI. Tying the Pieces Together

Tying the Pieces Together

Some Guiding Principles for Resolving Communications Policy Issues

"No, I didn't read footnote 215. No, I did not compare footnote 215 to footnote 137. Could we please just get to the point?" The telephone call is dragging, and Dawn has other things to do.

Responding to FCC decisions is becoming a regular part of Dawn's job as chairperson of her state commission. Discussions like this one with her outside counsel are frustrating. There are so many threads – so many rules and policies are linked together. It is getting almost impossible to make real changes. "It's either a plate of spaghetti or a house of cards," is how Dawn describes the intertwined policies to her friends.

The call finally ends. There has to be a simpler way to regulate the telephone industry. In addition to dealing with what appears to be another FCC preemption of state jurisdiction, today Dawn has:

- **Conducted a hearing on the local RBOC's new pricing plan for intraLATA toll.**
- **Listened to yet another company in a long parade of LECs, IXC's, CATV companies, etc., that are lobbying her to pick sides in their competitive battles, endorse their technology, or bless one of them as the future service provider. Why don't these companies focus on the customer instead of on the regulator?**
- **Tried to make sense of an alternative regulation case, a rate case, a deregulation case, an intraLATA competition case, and a cost allocation rule making. Dawn does not view these as dealing with separate issues, but they are all proceeding on separate tracks. Some of these cases have been going on for years.**
- **Decided to regulate a small answering service that will offer voice mail. Dawn's commission does not have the authority to deregulate voice mail.**

VI. Tying the Pieces Together, cont.

- **Required a small company that sells elevator emergency telephone services to file tariffs. The company's telephones automatically dial an 800-number when someone picks up the receiver. Technically, the company is a telephone company.**

How can she tie all of these pieces together? With so many exceptions being made to the current regulatory structure, Dawn believes that the structure itself must be the problem.

Dawn calls Frank, a friend who is now with the federal government in Washington, D.C., working on communications policy. Frank usually has good ideas, and may be able to help her figure out what to do.

Setting Policy Objectives

Frank explains that he has concerns similar to hers, but his approach is different. He believes the focus has to be on the customer. He faxes to her his list of telecommunications policy objectives (**Figure 8**) that shift the focus to the customer. There are two objectives: (1) continue to promote universal service; and (2) create an opportunity for customers to drive the future.

Dawn comments that Frank's universal service capabilities look conservative compared to some of the whiz-bang ideas she has seen. Shouldn't the government push the deployment of new technologies?

"Now wait a minute," says Frank. "There is a lot of uncertainty about which technology path to follow, and about who can best deploy it. If the government chooses wrong, somebody will have to cover the cost. Either some companies will go out of business or captive customers will pay for things they do not want or that do not work. On the other hand, if there is competition and the customer drives the future, the costs are the competitors' responsibilities."

Frank continues, "Current universal service policies were a telephone industry agenda before they became public policy. Companies competed to see what was the best service at the best price. When basic telephone service became mass market and expected by the public, universal service became public policy. Competition is the most effective tool for

Figure 8
Some Alternative Public Policy Objectives

Continue to Promote Universal Service

Customers should have a minimum level of service that is affordable:

■ *Capabilities*

Universal service capabilities, or basic service, could reasonably include the following:

- Access to the public switched network (local and toll).
- Local calling.
- Emergency services such as E911.
- Tone dialing.
- Dependability (there when you need it).
- Access to operator services.
- Equal access.
- Directory services.

■ *Pricing*

Basic service should be affordable:

- Maximum prices for inelastic customers of basic service. These prices would be based on what the services should cost a reasonably efficient company to produce.
- Support payments for universal service provided to customers. Payment is equal to difference between affordable price and what basic service should cost.

■ *Evolution*

The definition of basic service could evolve based on services becoming mass market:

- Customer expectations of others having the capabilities.
- Public need, such as new emergency capabilities.

Create Opportunity for Customers to Drive Advanced Technology

Customers should drive the future for the communications industry. The government would promote a regulatory system and market structure that would allow customers to drive technology development and deployment in the public networks. The result should be an advanced technology platform could be include the following capabilities:

- Simple customer interface and movement across networks.
- Mobility.
- Simultaneous communication among multiple users.
- Communication can occur in real time and with time delays.
- Bandwidth available on demand.
- Customers can combine services of multiple providers.
- Distributed intelligence.

VI. Tying the Pieces Together, cont.

getting customers what they want for the future. That is how the future can be customer driven."

