

**STATE REGULATORY TREATMENT OF  
ADVANCED TELECOMMUNICATIONS SERVICES:  
RESULTS OF THE 2002 SURVEY**

**Chang Hee Lee  
Graduate Research Associate**

*THE NATIONAL REGULATORY RESEARCH INSTITUTE*

**1080 Carmack Road  
Columbus, Ohio 43210  
Phone: 614-292-9404  
Fax: 614-292-7196  
[www.nrri.ohio-state.edu](http://www.nrri.ohio-state.edu)**

**October 2002**

This report was prepared by the National Regulatory Research Institute (NRRI) with funding provided by participating member commissions of the National Association of Regulatory Utility Commissioners (NARUC). The views and opinions of the author do not necessarily express or reflect the views, opinions, or policies of the NRRI, NARUC, or NARUC member commissions.

## TABLE OF CONTENTS

		<b>Page</b>
Foreword		ix
Acknowledgements		xi
 <b>CHAPTER</b>		
1	INTRODUCTION	1
2	ANALYSIS OF THE SURVEY RESULTS	3
	A. State Definition of Advanced Services	3
	State Definition of Advanced Services	3
	Use of the FCC's Definition	7
	B. State Commission Treatment of Advanced Services	8
	Rate Setting for Advanced Services	8
	Setting Price Caps for Advanced Services	10
	Inclusion of Advanced Services in Price Cap Baskets	12
	Tariffing of Advanced Services	13
	Commission Action on Filed Tariffs	16
	Certification/Registration of Providers	19
	Arbitration of Interconnection Agreements Involving Advanced Services	22
	Handling Complaints about Provision of Advanced Services	23
	Regulation of Service Quality for Advanced Services	28
	Requirement of Deployment of Advanced Services	31
	Contribution to the State Universal Service Funds	32
	USF Support for Advanced Services	36
	Other Ways to Regulate or Oversee Advanced Services	37
	Other Measures to Reduce Regulation of Advanced Services	39
	C. Open Access/Common Carriage Requirements for Advanced Services	41
	Authority to Regulate Open Access	41
	Common Carriage Requirements for Advanced Services	42
	D. State Programs on Advanced Services	45

**TABLE OF CONTENTS (Continued)**

	<b>Page</b>
<b>CHAPTER</b>	
3 SUMMARY AND CONCLUSION	61
APPENDIX:	
Respondents to Advanced Services Surveys	65

## LIST OF TABLES

	<b>Page</b>
<b>TABLE</b>	
A-1: Does your state have its own definition of advanced/broadband telecommunications infrastructure or advanced/broadband telecommunications services?	5
A-2: If no to question 1, does your state use the FCC's definition in regulating advanced telecommunications services?	8
B-1: Does your commission set rates for advanced services in rate cases?	9
B-2: Does your commission set price caps for advanced services?	11
B-3: Are advanced services included in price cap baskets?	12
B-4: Are advanced services tariffed?	14
B-5: If yes to question 4, what does the commission do with the tariffs?	17
B-6: Does the commission certify this type of provider or require it to be registered?	19
B-7: Has the commission arbitrated interconnection agreements in which provision of advanced services was a disputed issue for this type of provider?	22
B-8: Handling Complaints about Provision of Advanced Services	24
B-9: Does the commission handle complaints about wholesale provision of advanced services?	25
B-10: Does the commission handle complaints about retail provision of advanced services?	28
B-11: Does the commission regulate service quality for advanced services?	29
B-12: Has the commission required deployment of advanced telecommunications capability (e.g. under a price cap plan)?	32

**LIST OF TABLES (Continued)**

	<b>Page</b>
<b>TABLE</b>	
B-13: Does the commission require this type of provider to contribute to a state universal service fund?	33
B-14: If yes to question 13, does the commission differentiate revenues based on advanced services from other revenues?	35
B-15: Does your state universal service fund provide support for advanced services offered by this type of provider?	36
B-16: Are there any other ways in which the commission regulates or oversees advanced services?	38
B-17: Has the commission taken steps not discussed above to reduce regulation or refrain from regulation of provision of advanced services?	40
C-1: Does your commission have any authority to regulate open access?	42
C-2: Does your state have any advanced services that are subject to common carriage requirements?	44
D-1: State Programs on Advanced Services	47

## LIST OF FIGURES

	<b>Page</b>
<b>FIGURE</b>	
A-1: State Defines Advanced Telecommunications Services	4
A-2: Use of the FCC's Definition	7
C-1: Authority to Regulate Open Access	41
C-2: Common Carriage Requirements for Advanced Services	43
D-1: State Programs on Advanced Services	46

## **FOREWORD**

The results of NRRI's 2002 survey of state policies and programs on advanced telecommunications services show states are playing an active role in ensuring competitive benefits for customers from broadband services. They are encouraging broadband deployment in a variety of pro-competitive ways relating to their unique circumstances. The survey should help state commissions and others by providing solid data on the current status of regulation.

Raymond W. Lawton, Ph.D.  
Director, NRRI  
Columbus, Ohio  
October 2002

## **ACKNOWLEDGMENTS**

The author would like to extend his gratitude to many individuals who contributed to this report. Dr. Vivian Witkind Davis at NRRI offered great help throughout the whole process of this project, from the survey design to editing. Her insightful comments and suggestions greatly improved the report, and I am grateful for that. This report could not have been completed without the generous help and contributions of the individuals at state commissions who responded to the survey and provided valuable information. I would like to express special thanks to them. I also wish to thank Jessica Zufolo of NARUC for her helpful comments on an earlier draft of the report. Finally, Carmell Brown prepared the final copy of this report, and her help is greatly appreciated. Any remaining errors, however, are the responsibility of the author.

## CHAPTER 1

### INTRODUCTION

The regulatory environment of advanced telecommunications services facing the state<sup>1</sup> and federal governments is rapidly changing. As the competitive structure of the telecommunications industry evolves, though many say this is happening more slowly than originally expected, regulatory policy toward advanced services may play an important role in bringing benefits to the customers. State regulatory commissions may have different policies toward advanced services in responding to their different regulatory environments, including different competitive shapes of the markets. While we have seen some documents, data, and stories showing policy trends in this field, it seems that there have not been many efforts to depict a national picture of regulatory policy developments at the state level.

Recognizing the need for complete information on state policies toward advanced telecommunications services, the NARUC Committee on Telecommunications asked the National Regulatory Research Institute (NRRI) to update its earlier national survey on advanced telecommunications services. The NRRI conducted the new survey between April 2002 and August 2002 with all 51 jurisdictions. It was an attempt to collect as much information as possible on how state regulatory commissions treat advanced services and on states' efforts to encourage deployment of advanced services through various programs. This NRRI survey updates and expands the information we collected in our survey on the same subject that was done between late 2000 and early 2001.

Out of 51 jurisdictions, 40 commissions responded for a 78 percent response rate. While it is not a low response rate, as an attempt to include more information we decided to combine the current survey results with the previous survey results<sup>2</sup> in order to include the information from the states that did not respond to this survey but had responded to

---

<sup>1</sup> For the purpose of this survey, the term "state(s)" is used for simplicity to include 50 states and the District of Columbia unless otherwise mentioned.

<sup>2</sup> The results of the winter 2001 survey are available on our web site (<http://www.nrri.ohio-state.edu>) under

the previous survey.<sup>3</sup> As a result, this report analyzes 48 combined responses, or 94 percent of the regulatory jurisdictions.<sup>4</sup>

The survey results indicate that state commissions play an active role in ensuring competitive benefits for customers and in encouraging deployment of advanced telecommunications services through their regulatory initiatives and collaboration with other state agencies. Since the market conditions and other contextual variables facing the state commissions are different, there might not be “one best way” of addressing the policy issues relating to advanced telecommunications. Thus, it seems appropriate that one needs to exercise caution in interpreting the results to avoid rushing or incorrect judgment. The next chapter presents an analysis of the survey results.

---

either the telecommunications program or the broadband program.

<sup>3</sup> This was possible because the survey questionnaire was almost the same as the one used in the previous survey. For some questions that were not included in our previous survey, we contacted state commissions to get the information.

<sup>4</sup> Two commissions provided partial responses: one for Part A only and the other for Part D only. Thus, the numbers of commission responses analyzed in individual parts are different and they are given in the beginning of each part.

## CHAPTER 2

### ANALYSIS OF THE SURVEY RESULTS

The survey consists of four parts. Part A is about state definition of advanced services; part B deals with state commission treatment of advanced services; part C seeks information on open access and common carriage requirements for advanced services; and part D collects information on state programs on advanced services. The survey results reported here are organized in the same manner. Where possible, actual state comments provided by the each state respondent are given in the tables to make information more accurate, except a few changes for editing purposes.

#### **A. State Definition of Advanced Services (N = 47)**

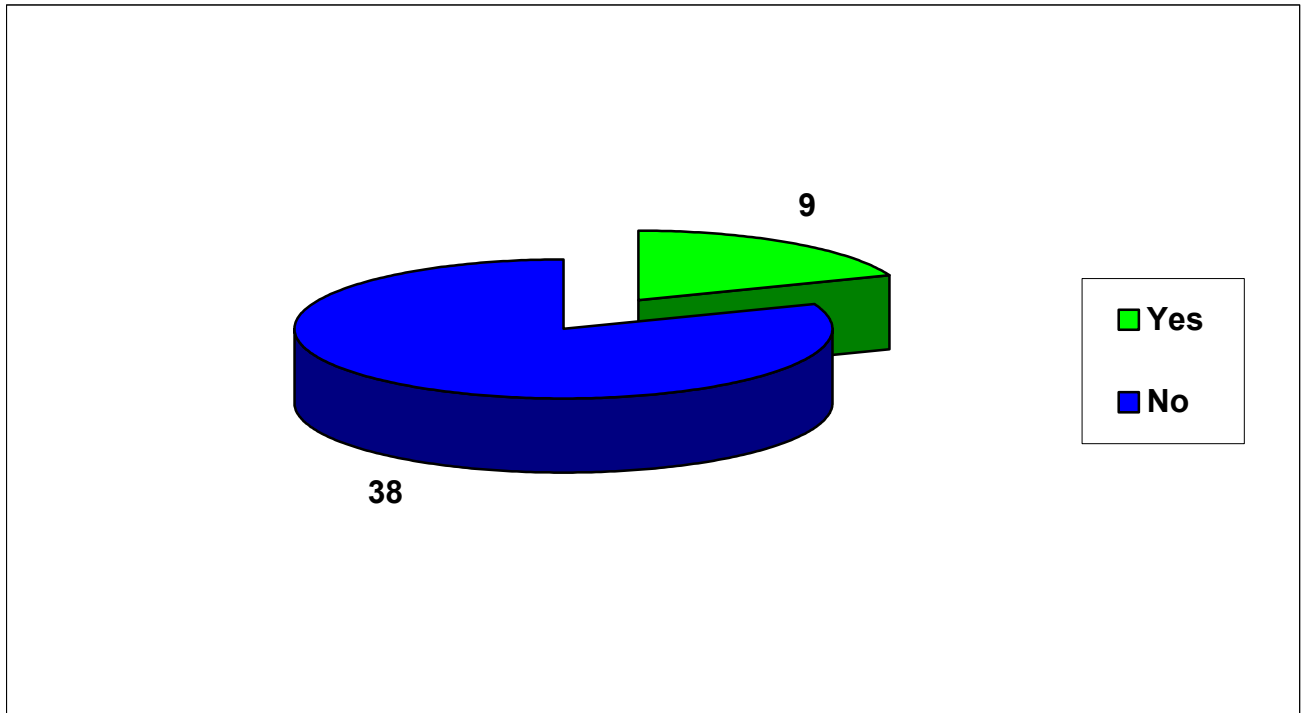
##### ***State Definition of Advanced Services***

As shown in figure A-1 and table A-1, currently nine responding states out of 47 (about 19 percent) have their own definition of advanced (or broadband) telecommunications infrastructure (or services) defined by state laws, administrative codes, or commission ruling. Among those, seven states (Florida, Michigan, Oklahoma, Pennsylvania, South Dakota, Texas, and Wisconsin) appear to have defined advanced services for general telecommunications regulatory policy purposes, while two states (Idaho and Oregon) have such definitions for other purposes. In Idaho, “broadband equipment” was defined by a state law for tax credit purposes, and in Oregon, a definition of “advanced services” was made by the Oregon Economic Development Department for its program to fund telecommunications infrastructure projects.