Guiding Principles

"I agree with your objectives, Frank," Dawn says, "but how do I turn them into policy?"

"You develop principles that guide your decision making," Frank explains. Dawn asks him if he has made a list of such principles. He has not, so he and Dawn develop a list together (**Figure 9**).

"So these are principles I would follow in deciding new communications policies?" Dawn asks. Frank replies, "The answer is yes, if the focus is to be on the customer."

"Look, Frank, you are too ethereal. I'm in the trenches. Let's see if this really works. Today I have had to deal with competitors wanting me to pick sides, I have had to set prices, and I have had to work with some pretty complicated legal processes. How do these principles help me?"

Market Structure: Transitions for Producers

"Well, you allow competition," says Frank.

"Frank, you have spent too much time reading books. This is real. There are numerous problems that make competition difficult. For example, local exchange service has not been competitive, and several things will have to change to make it so.⁸ Simply saying, 'Let them compete,' is not good enough. There will need to be transitions that allow real competition."

⁸ **Figure 5** lists traditional barriers to local exchange competition. See **Section III** for a discussion of market structure issues.

Figure 9
Examples of Guiding Principles for Developing New Policies
for Communications Industries

These examples of guiding principles are based on the issues covered in this paper. Examining other issues provide other guiding principles.

Customer Focus

Government policies would empower customers to obtain the services they want and can afford. This requires competition among multiple providers.

Universal Service

Universal service objectives would be based on mass market and evolve over time. Necessary support mechanisms would be targeted to the customer.

Technology

Government policies should encourage the development of technology platforms that will allow customers to obtain new services. Policies should not favor particular technologies nor particular service providers.

Interconnection

Networks should interconnect, and moving between networks should be easy for the casual uses.

Changes to Traditional Boundaries

Competition and new industry hybrids must be fostered to meet customer needs. Industry realignments should be consistent with competition, customer choice, and technology deployment. The appropriate industry structure is unknown. Transitions are key.

Changes in Regulation of Prices

Regulation of prices should be easy to administer, limited to non-competitive markets, and limited to markets where the regulation has a positive impact. Price regulation should be consistent with market realities and competition. Transitions will be needed.

Efficient Government Processes

The number of decisions that have to be made should be decreased. So should the amount of resources and time consumed. When possible, government should use competitive market processes.

VI. Tying the Pieces Together, cont.

"Alright," says Frank, "What are some transitions?" Dawn hasn't given it much thought, so she and Frank develop a list of possible steps (**Figure 10**). Appropriate removal of any or all restrictions may require combinations of steps, including combinations of steps in different categories.

Dawn looks at the list of possible transitions. "Okay. There are some things in there that I can use. But what about my pricing problems?"

Pricing Policies

"Your solutions for competition were found in transitions," says Frank. "That may be also be your answer for pricing. What will it take to get you from where you are today, to where you want to go?"

Dawn replies, "There are two things that are important – I want to keep basic service affordable, and I have to deal with some areas having competition and other areas having no competition.

"The only places I need to regulate are where I need to keep basic service affordable, and where I need to make sure competition is allowed to work. I should not have to oversee prices of every single service.

"I am interested in safeguarding the captive customers, in keeping prices in line with what services should cost and with customer needs, in targeting support to customers that need it, and in treating similar companies and services the same.⁹

"If we don't begin a transition to this type of system soon, there will be a flash cut," continues Dawn, "and then there will be real problems.

"By creating such a pricing structure, I have simplified a lot of our problems. I have done away with the need to have lengthy proceedings with the FCC about cost allocations. I have also made it so that my pricing is not intertwined with every other decision I make."

These examples of guiding principles are based on the issues covered in this paper. Examining other issues may provide other guiding principles.

⁹ **Figure 7** lists other options.

Figure 10
Removal of Barriers in Local Exchange, Long Distance, and
Cable Television Markets: Some Potential Steps

Following are some potential steps for removal of barriers in local exchange, long distance (interLATA restrictions) and CATV. Appropriate removal of any or all restrictions may require combinations of steps, including combinations of steps in different categories. These lists do not imply any specific order for the steps.

Local Exchange Barriers

Support Mechanisms

- Support payments for the customer rather than for the company providing service.
- Support payments made external to traditional industry.
- Funding of support mechanisms extended beyond traditional industry.
- Broaden base of federal telephone excise tax.

Bundled Services

- Unbundle network facilities.
- Authorize unlimited resale.
- Presubscribe to local exchange carrier.

Right-of-Way

- No exclusive franchises.
- Increase spectrum availability.

Telephone Numbers

- Customers own numbers.
- Auction numbers to carriers.
- Unaffiliated number administrator.

Interconnection

- Interconnection arrangements available without discrimination.
- Reciprocal payments and interconnection.

Billing information

- Billing data available without discrimination.

Technical Standards

- New standards bodies created.
- Change governance of standards bodies.

Other

- Remove rate of return regulation.
- Cost based-maximum prices for captive customers.
- Remove mobile radio spectrum set-aside for LECs.
- Accounting write-down of embedded plant.

Figure 10
Removal of Barriers in Local Exchange, Long Distance, and
Cable Television Markets: Some Potential Steps

Long Distance Barriers (InterLATA Markets)

Limited Entry

- Resale only.
- Within region only.
- Outside region only.
- Combine LATAs.
- Intrastate only.
- Cellular traffic only.
- Specific classes of customers or services.

Safeguard Competition

- IntraLATA equal access.
- Lower access charges.
- Imputation of access charges.
- Competition in local exchange.

Cable Television Barriers

Programming

- Remove franchise requirements for programming.
- Must allow multiple programming providers.
- Package programming only.

Telecommunications

- Make CATV common carrier.
- Gradually change percent ownership.
- Gradual telephone company entry based on CATV entry into telephone services.

Figure 10
Removal of Barriers in Local Exchange, Long Distance, and
Cable Television Markets: Some Potential Steps

Transitions Applicable to More than One Market

Alternative Business Arrangements

- Partnerships.
- Consortia.
- Cross licensing.
- Joint marketing, distribution, or sales agreements.
- Joint product development.

Market Entry

- Restrictions removed gradually based on levels of actual competition.
- Gradually remove restrictions and preferences on LEC use of to mobile radio spectrum.

VI. Tying the Pieces Together, cont.

Regulatory Process

Dawn explains, "But all this deals with pricing in isolation. There are still a lot of process problems."

"I have a couple of charts for you," Frank says. "One shows who does what (**Figure 11**), and the other shows who decides what (**Figure 12**). Government agencies and courts overlap. Decisions are being repeated by multiple agencies and courts, and sometimes the decisions don't fit with one another. Also, people are able to game one process against another.

"The first chart (**Figure 11**) also shows that different segments of the communications industry are treated differently. Given that industry segments are converging,¹⁰ this can't continue."

Dawn replies, "The traditional processes work developed for a monopoly environment. This is not what we have today."

Dawn and Frank develop a list of alternatives for simplifying the government processes (**Figure 13**).

"You know, some of these will cause me to give up some authority," remarks Dawn. "That's also true for the federal regulators."

"That's right," says Frank. "The intent is to transfer power to the customer. Everyone is going to have to change - both industry and government."

Dawn ends the conversation. "Frank, in order for a real change to occur, government and industry are going to have to develop a working relationship that facilitates non-traditional thinking and cooperative consideration of policy alternatives. This will take commitment by leadership, education, development of new ideas and analysis, and a realistic time line."

¹⁰ See Weinhaus, Jamison, Monroe, *Square Pegs and Round Holes*, for further discussion of policy implications of industry convergence.

Figure 11
Who Does What in Communications Policy?

Policy	Industry	Oversight										
		FCC	PUCs	Local	REA	NSA	ARPA	OSTP	DOJ	DOD	Courts	
Price/ Earnings Regulations	Telephone											
	CATV											
	Cellular											
	PMR											
Entry Regulation	Telephone											
	CATV											
	Cellular											
	PMR											
Support Mechanisms	Telephone											
	CATV											
	Cellular											
	PMR											
Inter- Connection	Telephone											
	CATV											
	Cellular											
	PMR											
Technology	Telephone											
	CATV											
	Cellular											
	PMR											

Abbreviations:

FCC - Federal Communications Commission

LOCAL - Local Government (Municipal, County, State)