Most of the states (six of nine: Idaho, Michigan, Oklahoma, Pennsylvania, South Dakota, and Texas) that have their own definition of advanced services relied on the transmission speed in defining the term with varying speed from 144 Kbps to 51.84 Mbps in terms of downstream direction, while three states (Florida, Oregon, and Wisconsin)

defined the term without reference to the transmission speed. Interestingly, Wisconsin has a definition of “advanced service capabilities” that considers time frame with gradual inclusion of services to the scope of universal service. The vast majority of the responding states (38 of 47), however, did not have their own definition of advanced services at the time.

**FIGURE A-1: STATE DEFINITION OF ADVANCED TELECOMMUNICATIONS SERVICES**



Source: NRRI survey on advanced telecommunications services, 2002.

TABLE A-1

Does your state have its own definition of advanced/broadband telecommunications infrastructure or advanced/broadband telecommunications services?	
Yes (9)	FL, ID, MI, OK, OR, PA, SD, TX, WI
No (38)	AL, AK, AZ, AR, CA, CO, CT, DE, DC, HI, IN, IA, KS, KY, LA, ME, MD, MA, MN, MS, MO, MT, NE, NH, NJ, NM, NY, NC, ND, OH, SC, TN, UT, VT, VA, WA, WV, WY
State	Comment
FL	Section 364.508, Florida Statutes (5) "Advanced telecommunications services" are defined as network-based or wireless services that provide additional communications capabilities enabling the use of applications such as distance learning, video conferencing, data communications, and access to Internet.
ID	<ul style="list-style-type: none"> <li>■ Idaho recently passed a law providing a tax credit for "broadband" infrastructure investments, and that statute, for the purposes of the tax credit, has a definition of "broadband equipment." But the PUC does not necessarily use this definition for anything other than tax credit issues.</li> <li>■ Idaho Statutes, Title 63 Revenue and Taxation, Chapter 30 Income Tax 63-30291. (b) "Qualified broadband equipment" means equipment that qualifies for the credit for capital investment permitted by section 63-3029B, Idaho Code, and is capable of transmitting signals at a rate of at least 200,000 bits per second to a subscriber and at least 125,000 bits per second from a subscriber---</li> </ul>
MI	"Broadband" means a capability in excess of 144 kilobits per second (Section 322, Michigan Telecommunications Act, Public Act 179, 1991).
OK	"High speed Internet access service" or "broadband service" means, as used in Section 3 of this act, those services and underlying facilities that provide upstream, from customer to provider, or downstream, from provider to customer, transmission to or from the Internet in excess of one hundred fifty (150) kilobits per second, regardless of the technology or medium used including, but not limited to, wireless, copper wire, fiber optic cable, or coaxial cable, to provide such service; (17 O.S. 2001, Section 139.102 as amended by HB 2796 signed into law on April 16, 2002).
OR	No definition by the commission. But the Oregon Economic Development Department has defined "advanced services" as "those telecommunications services that are not included in the definition of basic telephone service" (OAR 123-105-0030) for its program to fund telecom infrastructure projects. The commission defined "basic telephone service" as retail telecommunications service that is single party, has voice grade or equivalent transmission parameters and tone-dialing capability, provides local exchange calling, and gives customers access to but does not include: (a) extended area service (EAS); (b) long distance service; (c) relay service for the hearing and speech impaired; (d) operator service such as call completion assistance, special billing arrangements, service and trouble assistance, and billing inquiry; (e) directory assistance; and (f) emergency 9-1-1 service, including E-9-1-1 where available.
PA	The Pennsylvania legislature has defined "broadband" as "a communications channel using any technology and having a bandwidth equal to or greater than 1.544 megabits per second" for its alternative form of regulation (66 Pa. C.S.A. § 3002).

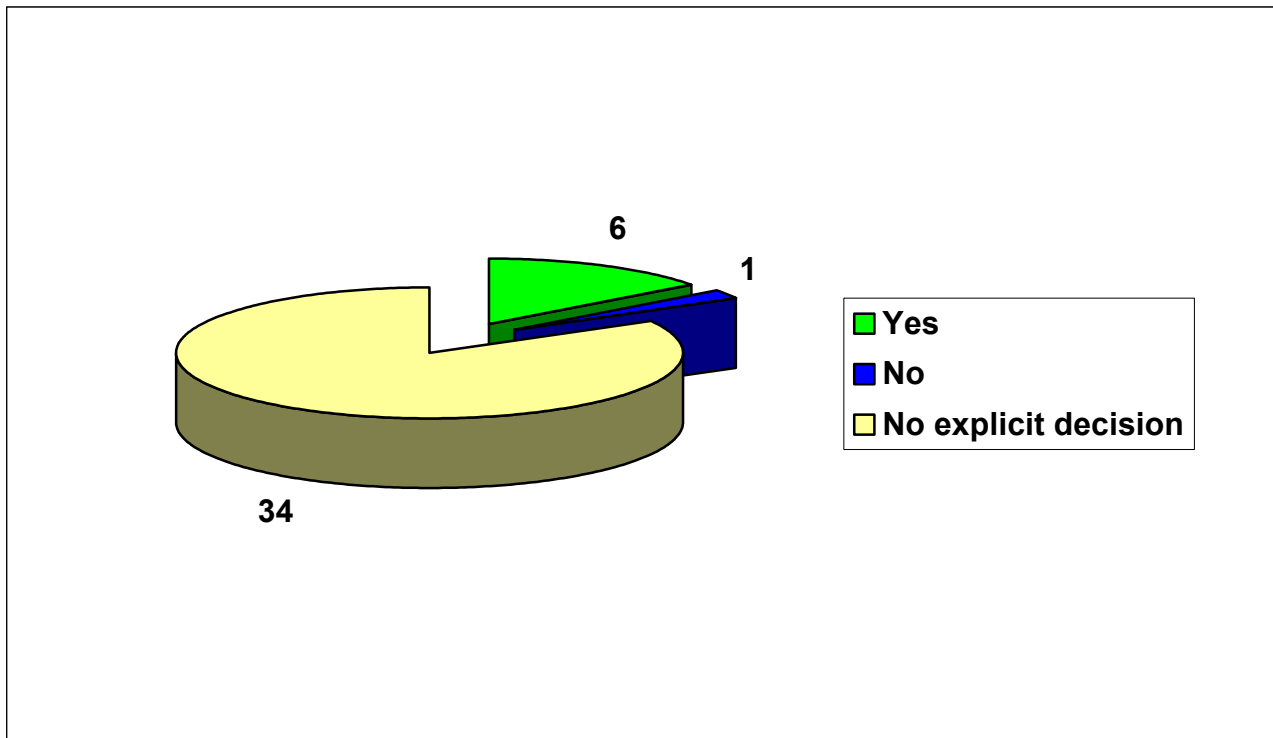
**TABLE A-1 (CONT'D)**

<b>Does your state have its own definition of advanced/broadband telecommunications infrastructure or advanced/broadband telecommunications services?</b>	
<b>State</b>	<b>Comment</b>
<b>SD</b>	<p>South Dakota Codified Laws 49-31-1. Definitions</p> <p>( 3) "Broadband network," the broadband network extends the range of fully switched, addressable, robust transport services over the fiber network which increase in multiples of OC-1 (51.84 Mbps), including OC-3 (155.52 Mbps) and OC-12 (622.08 Mbps).</p> <p>(14) "Narrowband network," a fully switched digital network covering the transport range from 0 to 144,000 bits per second (144 Kbps), offering two 64 Kbps information B (Bearer) channels and a 16 Kbps signaling D (Delta) channel.</p> <p>(28) "Wideband network," the wideband network extends the range of fully switched, digital, addressable information transport from the 144 Kbps to the DS3 rate of 44.736 Mbps, including the DS1 and DS2 rates of 1.544 Mbps and 6.312 Mbps, respectively.</p>
<b>TX</b>	<ul style="list-style-type: none"> <li>■ The Texas PUC has used the following definition for a specific case (rulemaking to address the provision of advanced services by electing companies, COA, or SPCOA holders in rural service areas. Project No. 21175). It is not a general definition that can be applied to every case.</li> <li>■ Advanced telecommunications services — Any retail telecommunications services that, regardless of transmission medium or technology, are capable of originating and receiving data transmissions for the purpose of accessing the Internet with a speed of at least 200 kilobits per second in the last mile in one direction and with a speed of at least 128 kilobits a second in the last mile in the opposite direction</li> </ul>
<b>WI</b>	<ul style="list-style-type: none"> <li>■ Section 196.218, Wisconsin Statutes                     <ul style="list-style-type: none"> <li>(4) Essential services and advanced service capabilities.                             <ul style="list-style-type: none"> <li>--- Before January 1, 1996, and biennially thereafter, the commission shall promulgate rules that define a set of advanced service capabilities that shall be available to all areas of this state at affordable prices within a reasonable time and that are a necessary component of universal service. For rules promulgated before January 1, 1996, a reasonable time for the availability of the defined set of advanced service capabilities shall be no later than January 1, 2005, and, for rules promulgated thereafter, a reasonable time for the availability of additional advanced service capabilities in the defined set shall be no later than 7 years after the effective date of the rules. These essential services and advanced service capabilities shall be based on market, social, economic development and infrastructure development principles rather than on specific technologies or providers.</li> </ul> </li> </ul> </li> <li>■ Section PSC 160.035, Wisconsin Administrative Code                     <ul style="list-style-type: none"> <li>(1) "Advanced service capabilities" means all the following:                             <ul style="list-style-type: none"> <li>(a) Digital access lines and channels by January 1, 2000.</li> <li>(b) High speed data transfer connectivity by January 1, 2002.</li> <li>(c) Two-way interactive video conferencing at a speed no less than 30 frames per second and two-way interactive imaging capabilities by January 1, 2003.</li> </ul> </li> </ul> </li> </ul>

### Use of the FCC's Definition

Among those states that either do not have their own definition of advanced services or have such definitions for limited purposes rather than general regulatory purposes, six state commissions reported that they use the FCC's definition when dealing with advanced services issues. One state commission (Ohio) responded that it does not use the FCC's definition. Most of the responding states reported that no explicit decision has been made within their state commissions regarding whether to use the FCC's definition of advanced services (see figure A-2 and table A-2).

**FIGURE A-2: USE OF THE FCC'S DEFINITION**



Source: NRRI survey, 2002.