PUC - State Public Utility Commission

NSA - National Security Agency

REA - Rural Electrification Administration

ARPA - Advanced Research Projects Agency

OSTP - Office of Science and Technology Planning

DOJ - Department of Justice

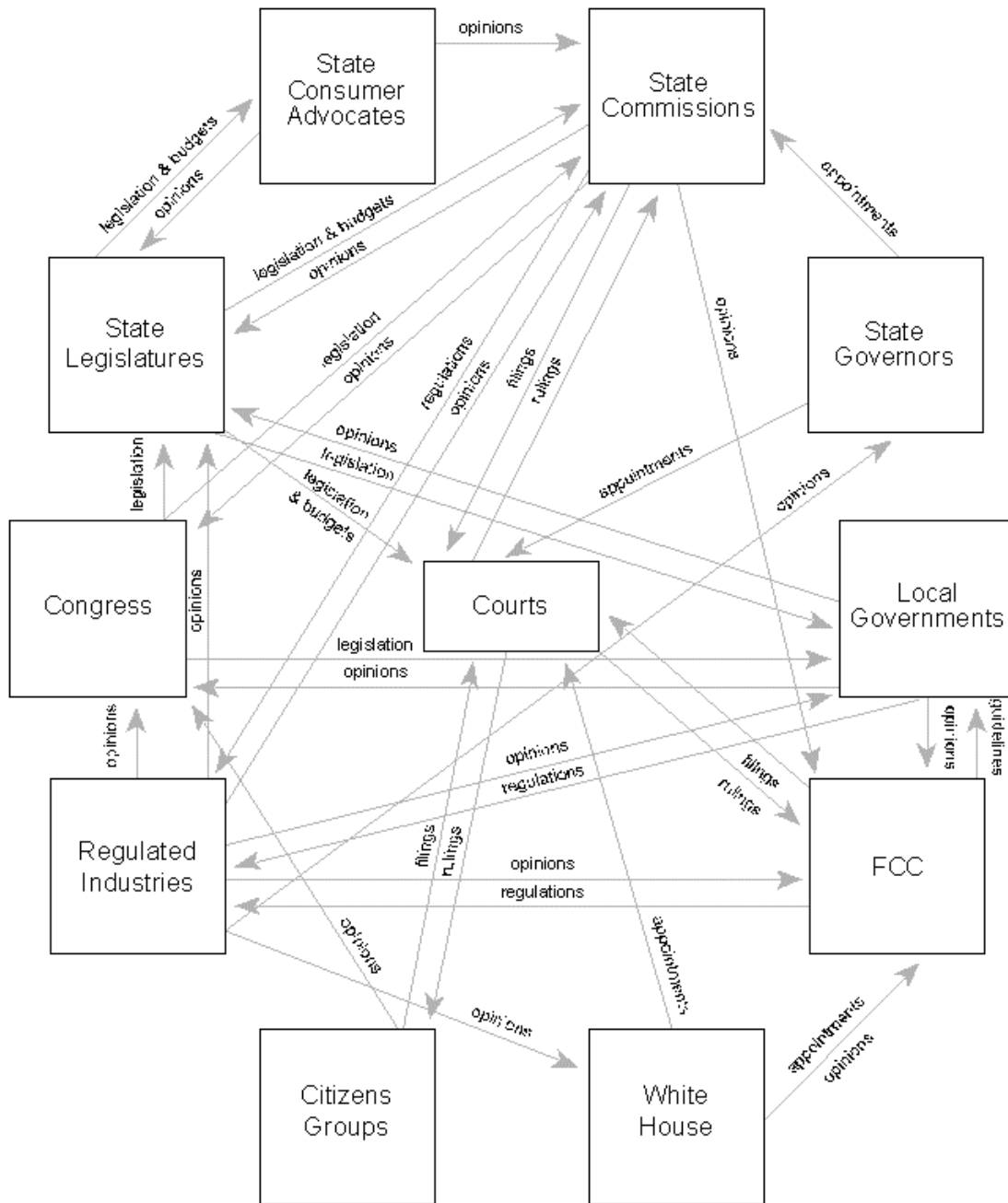
DOD - Department of Defence

Courts - Federal and State

CATV - Cable Television

PMR - Private Mobile Radio

Figure 12
Who Decides What in Communications Policy?



Source: Adapted from Mark Nadel, "U.S. Communication Policymaking: Who and Where," *Hastings Communications and Entertainment Law Journal*, Volume 13, Winter 1991, page 290.

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Figure 13
Alternatives for Streamlining the Regulatory Process

Develop new division of policy responsibilities between levels of government

- Single jurisdiction for regulatory oversight.
- Policy development at federal, pricing at state.
- Replace state regulation with regional regulation.
- Unify telephone and CATV regulation.
- States responsible for quality, subsidies, and complaint resolution; federal does everything else.

Simplify Regulation

- Review tariffs only upon complaint.
- No regulation.
- Develop standard guidelines for acceptable tariffs □ no case-by-case policy making.
- Make changes infrequently rather than continually (requires limiting scope of regulation).