TABLE A-2

If no to question 1, does your state use the FCC's definition in regulating advanced telecommunications services?	
<b>Yes (6)</b>	<b>CT, IA</b> (The commission does not regulate advanced services, but it applies the FCC's definition when dealing with advanced services.) <b>KY, MA, MS, WY</b>
<b>No (1)</b>	<b>OH</b> (The PUCO definition of advanced telecommunications services includes the regulation of DSL transport, i.e., facilities out to the ISP, but does not include the ISP service to the end user.)
<b>No explicit decision has been made (34)</b>	<b>AL, AK, AZ, AR, CA, CO, DE, DC, HI, ID, IN, KS, LA, ME, MD, MN, MO, MT, NE, NH, NJ, NM, NY, NC, ND, OR, SC, TN, TX, UT, VT, VA, WA, WV</b> (The commission has a task force on broadband and it defines broadband as 200Kbps. But no official decision has been made.)

### B. State Commission Treatment of Advanced Services (N = 46)

The questions in this part of the survey make distinctions among four different categories of providers of advanced services: incumbent local exchange carriers (ILECs), competitive local exchange carriers (CLECs), data CLECs, and neither ILECs nor CLECs.<sup>5</sup> These categories enable us to see if there is any difference in state regulatory treatment of advanced services based on the provider type. It appears that in general state commissions place more regulatory emphasis on ILECs than they do on other types of providers, while specific treatment may differ from state to state. This should not be too surprising given the current structure of the U.S. telecommunications industry. Detailed information follows.

#### **Rate Setting for Advanced Services**

Regarding rate setting for advanced services in rate cases, 15 commissions responded that they (might) set rates for advanced services for ILECs. There were only a few commissions that reported that they (might) do so for other categories of providers

<sup>5</sup> In this survey, these terms are defined as follows: CLECs are competitive local exchange carriers that provide both advanced services and local telephone service; data CLECs are competitive local exchange carriers that provide only advanced services; neither ILECs nor CLECs are providers that are not ILECs or CLECs but provide advanced services.

(CLECs, data CLECs, and neither ILECs nor CLECs). Among providers under those three categories, DSL providers, interexchange carriers (IXCs), and resellers are slightly more likely to be regulated by state commissions for rates than other types of providers. As explained by commission comments, however, oftentimes such commission authority is rarely exercised. Overall, it seems that the majority of the responding commissions allow flexibility in rate making for providers for advanced services (see table B-1).

**TABLE B-1**

<b>Does your commission set rates for advanced services in rate cases?</b>		
<b>ILECs (15)</b>		<p><b>AK, CA</b> (The advanced services provided by the four largest California ILECs are considered “fully competitive” under our incentive ratemaking (new regulatory framework: NRF) procedures and as such are not scrutinized by the CPUC. The rates for advanced services provided by smaller California ILECs are established by cost of service/rate of return ratemaking procedures.)</p> <p><b>HI, ID</b> (ILECS may opt out of continued price regulation of advanced services. Qwest South has done so; All other ILECS remain fully price regulated.)</p> <p><b>NY</b> (If a utility subject to rate regulation applies for a rate adjustment)</p> <p><b>LA</b> (BellSouth and some ILECs are regulated under price cap plans.)</p> <p><b>MS, NH, NY</b> (in some circumstances)</p> <p><b>NC</b> (ROR companies)</p> <p><b>OR</b> (Small companies under 50,000 lines and cooperatives are generally exempt from rate cases.)</p> <p><b>PA</b> (The PA PUC has not had a rate case filed by any carrier in a number of years.)</p> <p><b>VT, WA</b> (The commission requires tariffs for regulated providers, or in the case of services and companies classified as competitive, flexibly regulated price lists.)</p> <p><b>WI</b> (small ROR regulated telcos)</p>
<b>CLECs</b>	<b>Wireless (0)</b>	
	<b>Cable (1)</b>	<b>HI</b> (Currently, there are no providers in this category, but their rates could be set in rate cases or via tariff filings if there were.)
	<b>DSL Providers (3)</b>	<p><b>HI</b> (Currently, there are no providers in this category, but their rates could be set in rate cases or via tariff filings if there were.)</p> <p><b>OK, PA</b> (The PA PUC has not had a rate case filed by any carrier in a number of years.)</p>
	<b>Satellite Providers (1)</b>	<b>HI</b> (Currently, there are no providers in this category, but their rates could be set in rate cases or via tariff filings if there were.)
<b>Data CLECs</b>	<b>Wireless (0)</b>	
	<b>Cable (1)</b>	<b>HI</b> (Currently, there are no providers in this category, but their rates could be set in rate cases or via tariff filings if there were.)
	<b>DSL Providers (4)</b>	<p><b>DC, HI</b> (Currently, there are no providers in this category, but their rates could be set in rate cases or via tariff filings if there were.)</p> <p><b>OK, PA</b> (The PA PUC has not had a rate case filed by any carrier in a number of years.)</p>
	<b>Satellite Providers (1)</b>	<b>HI</b> (Currently, there are no providers in this category, but their rates could be set in rate cases or via tariff filings if there were.)

**TABLE B-1 (CONT'D)**

<b>Does your commission set rates for advanced services in rate cases?</b>		
<b>Neither ILECs Nor CLECs</b>	<b>Resellers (3)</b>	<b>HI</b> (Rates may be set in rate cases or via tariff filings.) <b>NY</b> (could, but rarely do, set rates for these entities) <b>PA</b> (The PA PUC has not had a general rate case filed by any carrier in a number of years.)
	<b>Wireless (0)</b>	
	<b>Cable (1)</b>	<b>HI</b> (Rates may be set in rate cases or via tariff filings.)
	<b>DSL Providers (3) (such as over shared lines)</b>	<b>HI</b> (Rates may be set in rate cases or via tariff filings.) <b>MS, NE</b>
	<b>Satellite Providers (1)</b>	<b>HI</b> (Rates may be set in rate cases or via tariff filings.)
	<b>Interexchange Carriers (4)</b>	<b>AK</b> (only for dominant carrier) <b>HI</b> (Rates may be set in rate cases or via tariff filings.) <b>NY</b> (could, but rarely do, set rates for these entities) <b>PA</b> (The PA PUC has not had a general rate case filed by any carrier in a number of years.)
	<b>Private Lines (2)</b>	<b>AK</b> (only for dominant carrier) <b>HI</b> (Rates may be set in rate cases or via tariff filings.)

### ***Setting Price Caps for Advanced Services***

Commissions were asked whether they set price caps for advanced services. Nine commissions reported that they (might) set price caps for advanced services provided by ILECs, at least for some companies or services. Only a small number of commissions indicated that they either do set price caps or could set price caps for advanced services provided by other categories of operators, i.e., CLECs, data CLECs, and neither ILECs nor CLECs. Among these, four commissions reported that they set price caps for advanced services offered by DSL providers that fall under the categories of CLECs or data CLECs (see table B-2).

TABLE B-2

Does your commission set price caps for advanced services?		
<b>ILECs</b>	<b>(9)</b>	<b>AZ</b> (for competitive service offerings) <b>CA</b> (The NRF companies have flexibility in setting rates but once set, they are limited by price caps.) <b>LA</b> (for intrastate offerings) <b>MS, NM, NY</b> (in some circumstances) <b>OR</b> (Qwest) <b>PA</b> (ILECs can opt for price cap regulation under Chapter 30 of 66 Pa. C.S.A.) <b>WA</b> (The commission has authority to do this but has not approved any price cap proposals for advanced services.)
<b>CLECs</b>	<b>Wireless</b>	<b>(2)</b> <b>AZ</b> (for competitive service offerings) <b>VA</b> (price ceilings)
	<b>Cable</b>	<b>(2)</b> <b>AZ</b> (for competitive service offerings) <b>VA</b> (price ceilings)
	<b>DSL Providers</b>	<b>(4)</b> <b>AZ</b> (for competitive service offerings) <b>PA</b> (in some circumstances) <b>VA</b> (price ceilings) <b>WA</b>
	<b>Satellite Providers</b>	<b>(2)</b> <b>AZ</b> (for competitive service offerings) <b>VA</b> (price ceilings)
<b>Data CLECs</b>	<b>Wireless</b>	<b>(2)</b> <b>AZ</b> (for competitive service offerings) <b>VA</b> (price ceilings)
	<b>Cable</b>	<b>(2)</b> <b>AZ</b> (for competitive service offerings) <b>VA</b> (price ceilings)
	<b>DSL Providers</b>	<b>(4)</b> <b>AZ</b> (for competitive service offerings) <b>DC, VA</b> (price ceilings) <b>WA</b>
	<b>Satellite Providers</b>	<b>(2)</b> <b>AZ</b> (for competitive service offerings) <b>VA</b> (price ceilings)
<b>Neither ILECs Nor CLECs</b>	<b>Resellers</b>	<b>(2)</b> <b>AZ, NY</b> (could, but rarely do, set rates for these entities)
	<b>Wireless</b>	<b>(0)</b>
	<b>Cable</b>	<b>(0)</b>
	<b>DSL Providers (such as over shared lines)</b>	<b>(1)</b> <b>MS</b>
	<b>Satellite Providers</b>	<b>(0)</b>
	<b>Interexchange Carriers</b>	<b>(1)</b> <b>AZ</b>
	<b>Private Lines</b>	<b>(1)</b> <b>AZ</b>

**Inclusion of Advanced Services in Price Cap Baskets**

Concerning whether advanced services are included in price cap baskets, 16 commissions reported that advanced services offered by ILECs were either included or could be included in price cap baskets. Some of them indicated that it applies to some companies or services only. For other categories of providers, only one or two commissions responded that advanced services were included in price cap baskets (see table B-3).

**TABLE B-3**

Are advanced services included in price cap baskets?		
<b>ILECs (16)</b>		<b>AL, AZ, CA, KY, LA</b> (for intrastate offerings) <b>MD</b> (fast packet services: SMDS, FDDI, frame relay, high capacity services, DDS service) <b>MS, NY</b> (in some circumstances) <b>NC</b> (price plan companies) <b>OH</b> (if the service in question is a regulated service) <b>OR</b> (Qwest) <b>TN</b> (The TRA doesn't have explicit definition of advanced services, but certain services provided by the ILECs may very well be characterized as advanced services. Such services are included in price cap baskets of the price-cap regulated ILECs.) <b>UT, WA</b> (The commission has authority to do this but has not approved any price cap proposals for advanced services.) <b>WI</b> (for some custom price cap plans) <b>WY</b>
<b>CLECs</b>	<b>Wireless (1)</b>	<b>VA</b>
	<b>Cable (1)</b>	<b>VA</b>
	<b>DSL Providers (1)</b>	<b>VA</b>
	<b>Satellite Providers (1)</b>	<b>VA</b>
<b>Data CLECs</b>	<b>Wireless (1)</b>	<b>VA</b>
	<b>Cable (1)</b>	<b>VA</b>
	<b>DSL Providers (2)</b>	<b>DC, VA</b>
	<b>Satellite Providers (1)</b>	<b>VA</b>

TABLE B-3 (CONT'D)

Are advanced services included in price cap baskets?		
Neither ILECs Nor CLECs	Resellers (1)	NY (could, but rarely do, set rates for these entities)
	Wireless (0)	
	Cable (0)	
	DSL Providers (0) (such as over shared lines)	
	Satellite Providers (0)	
	Interexchange Carriers (1)	AZ
	Private Lines (1)	AZ

### ***Tariffing of Advanced Services***

Commissions were asked whether advanced services were tariffed. The majority of the responding commissions (33 of 46, or about 72 percent) reported that advanced services provided by ILECs were tariffed. Slightly more than half the responding commissions indicated that DSL providers under the categories of CLECs or data CLECs file tariffs (CLECs: 23 commissions, data CLECs: 25 commissions). Among the providers that are neither ILECs nor CLECs, IXCs (21 commissions), resellers (17 commissions), and private lines (14 commissions) are more likely to file tariffs with the commissions than other types of providers within that category.