Limit Scope of Regulation

- Limit all regulations to basic service – telephone, cable television.
- Regulate large companies only.
- Do not regulate new entrants.
- No limits on competition.
- Regulate non-competitive prices only.
- Apply regulations only when need to protect customers – non-competitive areas only.

Facilitate Change

- Tenure and term limits for regulators.

Limit Legal Processes

- Require mediation (mediator intervenes in disputes before legal processes start).
- Binding arbitration for some disputes.

VII. Conclusion

Conclusion

This paper describes some policy approaches that might better serve the customer. Each section describes a policy stakeholder, each facing a specific issue that arises when the focus shifts to customer needs. Not all of the issues that may arise are covered, nor are all potential alternatives. **Appendix A** contains a longer list of issues, and **Appendix B** contains a longer list of alternative policies.

If a change is to be made, all of the stakeholders - government, industry, and customers □ will need to prioritize issues and select reasonable alternatives.

There is a need to begin transitions now. If this is not done soon, the inevitable changes will occur, and the effects will be as if there were no transitions.

VIII. Appendix A: Examples of Issues and Representative Questions

Examples of Issues and Representative Questions

What are the policy objectives?

- Should the focus be telecommunications, computing, content, television, radio, or combinations?
- How important are:
 - Customer needs?
 - Protecting the status quo for regulation and markets?
 - Stability and predictability?
 - Market growth?
 - Profits?
 - Fairness?
 - Social, political, and economic interaction?
- What are the trade offs between objectives?
- What are the trade offs between objectives and the costs of achieving them?
- What capabilities should be considered basic?
- What capabilities should be universally available?
- What capabilities should be prohibited?

What issues should be decided by public policy, and which should be left to the market place?

- What happens if government does nothing?
- As a practical matter, can government have a positive impact on policy objectives?

Are financial support mechanisms needed? If yes, what should they be?

- What are the purposes of support mechanisms?
- What are the intended effects?
- What should be the targets of support mechanisms □ income, costs of services, geography?
- Who should benefit from a specific support mechanisms?
- What is the appropriate method for funding support?
- What is the appropriate method for distributing support?

What, if any, services require a carrier of last resort?

- What should be the carrier-of-last-resort responsibilities?
- What are the carrier-of-last-resort responsibilities?
- Are their systems other than carrier-of-last-resort that may be more appropriate?

VIII. Appendix A: Examples of Issues and Representative Questions, cont.

- What are the costs of being carrier-of-last-resort responsibilities, and how should they be covered?

What are the interconnection rights of customers, including competitors?

- What are the interconnection points?
- How much reciprocity is required?
- What are the terms and conditions for interconnection?
- What are the prices?
- How much uniformity of rights is required?
- How will standards be determined?
- How much control will interconnectors have over networks and services?
- How will customers be able to choose among competitors?
- How will telephone numbers (and other network addresses) be obtained?

Who should provide the services?

- Will government, private industry, or some mix provide the services?
- Which markets should have competition?
- Who will integrate services into packages for customers – the customers themselves, service providers, systems integrators, or some combination?
- What are the appropriate methods for dealing with market power in horizontal markets? In vertical markets?
- To what degree, if any, and under what conditions should carriers be allowed to affect content?

What are the prices?

- What prices are important to public policy objectives?
- What aspect(s) of the relevant prices should public policy affect – price level, price structure, or price availability? What is the public interest?
- How should level, structure, or availability of the relevant prices be determined?
- What forms of cross-subsidization should be guarded against, and how?

What should be the arrangements for intercompany payments?

- Who should compensate companies for their services, facilities, or content – by ultimate customers, distributors, advertisers, information providers, networks, or a combination?
- How should fraud be addressed?
- How should property rights be protected, if it is desired that they be protected?
- How should customers be notified of the price, what the service is, and the billing arrangement?
- When are rules needed and how will they be enforced?

VIII. Appendix A: Examples of Issues and Representative Questions, cont.

How will common carrier obligations be addressed?

- What should be the common carrier obligations?
- Who should have common carrier obligations, or at least portions of the obligations?

What is the appropriate technology?

- What is the public interest in particular technologies?
- Should government choose technologies or capabilities in defining policy objectives?
- Who can deploy technologies?
- How will technology be funded?

Is there a need to protect privacy?

- Who has what rights with respect to transaction generated information?
- How will privacy be protected?

How will long term policy solutions and short term issues be balanced?

- What short term issues need to be addressed?
- What short term fixes are consistent with long term objectives?