**TABLE B-4**

<b>Are advanced services tariffed?</b>		
<b>ILECs (33)</b>		<p><b>AK, AZ, AR, CA</b> (All companies providing advanced services in California are required to file tariffs. Most companies, however, bypass the requirement by opting instead to sell their advanced services through their FCC interstate tariffs.)</p> <p><b>CT, FL, HI, ID</b> (In some circumstances; for fully regulated companies, yes, for price deregulated companies, "price lists," which are not reviewed by the commission, are required for message telecommunications service. Many price lists also include prices for other services, including advanced and broadband services. )</p> <p><b>IN, KY, LA</b> (for intrastate offerings)</p> <p><b>MD, MN, MS, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020)</p> <p><b>NE, NH, NM</b> (only intrastate services)</p> <p><b>NY, NC</b> (intrastate services except Internet- bound DSL)</p> <p><b>ND, OH</b> (some services)</p> <p><b>OK, OR</b> (Four small investor-owned utilities and eleven cooperatives do not file local service tariffs.)</p> <p><b>PA</b> (Some advanced services are filed in FCC tariffs only.)</p> <p><b>SD</b> (Qwest only)</p> <p><b>UT, VT, VA, WA</b> (tariffs for regulated providers, flexibly regulated price lists for services and companies classified as competitive)</p> <p><b>WV, WI, WY</b> (in some circumstances)</p>
<b>CLECs</b>	<b>Wireless (7)</b>	<p><b>AZ, HI, MD, ND, OH</b> (some services)</p> <p><b>SD, VA</b> (intrastate services)</p>
	<b>Cable (9)</b>	<p><b>AZ, CA, HI, MD, MN, ND, SD, VT, VA</b> (intrastate services)</p>
	<b>DSL Providers (23)</b>	<p><b>AL</b> (not under price cap)</p> <p><b>AZ, CA</b> (All companies providing advanced services in California are required to file tariffs. Most companies, however, bypass the requirement by opting instead to sell their advanced services through their FCC interstate tariffs.)</p> <p><b>CT, DE, FL, HI, ID</b> (Maybe; A company providing only broadband services would not be required to file a price list.)</p> <p><b>IN, KY, MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020)</p> <p><b>NE, NM</b> (only intrastate services)</p> <p><b>NY, ND, OH, OK, PA</b> (Some advanced services are filed in FCC tariffs only.)</p> <p><b>SC, SD, VT, VA</b> (intrastate services)</p>
	<b>Satellite Providers (6)</b>	<p><b>AZ, HI, MD, ND, SD, VA</b> (intrastate services)</p>
<b>Data CLECs</b>	<b>Wireless (6)</b>	<p><b>AZ, HI, MD, ND, SD, VA</b> (intrastate services)</p>
	<b>Cable (10)</b>	<p><b>AZ, CA, HI, MD, MN, ND, SD, VT, VA</b> (intrastate services)</p> <p><b>WI</b></p>

TABLE B-4 (CONT'D)

Are advanced services tariffed?		
	<b>DSL Providers (25)</b>	<b>AL</b> (not under price cap) <b>AZ, CA</b> (All companies providing advanced services in California are required to file tariffs. Most companies, however, bypass the requirement by opting instead to sell their advanced services through their FCC interstate tariffs.) <b>CT, DE, DC, FL, HI, ID</b> (Maybe; A company providing only broadband services would not be required to file a price list.) <b>IN, KY, MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NM</b> (only intrastate services) <b>NY, ND, OH</b> (some services) <b>OK, PA</b> (Some advanced services are filed in FCC tariffs only.) <b>SC, SD, VT, VA</b> (intrastate services) <b>WI</b>
	<b>Satellite Providers (7)</b>	<b>AZ, HI, MD, ND, SD, VA</b> (intrastate services) <b>WI</b>
<b>Neither ILECs Nor CLECs</b>	<b>Resellers (17)</b>	<b>AL, AZ, CA</b> (terms and conditions only—not rates or charges) <b>CT, DE, HI, KY, MD, MN, NM, NY, OK, PA, SD, UT, VT, WY</b> (some companies, but not required)
	<b>Wireless (5)</b>	<b>CA</b> (terms and conditions only—not rates or charges) <b>HI, MD, ND</b> (for facility-based carriers) <b>VT</b>
	<b>Cable (6)</b>	<b>CA, HI, MD, MN, ND</b> (for facility-based carriers) <b>VT</b>
	<b>DSL Providers (14) (such as over shared lines)</b>	<b>AL, CA</b> (Many providers opt out of the state requirements by offering services through their intrastate tariffs.) <b>CT, DE, HI, KY, MN, MS, NE, ND</b> (for facility-based carriers) <b>PA, SC, SD, VT</b>
	<b>Satellite Providers (3)</b>	<b>HI, MD, ND</b> (for facility-based carriers)
	<b>Interexchange Carriers (21)</b>	<b>AL, AK, AZ, CA</b> (Although technically detariffed, some ILECs voluntarily file tariffs with the CPUC.) <b>CT, DE, HI, KY, MD, MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NM, NY, NC</b> (facilities-based IXCs only; intrastate services except Internet-bound DSL) <b>ND</b> (for facility-based carriers) <b>OK, PA, SD, VT, WI</b> (facility-based IXCs) <b>WY</b> (some companies, but not required)
	<b>Private Lines (14)</b>	<b>AK, AZ, CA, FL, HI, KY, MD, MN, NM, NC, ND</b> (for facility-based carriers), <b>OK, SD, VT</b>

### ***Commission Action on Filed Tariffs***

Regarding what commissions actually do with the tariffs filed for advanced services, responses varied from state to state and ranged from approval to requiring filing for information purposes, depending upon provider types (see table B-5). In the case of the ILECs, 17 commissions reported that they approve the tariffs, while 11 commissions responded that they allow the tariffs to become effective after a certain period unless the commission takes action, and eight commissions said that they require filing of those tariffs for information purposes. Unlike ILECs, the tariffs of providers of other categories are less likely to be approved by the state commission. Rather, they are more likely to be allowed to go into effect if there were no action by the commission or be filed for information purposes. Thus, it appears that CLECs and other competitive providers are more loosely regulated in terms of tariffs compared to ILECs.

TABLE B-5

If yes to question 4, what does the commission do with the tariffs?					
Category/Type of Providers		Approval	Allows the tariffs to become effective after a certain period unless the commission takes action	Filed for information purposes	Other
ILECs		<b>AK, AZ, CA</b> (companies under rate of return regulation) <b>CT, ID</b> (fully regulated companies) <b>IN, LA, MD, MS, NH, OH</b> (other ILECs that do not fall under the category provided in the next column) <b>OK, PA, UT, WA</b> (tariffs for regulated providers) <b>WV, WY</b> (17)	<b>HI, KY, MN, NE, NM, NY, NC, OH</b> (Ameritech, Cincinnati Bell, small ILECs with 15,000 lines or less) <b>OR</b> (three large ILECs, except Qwest, with 50,000 lines or more; small ILECs with under 50,000 lines) <b>VT, VA</b> (11)	<b>AR, CA</b> (companies under incentive regulation) <b>FL, ID</b> (economically deregulated companies), <b>ND, SD, WA</b> (flexibly regulated price lists for services and companies classified as competitive) <b>WI</b> (8)	<b>MO</b> (The commission approves the tariff when an ILEC offers a new service or offering. All other filings are for commission review only.) <b>OR</b> (Price cap tariffs for non-basic services of Qwest are only acknowledged, and the commission can investigate after those tariffs go into effect.) (2)
CLECs	Wireless	<b>AZ, MD</b> (2)	<b>VA</b> (1)	<b>HI, ND, OH, SD</b> (4)	
	Cable	<b>AZ, CA, MD</b> (3)	<b>HI, MN, VT, VA</b> (4)	<b>ND, SD</b> (2)	
	DSL Providers	<b>AZ, CA, CT, IN, OK, PA, SC</b> (7)	<b>AL, DE, HI, KY, MN, NE, NM, NY, OH, VT, VA</b> (11)	<b>FL, ID, ND, SD, WA</b> (5)	<b>MO</b> (The commission approves the initial tariff for a CLEC. All other filings are for commission review only.) (1)
	Satellite Providers	<b>AZ, MD</b> (2)	<b>HI, VA</b> (2)	<b>ND, SD</b> (2)	

**TABLE B-5 (CONT'D)**

If yes to question 4, what does the commission do with the tariffs?					
Category/Type of Providers	Approval	Allows the tariffs to become effective after a certain period unless the commission takes action	Filed for information purposes	Other	
Data CLECs	Wireless	AZ, MD (2)	VA (1)	HI, ND, SD (3)	
	Cable	AZ, CA, MD (3)	HI, MN, VT, VA (4)	ND, SD, WI (3)	
	DSL Providers	AZ, CA, CT, IN, OK, PA, SC (7)	AL, DE, HI, KY, MN, NE, NM, NY, OH, VT, VA (11)	DC, FL, ID, ND, SD, WA, WI (7)	<b>MO</b> (The commission approves the initial tariff. All other filings are for commission review only.) (1)
	Satellite Providers	AZ, MD (2)	HI, VA (2)	ND, SD, WI (3)	
Neither ILECs Nor CLECs	Resellers	AZ, CT, MD, PA (4)	AL, CA, DE, HI, MN, NM, NY, VT (8)	KY, OK, SD, UT, WY (5)	
	Wireless	MD (1)	VT (1)	CA, HI, ND (3)	
	Cable	CA, MD (2)	HI, MN, VT (3)	ND (1)	
	DSL Providers (such as over shared lines)	CA, CT, MS, PA, SC (5)	AL, DE, HI, MN, NE, VT (6)	KY, ND, SD (3)	
	Satellite Providers	MD (1)	HI (1)	ND (1)	
	Inter-exchange Carriers	AK, AZ, CA, CT, MD, PA (6)	AL, DE, HI, MN, NM, NY, NC, VT (8)	KY, ND, OK, SD, WI, WY (6)	<b>MO</b> (The commission approves the initial tariff. All other filings are for commission review only.) (1)
	Private Lines	AK, AZ, CA, MD (4)	HI, MN, NM, NC, VT (5)	FL, KY, ND, OK, SD (5)	

### ***Certification/Registration of Providers***

Commissions were asked whether they certify providers or merely require them to be registered. As can be seen in table B-6, in most cases where certification or registration is required, providers of advanced services are likely to be subject to commission certification rather than registration. In the case of the ILECs, 41 commissions indicated that they certify ILECs, while only two commissions responded that they require ILECs to be registered. In cases of CLECs and data CLECs, DSL providers are more likely to be subject to certification than other types of providers within the categories (CLECs: 33 commissions, data CLECs: 28 commissions). Among the providers that are neither ILECs nor CLECs, IXCs (21 commissions) and resellers (21 commissions) are more often required to be certified by the commission compared to other types of providers within the category.

**TABLE B-6**

Does the commission certify this type of provider or require it to be registered?			
Category/Type of Providers	Certification	Registration	Other
<b>ILECs</b>	<b>AL, AK, AZ, AR, CA, CO, CT, DE, DC, FL, ID, IN, IA, KS, KY, LA, ME, MD, MN, MS, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NH, NM</b> (for intrastate services) <b>NY, NC, ND, OH, OK, OR, PA, SC</b> (in some circumstances) <b>SD, TN, TX, UT, VT, VA, WV, WI, WY</b> (in some circumstances) <b>(41)</b>	<b>MI, WA (2)</b>	
<b>CLECs</b>	<b>Wireless</b> <b>AZ, IA, KS, LA, ME, MD, MN, ND, OH, TX</b> (does not make a distinction between wireless, cable, DSL, or satellite providers so long as they are certified as CLECs) <b>VT, VA</b> (for intrastate services) <b>(12)</b>	<b>CA, HI, KY (3)</b>	
	<b>Cable</b> <b>AZ, CA, CO, HI, IA, KS, LA, ME, NC, ND, OR, TX</b> (does not make a distinction between wireless, cable, DSL, or satellite providers so long as they are certified as CLECs) <b>VT, VA</b> (for intrastate services) <b>WI (15)</b>		
	<b>DSL Providers</b> <b>AL, AZ, CA, CO, CT, DE, DC, FL, HI, ID, IN, KS, ME, MD, MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NH, NM</b> (for intrastate services) <b>NY, NC, ND, OH, OK, OR, PA, SC, SD, TN, TX</b> (does not make a distinction between wireless, cable, DSL, or satellite providers so long as they are certified as CLECs) <b>VT, VA</b> (for intrastate services) <b>WI (33)</b>	<b>KY, MI (2)</b>	
	<b>Satellite Providers</b> <b>AZ, HI, KS, ME, MD, NC</b> (none currently certified) <b>ND, OH, TX</b> (does not make a distinction between wireless, cable, DSL, or satellite providers so long as they are certified as CLECs), <b>VA</b> (for intrastate services) <b>(10)</b>		

TABLE B-6 (CONT'D)

Does the commission certify this type of provider or require it to be registered?				
Category/Type of Providers	Certification	Registration	Other	
Data CLECs	Wireless	AZ, ME, MD, ND, OH, TX (does not make a distinction between wireless, cable, DSL, or satellite providers so long as they are certified as CLECs) VT, VA (for intrastate services) (8)	CA, HI, KY (3)	
	Cable	AZ, CA, HI, ME, MD, MN, ND, OH, OR, TX (does not-, or satellite providers so long as they are certified as CLECs), VT, VA (for intrastate services) WI (13)		
	DSL Providers	AL, AZ, CA, CT, DE, DC, FL, HI, IN, ME, MD, MN, MO (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) NE, NM (for intrastate services) NY, ND, OH, OK, OR, PA, SC, SD, TN, TX (providers that offer data only) VT, VA (for intrastate services) WI (28)	KY, MI (2)	ID (Simple "notification" is required.) (1)
	Satellite Providers	AZ, HI, ME, MD, ND, TX (providers that offer data only) VA (for intrastate services) WI (8)		
Neither ILECs Nor CLECs	Resellers	AL, AZ, CA, CO, CT, DE, HI, ME, MD, MN, NM, NY, NC, ND, OK, OR, PA, SD, TN, WI, WY (local service only) (21)	KY, MI, VT (3)	ID (notification) (1)
	Wireless	ME, MD (fixed wireless) ND (3)	CA, HI, VT (3)	
	Cable	CA, HI, ME, MD, MN, NC, ND, OR, VT (9)		ID (notification) (1)
	DSL Providers (such as over shared lines)	AL, CA, CT, DE, HI, ME, MN, MS, NE, NC, ND, OR, PA, SC, SD (15)	KY, MI, VT (3)	ID (notification) (1)
	Satellite Providers	HI, ME, MD, NC, ND (5)		
	Inter-exchange Carriers	AL, AK, AZ, CA, CO, CT, DE, HI, ME, MD, MN, MO, NM, NY, NC, ND, OK, OR, PA, SD, WI (21)	KY, MI, TN, VT, WY (5)	ID (notification) (1)
	Private Lines	AL, AK, AZ, CA, CO, HI, ME, MD, MN, NM, NC, ND, OK, OR, SD (15)	KY, VT (2)	ID (notification) (1)

**Arbitration of Interconnection Agreements Involving Advanced Services**

As shown in table B-7, many state commissions have arbitrated interconnection agreements involving advanced services, mainly for ILECs (22 commissions) and CLECs (20 commissions) or data CLECs (17 commissions) providing DSL. Six commissions also indicated that they have arbitrated interconnection agreements involving advanced services for DSL providers that are neither ILECs nor CLECs. This may suggest that currently competition in advanced telecommunications services (does not include cable modem service) is taking place mainly in DSL service areas. For other types of providers, there has been little experience in arbitrating such interconnection agreements at the responding state commissions.

**TABLE B-7**

<b>Has the commission arbitrated interconnection agreements in which provision of advanced services was a disputed issue for this type of provider?</b>		
<b>ILECs (22)</b>		<b>AK, AZ, CA, CO, FL, IN, KS, KY, ME</b> (A very small part was related to advanced services.) <b>MD, MS, MO, NE, NM, NY, NC, OH, PA, TN, TX, WI, WY</b>
<b>CLECs</b>	<b>Wireless (1)</b>	<b>NE</b>
	<b>Cable (0)</b>	
	<b>DSL Providers (20)</b>	<b>AZ, CA, FL, ID, IN, KS, MD, MO, NE, NM, NY, NC, OH, OR, PA, SC</b> (The commission has been requested to arbitrate issues related to line sharing and line splitting.) <b>TN, TX, WA, WI</b>
	<b>Satellite Providers (0)</b>	
<b>Data CLECs</b>	<b>Wireless (0)</b>	
	<b>Cable (0)</b>	
	<b>DSL Providers (17)</b>	<b>AZ, CA, FL, ID, IN, MD, NE, NM, NY, NC, OH, OR, PA, SC</b> (The commission has been requested to arbitrate issues related to line sharing and line splitting.) <b>TX, WA, WI</b>
	<b>Satellite Providers (0)</b>	

**TABLE B-7 (CONT'D)**

<b>Has the commission arbitrated interconnection agreements in which provision of advanced services was a disputed issue for this type of provider?</b>		
<b>Neither ILECs Nor CLECs</b>	<b>Resellers (1)</b>	<b>NE</b>
	<b>Wireless (1)</b>	<b>NE</b>
	<b>Cable (0)</b>	
	<b>DSL Providers (6) (such as over shared lines)</b>	<b>MD, MS, NE, NM, PA, SC</b>
	<b>Satellite Providers (0)</b>	
	<b>Interexchange Carriers (3)</b>	<b>NE, NM, PA</b>
	<b>Private Lines (1)</b>	<b>NM</b>

### ***Handling Complaints about Provision of Advanced Services***

Commissions were asked whether they handle complaints about provision of advanced services. With regard to wholesale provision of advanced services, the majority of the responding commissions (37 out of 46 commissions, or 80 percent) reported that they handle complaints about advanced services offered by ILECs. In the categories of CLECs and data CLECs, many commissions responded that they handle complaints about wholesale provision of advanced services involving DSL providers (CLECs: 31 commissions, data CLECs: 29 commissions). In the category of neither ILECs nor CLECs, complaints about wholesale provision of advanced services involving IXCs (19 commissions), resellers (17 commissions), DSL providers (17 commissions), and private lines (15 commissions) are more likely to be handled by state commissions than other types of providers within the category. For other types of providers, a relatively small number of commissions reported that they handle complaints about wholesale provision of advanced services (see table B-9).

In terms of retail provision of advanced services, responses reveal the same pattern as in the case of wholesale provision of advanced services. That is, 37 commissions of 46 responding commissions (80 percent) indicated that they handle

complaints about advanced services involving ILECs, 34 commissions for DSL providers as CLECs, and 33 commissions for DSL providers as data CLECs. In the category of neither ILECs nor CLECs, complaints involving IXCs (24 commissions), resellers (23 commissions), DSL providers (22 commissions), and private lines (17 commissions) are more often handled by state commissions than other types of providers within the category (see table B-10).

A summary table is given as follows.

**TABLE B-8: HANDLING COMPLAINTS ABOUT PROVISION OF ADVANCED SERVICES**

Provider Category/Type		Commissions that Handle Wholesale Complaints	Commissions that Handle Retail Complaints
ILECs		37	37
CLECs	Wireless	11	12
	Cable	12	13
	DSL Providers	31	34
	Satellite Providers	9	9
Data CLECs	Wireless	10	12
	Cable	10	12
	DSL Providers	29	33
	Satellite Providers	8	10
Neither ILECs Nor CLECs	Resellers	17	23
	Wireless	7	10
	Cable	8	9
	DSL Providers (such as over shared lines)	17	22
	Satellite Providers	6	5
	Interexchange Carriers	19	24
	Private Lines	15	17

Note: Number of responding commissions that handle complaints, based on data in tables B-9 and B-10.

TABLE B-9

Does the commission handle complaints about wholesale provision of advanced services?		
<b>ILECs (37)</b>		<b>AK, AZ</b> (has authority to do so) <b>AR, CA</b> (Inter-carrier complaints are being handled on an informal basis by staff at this time.) <b>CO, CT, DE, FL, HI, ID</b> (The commission may do so.) <b>IN, KY, LA, ME, MD, MA, MN, MS, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NH, NM, NY, NC, ND, OH, OK, OR, SC</b> (Staff has assisted with determination of availability of DSL service.) <b>SD, TN, TX</b> (through the dispute resolution process) <b>UT, VT, VA, WA, WI</b>
<b>CLECs</b>	<b>Wireless (11)</b>	<b>AZ</b> (has authority to do so) <b>CO, HI, KY, MA, NE, ND, SD, TX</b> (through the dispute resolution process), <b>VT, VA</b>
	<b>Cable (12)</b>	<b>AZ</b> (has authority to do so) <b>CO, HI, LA, MA, MN, ND, OR</b> (except Internet) <b>TX</b> (through the dispute resolution process) <b>UT, VA, WI</b> (for telecom services)
	<b>DSL Providers (31)</b>	<b>AZ</b> (has authority to do so) <b>CA</b> (Inter-carrier complaints are being handled on an informal basis by staff at this time.) <b>CO, CT, DE, DC, FL, HI, ID</b> (The commission may do so.) <b>KY, LA, MD, MA, MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NM, NY, NC, ND, OH, OK, SC</b> (Staff has assisted with determination of availability of DSL service.) <b>SD, TN, TX</b> (through the dispute resolution process) <b>UT, VT, VA, WA, WI</b>
	<b>Satellite Providers (9)</b>	<b>AZ</b> (has authority to do so) <b>CO, HI, MA, ND, SD, TX</b> (through the dispute resolution process) <b>VA, WI</b>
<b>Data CLECs</b>	<b>Wireless (10)</b>	<b>AZ</b> (has authority to do so), <b>HI, KY, MA, NE, ND, SD, TX</b> (through the dispute resolution process) <b>VT, VA</b>
	<b>Cable (10)</b>	<b>AZ</b> (has authority to do so) <b>CO, HI, MA, MN, ND, OR</b> (except Internet) <b>TX</b> (through the dispute resolution process) <b>VA, WI</b>
	<b>DSL Providers (29)</b>	<b>AZ</b> (has authority to do so) <b>CA</b> (Inter-carrier complaints are being handled on an informal basis by staff at this time.) <b>CO, CT, DE, DC, FL, HI, ID</b> (the commission may do so) <b>KY, MD, MA, MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NM, NY, NC, ND, OH, OK, SC</b> (Staff has assisted with determination of availability of DSL service.) <b>SD, TN, TX</b> (through the dispute resolution process) <b>VT, VA, WA, WI</b>
	<b>Satellite Providers (8)</b>	<b>AZ</b> (has authority to do so) <b>HI, MA, ND, SD, TX</b> (through the dispute resolution process) <b>VA, WI</b>