Who will implement the government policies?

- To what extent should private companies be used as tools of public policy?
- At what level of government should different policies be determined and implemented □ federal, state, local?
- Who should address international concerns?
- If more than one level of government implements policy, what is the mechanism for reconciling methods?

IX. Appendix B: Representative Alternative Government Policies

Changes in Legal and Regulatory Structure

- Develop new division of policy responsibilities between levels of government.
- Municipal regulation.
- Change the jurisdictional boundaries.
- Single jurisdiction for regulatory oversight.
 - Dual jurisdiction - federal and regional; federal and local; regional and state; intraLATA and interLATA.
 - Multiple jurisdictions - federal, region, state, local.
- Regulate service rather than company.
- Change spectrum assignment.
 - Auction ownership.
 - Auction leases.
 - Transfer ownership to existing users.
 - Give to school districts for fund raising.
- Change antitrust.
 - Eliminate.
 - Focus on international.
- All disputes go to arbitration.
- No case-by-case policy making.
- Regulate based on customer complaints.

Rewrite 1934 Communications Act

- Treat Title II and Title III services the same.
- Limit all regulations to basic service - telephone, cable television, newspaper, broadcast, etc.
- No regulation.
- Apply regulations in non-competitive areas only.

Change Objectives

- Set benchmarks for subscriber penetration, infrastructure, etc.
- Technology experiments.
- Have policy objectives vary by geographic area. — Set economic efficiency as the national policy.

IX. Appendix B: Representative Alternative Government Policies, cont.

Change Oversight of Prices

- Change how prices are set.
 - Set prices without regard to cost.
 - Set prices based on cost standards, not what a company spent.
 - Set price benchmarks.
 - No user restrictions.
 - Regulate non-competitive prices only.
 - Regulate basic service prices only.
 - Set prices based on competitive price benchmarks.
 - Control profits, not prices.
 - Regulate cash flow (investment), not profits nor prices.
 - Regulate intercompany payments.
 - Set prices according to stock dividends.
 - Regulate price structure only.
- Regulate dividends.
- Infrastructure surcharge.
- Target support mechanisms to basic service only.
- Disconnect pricing from separations.
- Eliminate separations.

Change Industry Structures

- Encourage electric utilities to provide telephone service.
- Prohibit all companies from vertically integrating.
- Prohibit companies from vertically integrating manufacturing, facilities, transmission, processing, and content.
- Remove Modification Of Final Judgement (MFJ) manufacturing restriction.
- Restrict company size.
- Place size, geography, or vertical integration limits on facilities, but allow unlimited resale.
- Companies bid for right to produce.
- Completely open interconnection.

IX. Appendix B: Representative Alternative Government Policies, cont.

Change Market Structures

- Change LATA boundaries.
 - Base on something other than geography.
 - Exchange equals LATA.
 - Intracompany traffic equals LATA.
 - Metropolitan Statistical Areas equals LATA.
 - No LATAs.
 - State equals LATA.
 - Region equals LATA.
 - Domestic market equals LATA.
- No limits on competition.
- Change how telephone numbers are assigned.
 - Make portable.
 - Auction telephone numbers.
 - Assign numbers like social security numbers.
 - Give personal numbers and have equipment numbers be an extension.
- Complete unbundling of services.
- Empower customers.

Change Ownership Patterns

- Government ownership by local, state, or federal government.
- Merge electric and telephone utilities.
- Alternatives to vertical integration:
 - Partnerships.
 - Consortia.
 - Cross licensing.
 - Joint marketing, distribution, or sales agreements.
 - Joint product development.
- Allow customers to participate in network design decisions.
- Allow outside ownership in telephone company networks.

Incremental Changes to Current Structures

- Use sewers for right of ways.
- Bundle terminal equipment with service.
- Have only one service provider.
- Subsidize new competitors

IX. Appendix B: Representative Alternative Government Policies, cont.

- Assume new entrant is best provider.
- Prices equal everywhere in country.
- Make standards-setting bodies more efficient.
- Do not tie regulations to specific, as in Responsible Accounting Officer letter 21.
- Do not have detailed rules.
- Allow companies to determine separations, or just within guidelines, as with Other Billing and Collecting.
- Eliminate special numbering such as 800, 900, and 976.
- Allow companies to disconnect basic service for non-payment of any items billed.
- Do not allow telephone companies to disconnect basic service.
- Do not allow telephone companies to bill except for their own services.
- Require telephone companies to bill for anyone that asks.
- Have services prepaid.