**TABLE B-9 (CONT'D)**

<b>Does the commission handle complaints about wholesale provision of advanced services?</b>		
<b>Neither ILECs Nor CLECs</b>	<b>Resellers (17)</b>	<b>AZ, CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>CT, DE, HI, ID</b> (only if complaint involves an ILEC as one of the parties) <b>KY</b> (Commission has authority.) <b>MD, MN, NE, NC, ND, OK, OR, SD, UT, WI</b>
	<b>Wireless (7)</b>	<b>CT, HI, ID</b> (only if complaint involves an ILEC as one of the parties) <b>KY</b> (Commission has authority.) <b>MD, ND, SD</b>
	<b>Cable (8)</b>	<b>CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>HI, ID</b> (only if complaint involves an ILEC as one of the parties) <b>MD, MN, NC, ND, OR</b> (except Internet)
	<b>DSL Providers (17) (such as over shared lines)</b>	<b>CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>CT, DE, HI, ID</b> (only if complaint involves an ILEC as one of the parties) <b>KY</b> (Commission has authority.) <b>MD, MN, MS, NE, NM, NC, ND, OK, SC</b> (Staff has assisted with determination of availability of DSL service.) <b>SD, UT</b>
	<b>Satellite Providers (6)</b>	<b>HI, ID</b> (only if complaint involves an ILEC as one of the parties) <b>MD, NC, ND, SD</b>
	<b>Interexchange Carriers (19)</b>	<b>AK, AZ, CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>CT, DE, HI, ID</b> (only if complaint involves an ILEC as one of the parties) <b>KY</b> (Commission has authority.) <b>MD, MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NY, NC, ND, OK, OR, SD, WI</b>
	<b>Private Lines (15)</b>	<b>AK, AZ, CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>CT, HI, ID</b> (only if complaint involves an ILEC as one of the parties) <b>KY</b> (Commission has authority.) <b>MD, MN, NE, NC, ND, OK, OR, SD</b>

TABLE B-10

Does the commission handle complaints about retail provision of advanced services?		
<b>ILECs</b> (37)		<b>AL, AK, AZ</b> (has authority to do so) <b>AR, CA, CO, CT, DE, FL, HI, ID</b> (The commission may do so.) <b>IN, KY, LA</b> (in some circumstances) <b>ME, MD, MI</b> (informal only) <b>MN, MS, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NM, NY, NC, ND, OH</b> (only if the LEC had retail tariff filed with the commission to provide DSL directly to retail users) <b>OK, OR, PA, SC</b> (Staff has assisted with determination of availability of DSL service.) <b>SD, TN, VT, VA, WA, WV, WI</b>
<b>CLECs</b>	<b>Wireless</b> (12)	<b>AZ</b> (has authority to do so) <b>CA, CO, HI, KY, ME, MD, ND, SD, TX</b> (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.) <b>VT, VA</b>
	<b>Cable</b> (13)	<b>AZ</b> (has authority to do so) <b>CA, CO, HI, LA, ME, MD, MN, ND, TX</b> (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.) <b>VT, VA, WI</b>
	<b>DSL Providers</b> (34)	<b>AL, AZ</b> (has authority to do so ) <b>CA, CO, CT, DE, DC, FL, HI, ID</b> (The commission may do so.) <b>IN, KY, LA, ME, MD, MI</b> (informal only) <b>MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>NE, NM, NY, NC, ND, OH</b> (only if the LEC had retail tariff filed with the Commission to provide DSL directly to retail users) <b>OK, PA, SC</b> (Staff has assisted with determination of availability of DSL service.) <b>SD, TN, TX</b> (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.) <b>VT, VA, WA, WI</b>
	<b>Satellite Providers</b> (9)	<b>AZ</b> (has authority to do so) <b>CO, HI, ME, MD, ND, SD, TX</b> (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.) <b>VA</b>
<b>Data CLECs</b>	<b>Wireless</b> (12)	<b>AZ</b> (has authority to do so) <b>CA, CO, HI, KY, ME, MD, ND, SD, TX</b> (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.) <b>VT, VA</b>
	<b>Cable</b> (12)	<b>AZ</b> (has authority to do so) <b>CA, CO, HI, ME, MD, MN, ND, TX</b> (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.) <b>VT, VA, WI</b>

TABLE B-10 (CONT'D)

Does the commission handle complaints about retail provision of advanced services?		
Data CLECs	DSL Providers (33)	AL, AZ (has authority to do so), CA, CO, CT, DE, DC, FL, HI, ID (The commission may do so.), IN, KY, ME, MD, MI (informal only), MN, MO (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020), NE, NM, NY, NC, ND, OH (only if the LEC had retail tariff filed with the Commission to provide DSL directly to retail users), OK, PA, SC (Staff has assisted with determination of availability of DSL service.), SD, TN, TX (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.), VT, VA, WA, WI
	Satellite Providers (10)	AZ (has authority to do so), CO, HI, ME, MD, ND, SD, TX (Some general issues concerning provision of advanced services are handled for customer support, but not required by law.), VA, WI
Neither ILECs Nor CLECs	Resellers (23)	AL, AZ, CO, CT, DE, HI, ID (Must be a telecom provider under ID law, which excludes mobile, cable and satellite; then only at discretion of commission.) KY, ME, MD, MN, NE, NM, NY, NC, ND, OK, OR, PA, SD, UT, VT, WI
	Wireless (10)	CO, CT, HI, KY, ME, NE, NM, ND, SD, VT
	Cable (9)	CO, HI, ME, MN, NE, NC, ND, OR (except Internet) VT
	DSL Providers (22) (such as over shared lines)	AL, CA (Rules have not been established, but the CPUC will investigate formally filed complaints.) CO, CT, DE, HI, ID (Must be a telecom provider under ID law, which excludes mobile, cable and satellite; then only at discretion of commission.) KY, ME, MI (informal only) MN, MS, NE, NM, NC, ND, OK, PA, SC (Staff has assisted with determination of availability of DSL service.) SD, UT, VT
	Satellite Providers (5)	CO, HI, ME, ND, SD
	Interexchange Carriers (24)	AL, AK, AZ, CA (Rules have not been established, but the CPUC will investigate formally filed complaints.) CO, CT, DE, HI, ID (Must be a telecom provider under ID law, which excludes mobile, cable and satellite; then only at discretion of commission.) KY, ME, MD, MN, MO (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) NE, NM, NY, NC, ND, OK, PA, SD, VT, WI
	Private Lines (17)	AL, AK, AZ, CA (Rules have not been established, but the CPUC will investigate formally filed complaints.) CO, CT, HI, KY, ME, MN, NE, NM, NC, ND, OK, SD, VT

### Regulation of Service Quality for Advanced Services

Half the responding commissions (24 out of 46) reported that they either regulate service quality for advanced services provided by ILECs or have authority to do so in one way or another. In the categories of CLECs or data CLECs, about 41 percent of the

responding commissions (19 out of 46) indicated that they regulate service quality for advanced services offered by DSL providers, while fewer commissions do so for other types of providers within the two categories. In the category of neither ILECs nor CLECs, quality of service provided by IXCs (18 commissions), resellers (16), DSL providers (14), and private lines (14) are more likely to be regulated by state commissions than other types of providers within the category. Details are shown in table B-11.

**TABLE B-11**

<b>Does the commission regulate service quality for advanced services?</b>		
<b>ILECs (24)</b>		<p><b>AK, AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>HI, ID</b> (has authority to do so)  <b>KY</b> (No specific regulations pertain to advanced services. However, general regulation applies, and the commission entertains service complaints.)  <b>LA, ME</b> (To a very small extent, but no official decision was made.)  <b>MN, MS, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020)  <b>NE, NH, NM, NY, NC, ND, OH</b> (Certain minimum service standards apply.)  <b>OR, PA, SD, TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)  <b>WA, WY</b> (as ancillary part of network performance standards)</p>
<b>CLECs</b>	<b>Wireless (8)</b>	<p><b>AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>HI, KY</b> (No specific regulations pertain to advanced services. However, general regulation applies, and the commission entertains service complaints.)  <b>ME</b> (To a very small extent, but no official decision was made.)  <b>ND, SD, TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)</p>
	<b>Cable (8)</b>	<p><b>AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>HI, ME</b> (To a very small extent, but no official decision was made.)  <b>MN, ND, OR</b> (except Internet)  <b>TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)</p>

**TABLE B-11 (CONT'D)**

Does the commission regulate service quality for advanced services?		
<b>CLECs</b>	<b>DSL Providers (19)</b>	<p><b>AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>CT, FL, HI, ID</b> (has authority to do so)  <b>KY</b> (No specific regulations pertain to advanced services. However, general regulation applies, and the commission entertains service complaints.)  <b>ME</b> (To a very small extent, but no official decision was made.)  <b>MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020)  <b>NE, NM, NC, ND, OH</b> (Certain minimum service standards apply.)  <b>PA, SD, TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)  <b>WA</b></p>
	<b>Satellite Providers (7)</b>	<p><b>AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>HI, ME</b> (To a very small extent, but no official decision was made.)  <b>ND, SD, TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)</p>
<b>Data CLECs</b>	<b>Wireless (8)</b>	<p><b>AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>HI, KY</b> (No specific regulations pertain to advanced services. However, general regulation applies, and the commission entertains service complaints.)  <b>ME</b> (To a very small extent, but no official decision was made.)  <b>ND, SD, TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)</p>
	<b>Cable (8)</b>	<p><b>AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>HI, ME</b> (To a very small extent, but no official decision was made.)  <b>MN, ND, OR</b> (except Internet)  <b>TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)</p>
	<b>DSL Providers (19)</b>	<p><b>AZ</b> (has authority to do so)  <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.)  <b>CT, FL, HI, ID</b> (has authority to do so)  <b>KY</b> (No specific regulations pertain to advanced services. However, general regulation applies, and the commission entertains service complaints.)  <b>ME</b> (To a very small extent, but no official decision was made.)  <b>MN, MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020)  <b>NE, NM, NC, ND, OH</b> (Certain minimum service standards apply.)  <b>PA, SD, TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)  <b>WA</b></p>

TABLE B-11 (CONT'D)

Does the commission regulate service quality for advanced services?		
<b>Data CLECs</b>	<b>Satellite Providers (7)</b>	<b>AZ</b> (has authority to do so) <b>CA</b> (Service quality rules have not yet been established, but the CPUC will investigate formally filed complaints.) <b>HI, ME</b> (To a very small extent, but no official decision was made.) <b>ND, SD, TX</b> (Some service quality requirements are regulated in the wholesale provision of facilities used to provide advanced services.)
<b>Neither ILECs Nor CLECs</b>	<b>Resellers (16)</b>	<b>AL, AZ, CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>HI, ID</b> (authority for telecom providers, but no regulations at this time) <b>KY, ME</b> (To a very small extent, but no official decision was made.) <b>MN, NE, NM, NY, NC, OR, PA, SD, VT</b>
	<b>Wireless (8)</b>	<b>HI, KY, ME</b> (To a very small extent, but no official decision was made.) <b>NE, NM, ND, SD, VT</b>
	<b>Cable (9)</b>	<b>CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>HI, ME</b> (To a very small extent, but no official decision was made.) <b>MN, NE, NC, ND, OR</b> (except Internet) <b>VT</b>
	<b>DSL Providers (14) (such as over shared lines)</b>	<b>AL, CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>HI, ID</b> (authority for telecom providers, but no regulations at this time) <b>KY, ME</b> (To a very small extent, but no official decision was made.) <b>MN, NE, NM, NC, ND, PA, SD, VT</b>
	<b>Satellite Providers (6)</b>	<b>HI, ME</b> (To a very small extent, but no official decision was made.) <b>NE, NC, ND, SD</b>
	<b>Interexchange Carriers (18)</b>	<b>AL, AK</b> (if a complaint filed) <b>AZ, CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>HI, ID</b> (authority for telecom providers, but no regulations at this time) <b>KY, ME</b> (To a very small extent, but no official decision was made.) <b>MO</b> (to the extent that advanced services fit into the definition of telecommunications services in Missouri Revised Statutes 386.020) <b>MN, NE, NM, NY, NC, ND, PA, SD, VT</b>
	<b>Private Lines (14)</b>	<b>AL, AK</b> (if a complaint filed) <b>AZ, CA</b> (Rules have not been established, but the CPUC will investigate formally filed complaints.) <b>HI, KY, ME</b> (To a very small extent, but no official decision was made.) <b>MN, NE, NM, NC, ND, SD, VT</b>

### ***Requirement of Deployment of Advanced Capability***

Concerning deployment of advanced capability, as can be seen in table B-12, 16 responding commissions (35 percent of 46 commissions) reported that they have required ILECs to deploy advanced capability through certain mechanisms. For other categories, there is only one commission (Vermont) that required cable companies that are neither ILECs nor CLECs to deploy advanced capability.

**TABLE B-12**

<b>Has the commission required deployment of advanced telecommunications capability (e.g. under a price cap plan)?</b>		
<b>ILECs</b>	<b>(16)</b>	<b>AZ, DC, IN</b> (The commission has approved certain infrastructure investment programs.) <b>KS</b> (In stipulated settlements with Sprint/United in 99-UTDT-455-GIT and SWBT in 98-SWBT-677-IAT.) <b>KY, MD</b> (through arbitration procedure) <b>MN, NM, OH</b> (Certain requirements may apply to large ILECs under alternative regulation commitments.) <b>OK, PA, TX</b> (under limited circumstances for certain technologies such as ISDN) <b>UT, WV</b> (only by stipulated incentive rate plans) <b>WI, WY</b> (in some circumstances)
<b>CLECs</b>	<b>Wireless</b>	<b>(0)</b>
	<b>Cable</b>	<b>(0)</b>
	<b>DSL Providers</b>	<b>(0)</b>
	<b>Satellite Providers</b>	<b>(0)</b>
<b>Data CLECs</b>	<b>Wireless</b>	<b>(0)</b>
	<b>Cable</b>	<b>(0)</b>
	<b>DSL Providers</b>	<b>(0)</b>
	<b>Satellite Providers</b>	<b>(0)</b>
<b>Neither ILECs Nor CLECs</b>	<b>Resellers</b>	<b>(0)</b>
	<b>Wireless</b>	<b>(0)</b>
	<b>Cable</b>	<b>(1)</b> VT (Cable providers were required to build out broadband.)
	<b>DSL Providers (such as over shared lines)</b>	<b>(0)</b>
	<b>Satellite Providers</b>	<b>(0)</b>
	<b>Interexchange Carriers</b>	<b>(0)</b>
	<b>Private Lines</b>	<b>(0)</b>

***Contribution to the State Universal Service Funds***

As shown in table B-13, all responding states that have their own state universal service funds (21 out of 46) require ILECs to contribute to the funds. While there are some variations, many responding states require other categories of providers as well to contribute to the state universal service funds. For CLECs and data CLECs, more

responding states require DSL providers to contribute than other types of providers within the categories (CLECs: 19 states, data CLECs: 17 states). In the category of neither ILECs nor CLECs, resellers (18 states), IXCs (18 states), DSL providers (14 states), and private lines (14 states) are more likely to be required to contribute to the state universal service funds than other types of providers within the category. Details are included in table B-13.

In requiring contributions to the state universal service funds, most states do not differentiate revenues based on advanced services from other revenues. There are only three responding commissions (Idaho, Texas, and Wyoming) that make a distinction between revenues from advanced services and other revenues in a manner that excludes revenues from advanced services (see table B-14).

**TABLE B-13**

<b>Does the commission require this type of provider to contribute to a state universal service fund?</b>		
<b>ILECs</b>	<b>(21)</b>	<b>AK, AZ, AR, CA, CO, ID</b> (contribute only for basic lines and MTS minutes) <b>KS, KY</b> (At this time, the KY USF is composed of only the state's portion of Lifeline.) <b>ME</b> (unless the revenues are very small) <b>NE, NM, NY, OK, OR, PA, SC, TX, UT, VT, WI</b> (contributions based on gross intrastate revenues) <b>WY</b>
<b>CLECs</b>	<b>Wireless</b>	<b>(14)</b> <b>AK, AZ, CA, CO, KS, KY, ME</b> (unless the revenues are very small) <b>NE, NM, OK, TX, UT, VT, WI</b>
	<b>Cable</b>	<b>(12)</b> <b>AK, AZ, CA, CO, KS, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>OR</b> (for telecom services) <b>TX, VT</b> (Two-way cable must contribute; one-way cable does not.) <b>WI</b>
	<b>DSL Providers</b>	<b>(19)</b> <b>AK, AZ, CA, CO, ID</b> (contribute only for basic lines and MTS minutes) <b>KS, KY, ME</b> (unless the revenues are very small) <b>NE, NM, NY, OK, OR, PA, SC, TX, UT, VT, WI</b>
	<b>Satellite Providers</b>	<b>(10)</b> <b>AK, AZ, CO, KS, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>TX, VT, WI</b>

**TABLE B-13 (CONT'D)**

Does the commission require this type of provider to contribute to a state universal service fund?		
<b>Data CLECs</b>	<b>Wireless (13)</b>	<b>AK</b> (for telecom services) <b>AZ, CA, CO, KY, ME</b> (unless the revenues are very small) <b>NE, NM, OK, TX, VT, WI</b> (based on gross intrastate revenues from all services) <b>WY</b>
	<b>Cable (12)</b>	<b>AK</b> (for telecom services) <b>AZ, CA, CO, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>OR</b> (for telecom services) <b>TX, VT</b> (Two-way cable must contribute; one-way cable does not.) <b>WI</b> (based on gross intrastate revenues from all services) <b>WY</b> (for telecom services)
	<b>DSL Providers (17)</b>	<b>AK</b> (for telecom services) <b>AZ, CA, CO, KY, ME</b> (unless the revenues are very small) <b>NE, NM, NY, OK, OR, PA, SC, TX, VT, WI</b> (based on gross intrastate revenues from all services) <b>WY</b> (for telecom services)
	<b>Satellite Providers (10)</b>	<b>AK</b> (for telecom services) <b>AZ, CO, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>TX, VT, WI</b> (based on gross intrastate revenues from all services) <b>WY</b> (for telecom services)
<b>Neither ILECs Nor CLECs</b>	<b>Resellers (18)</b>	<b>AK</b> (all intrastate telecom services) <b>AZ, AR, CA, CO, ID</b> (contribute only for basic lines and MTS minutes, and if it is a telecom provider) <b>KY, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>NY, OK, OR, PA, SC, VT, WI</b> (based on gross intrastate revenues from all services) <b>WY</b> (for telecom services)
	<b>Wireless (11)</b>	<b>AK</b> (all intrastate telecom services) <b>AZ, AR, CA, CO, KY, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>VT, WY</b> (for telecom services)
	<b>Cable (9)</b>	<b>AK</b> (all intrastate telecom services) <b>AR, CO, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>OR, VT</b> (cable contributes only for two-way service.) <b>WY</b> (for telecom services)
	<b>DSL Providers (14) (such as over shared lines)</b>	<b>AK</b> (all intrastate telecom services) <b>AR, CO, ID</b> (contribute only for basic lines and MTS minutes, and if it is a telecom provider) <b>KY, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>K, OR, PA, SC, VT, WY</b> (for telecom services)
	<b>Satellite Providers (8)</b>	<b>AK</b> (all intrastate telecom services) <b>AR, CO, ME</b> (unless the revenues are very small) <b>NE, NM</b> (only for public telecommunications services provided) <b>VT, WY</b> (for telecom services)
	<b>Interexchange Carriers (18)</b>	<b>AK</b> (all intrastate telecom services), <b>AZ, AR, CA, CO, ID</b> (contribute only for basic lines and MTS minutes, and if it is a telecom provider), <b>KY, ME</b> (unless the revenues are very small), <b>NE, NM</b> (only for public telecommunications services provided), <b>NY, OK, OR, PA, SC, VT, WI</b> (based on gross intrastate revenues from all services), <b>WY</b> (for telecom services)
	<b>Private Lines (14)</b>	<b>AK</b> (all intrastate telecom services), <b>AZ, AR, CA, CO, KY, ME</b> (unless the revenues are very small), <b>NE, NM</b> (only for public telecommunications services provided), <b>OK, OR, SC, VT, WY</b> (for telecom services)

\* No state **USF**: AL, CT, DE, DC, FL, HI, IN, IA, LA, MD, MA, MI, MN, MS, MO, MT, NH, NC, ND, OH, SD, TN, VA, WA, WV (25 states)

TABLE B-14

If yes to question 13, does the commission differentiate revenues based on advanced services from other revenues?		
<b>ILECs</b>	<b>(3)</b>	<b>ID</b> (USF contributions are based upon number of access lines and/or minutes of MTS.) <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.) <b>WY</b> (USF contributions are based on essential services.)
<b>CLECs</b>	<b>Wireless</b>	<b>(1)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.)
	<b>Cable</b>	<b>(1)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.)
	<b>DSL Providers</b>	<b>(1)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.)
	<b>Satellite Providers</b>	<b>(1)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.)
<b>Data CLECs</b>	<b>Wireless</b>	<b>(2)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.) <b>WY</b> (USF contributions are based on essential services.)
	<b>Cable</b>	<b>(2)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.) <b>WY</b> (USF contributions are based on essential services.)
	<b>DSL Providers</b>	<b>(2)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.) <b>WY</b> (USF contributions are based on essential services.)
	<b>Satellite Providers</b>	<b>(2)</b> <b>TX</b> (USF is paid as a percentage of a user's basic local telephone service and does not include advanced services.) <b>WY</b> (USF contributions are based on essential services.)
<b>Neither ILECs Nor CLECs</b>	<b>Resellers</b>	<b>(1)</b> <b>WY</b> (USF contributions are based on essential services.)
	<b>Wireless</b>	<b>(1)</b> <b>WY</b> (USF contributions are based on essential services.)
	<b>Cable</b>	<b>(1)</b> <b>WY</b> (USF contributions are based on essential services.)
	<b>DSL Providers (such as over shared lines)</b>	<b>(1)</b> <b>WY</b> (USF contributions are based on essential services.)
	<b>Satellite Providers</b>	<b>(1)</b> <b>WY</b> (USF contributions are based on essential services.)
	<b>Interexchange Carriers</b>	<b>(1)</b> <b>WY</b> (USF contributions are based on essential services.)
	<b>Private Lines</b>	<b>(1)</b> <b>WY</b> (USF contributions are based on essential services.)

### USF Support for Advanced Services

As can be seen in table B-15, currently the majority of the responding states do not provide universal service fund support for advanced services. Six commissions reported that universal service fund support might be provided to advanced services offered by ILECs. Only a small number of commissions indicated that they could provide universal service support for advanced services offered by other categories of providers. This may imply that in general universal service policy at the state level still focuses on basic or essential services. It seems that broader support from state universal service funds for advanced services have yet to wait until advanced services become widespread in order to be considered as services covered by the universal service concept. Interestingly, though, California has a special program (California Teleconnect Fund discount program) targeted at schools and libraries which allows companies to participate, while other states that provide universal service fund support for advanced services appear not to make distinctions between services.

**TABLE B-15**

Does your state universal service fund provide support for advanced services offered by this type of provider?			
<b>ILECs</b>	<b>(6)</b>	<p><b>CA</b> (Companies can participate in the California Teleconnect Fund discount program for schools and libraries.)</p> <p><b>ID</b> (not directly; Current USF looks at total revenues and operation.)</p> <p><b>KS</b> (By statute, support is available for such expenditures. However, to date, no service provider has requested such support.)</p> <p><b>ME</b> (USF supports revenue needs; does not specify services.)</p> <p><b>OK, WI</b> (if otherwise available or affordable, and if not provided by another provider)</p>	
<b>CLECs</b>	<b>Wireless</b>	<b>(3)</b>	<p><b>KS</b> (By statute, support is available for such expenditures. However, to date, no service provider has requested such support.)</p> <p><b>NE</b> (all eligible telecommunications carriers (ETCs))</p> <p><b>WI</b> (if otherwise available or affordable, and if not provided by another provider)</p>
	<b>Cable</b>	<b>(3)</b>	<p><b>KS</b> (By statute, support is available for such expenditures. However, to date, no service provider has requested such support.)</p> <p><b>NE</b> (all ETCs)</p> <p><b>WI</b> (if otherwise available or affordable, and if not provided by another provider)</p>
	<b>DSL Providers</b>	<b>(5)</b>	<p><b>CA</b> (Companies can participate in the California Teleconnect Fund discount program for schools and libraries.)</p> <p><b>KS</b> (By statute, support is available for such expenditures. However, to date, no service provider has requested such support.)</p> <p><b>NE</b> (all ETCs)</p> <p><b>OK, WI</b> (if otherwise available or affordable, and if not provided by another provider)</p>

**TABLE B-15 (CONT'D)**

<b>Does your state universal service fund provide support for advanced services offered by this type of provider?</b>		
	<b>Satellite Providers (3)</b>	<b>KS</b> (By statute, support is available for such expenditures. However, to date, no service provider has requested such support.) <b>NE</b> (all ETCs) <b>WI</b> (if otherwise available or affordable, and if not provided by another provider)
<b>Data CLECs</b>	<b>Wireless (2)</b>	<b>NE</b> (all ETCs) <b>WI</b> (if otherwise available or affordable, and if not provided by another provider)
	<b>Cable (2)</b>	<b>NE</b> (all ETCs) <b>WI</b> (if otherwise available or affordable, and if not provided by another provider)
	<b>DSL Providers (4)</b>	<b>CA</b> (Companies can participate in the California Teleconnect Fund discount program for schools and libraries.) <b>NE</b> (all ETCs) <b>OK, WI</b> (if otherwise available or affordable, and if not provided by another provider)
	<b>Satellite Providers (2)</b>	<b>NE</b> (all ETCs) <b>WI</b> (if otherwise available or affordable, and if not provided by another provider)
<b>Neither ILECs Nor CLECs</b>	<b>Resellers (1)</b>	<b>CA</b> (The California Teleconnect fund subsidizes advanced services provided to schools, libraries, and hospitals in high cost and/or rural areas.)
	<b>Wireless (0)</b>	
	<b>Cable (0)</b>	
	<b>DSL Providers (0) (such as over shared lines)</b>	
	<b>Satellite Providers (0)</b>	
	<b>Interexchange Carriers (2)</b>	<b>CA</b> (The California Teleconnect fund subsidizes advanced services provided to schools, libraries, and hospitals in high cost and/or rural areas.) <b>WI</b> (if otherwise available or affordable, and if not provided by another provider)
	<b>Private Lines (1)</b>	<b>CA</b> (The California Teleconnect fund subsidizes advanced services provided to schools, libraries, and hospitals in high cost and/or rural areas.)

### ***Other Ways to Regulate or Oversee Advanced Services***

Some of the responding commissions cited other ways that they could use to regulate or oversee advanced services which were not addressed in the above questions. They include state modernization regulations, approval of application for broadband tax credit, dispute resolution process, alternative regulatory plans for advanced services, and an IT task force of the state government (see table B-16).

**TABLE B-16**

<b>Are there any other ways in which the commission regulates or oversees advanced services?</b>			
<b>ILECs</b>	<b>(9)</b>	<p><b>AK</b> (state modernization regulations)  <b>FL</b> (Generic Docket 001332 xDSL and Florida IT Task Force)  <b>ID</b> (approves application for broadband tax credit)  <b>NE</b> (interconnection agreements)  <b>NY</b> (arbitrations/dispute resolutions)  <b>TX</b> (In 1999, as part of Senate Bill 560, the 76th Legislature enacted PURA §55.014 to effectuate the deployment of advanced services in rural areas of the state. Furthermore, in the same bill, the Legislature enacted PURA §51.001(g) which provides rural retail customers with a competitive process for the provision of advanced services and ensures that retail customers in rural areas have access to reasonably comparable advanced services offered by companies subject to PURA §55.014.)  <b>VA</b> (alternative regulatory plans)  <b>WA</b> (Qwest DS1 and higher private line services are classified as competitive in five wire centers in Seattle and Spokane (Docket UT-990022); Qwest DSL tariff is a banded rate, with maximum and minimum prices.)  <b>WI</b> (Price cap plans require advanced service and investment commitments.)</p>	
<b>CLECs</b>	<b>Wireless</b>	<b>(2)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>
	<b>Cable</b>	<b>(2)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>
	<b>DSL Providers</b>	<b>(3)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>NY</b> (arbitrations/dispute resolutions)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>
	<b>Satellite Providers</b>	<b>(2)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>
<b>Data CLECs</b>	<b>Wireless</b>	<b>(2)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>
	<b>Cable</b>	<b>(2)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>
	<b>DSL Providers</b>	<b>(3)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>NY</b> (arbitrations/dispute resolutions)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>
	<b>Satellite Providers</b>	<b>(2)</b>	<p><b>ID</b> (approves application for broadband tax credit)  <b>TX</b> (Explanation is the same as under ILECs above.)</p>

TABLE B-16 (CONT'D)

Are there any other ways in which the commission regulates or oversees advanced services?		
Neither ILECs Nor CLECs	Resellers (0)	
	Wireless (0)	
	Cable (0)	
	DSL Providers (0) (such as over shared lines)	
	Satellite Providers (0)	
	Interexchange Carriers (0)	
	Private Lines (0)	

### ***Other Measures to Reduce Regulation of Advanced Services***

Several commissions reported that they have taken further steps not discussed above to reduce regulation or refrain from regulation of provision of advanced services. Some state commissions such as New York and Wisconsin allowed pricing flexibility for advanced services; other commissions such as New Mexico and Oregon deregulated or do not regulate certain services. In Oklahoma, the state legislature passed a law in 2001 that prohibits the commission from regulating high speed Internet service. In Vermont, a rulemaking is pending to reduce regulation of nonincumbent carriers (see table B-17).

**TABLE B-17**

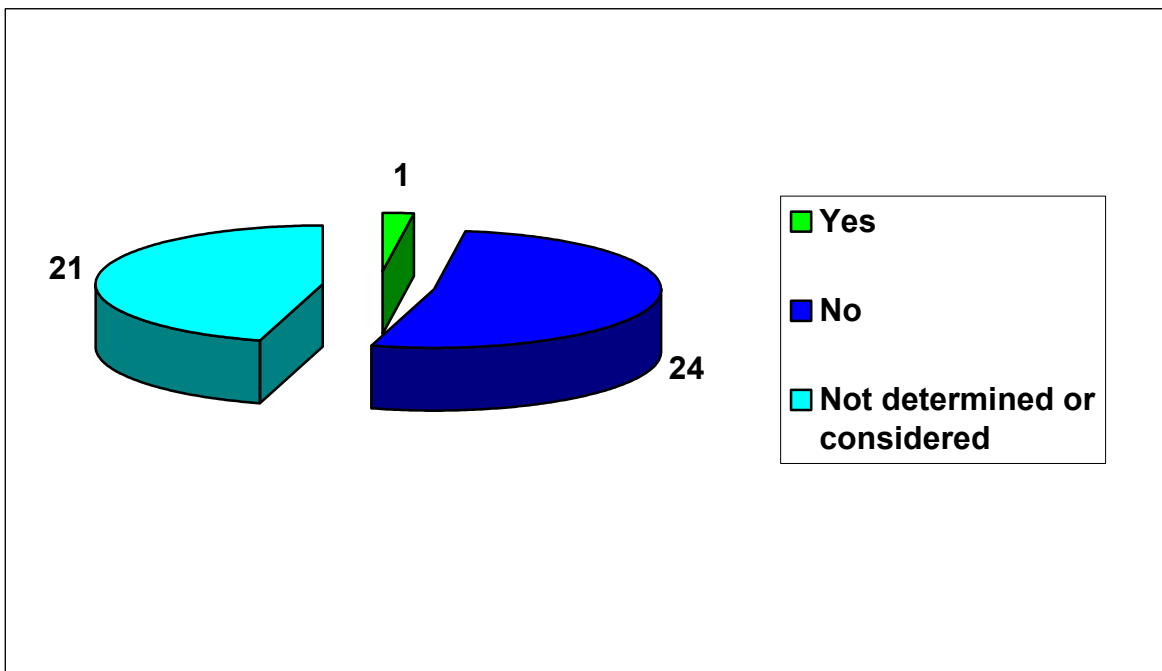
Has the commission taken steps not discussed above to reduce regulation or refrain from regulation of provision of advanced services?			
<b>ILECs</b>	<b>(7)</b>	<p><b>CO</b> (Senate Bill 10)  <b>FL</b> (annual competition report to legislature)  <b>NM</b> (does not regulate services used for Internet),  <b>NY</b> (has allowed ILECs some pricing flexibility in competitive markets)  <b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>OR</b> (Commission deregulated Qwest DS3 service.)  <b>WI</b> (price cap and alternative regulatory plans)</p>	
<b>CLECs</b>	<b>Wireless</b>	<b>(2)</b>	<p><b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>
	<b>Cable</b>	<b>(2)</b>	<p><b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>
	<b>DSL Providers</b>	<b>(3)</b>	<p><b>NM</b> (does not regulate services used for Internet)  <b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>
	<b>Satellite Providers</b>	<b>(2)</b>	<p><b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>
<b>Data CLECs</b>	<b>Wireless</b>	<b>(2)</b>	<p><b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>
	<b>Cable</b>	<b>(2)</b>	<p><b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>
	<b>DSL Providers</b>	<b>(3)</b>	<p><b>NM</b> (does not regulate services used for Internet)  <b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>
	<b>Satellite Providers</b>	<b>(2)</b>	<p><b>OK</b> (HB 2796 that became effective July 2001 prohibits the commission from regulating high speed Internet service.)  <b>VT</b> (A rulemaking is pending on reduced regulation for nonincumbent carriers.)</p>

### C. Open Access/Common Carriage Requirements for Advanced Services (N = 46)

#### ***Authority to Regulate Open Access***

Commissions were asked whether they had any authority to regulate open access. Open access is the requirement that an incumbent cable operator allow Internet service providers not affiliated with the incumbent to connect their equipment directly to the incumbent's cable modem platform, thus bypassing the incumbent provider. There was only one commission that reported that it had such authority. The Minnesota Public Utilities Commission responded that it had authority to regulate cable companies that provide telecommunications services but decided not to require cable operators to provide open access. Twenty-four commissions reported that they did not have such authority, and 21 commissions indicated that the issue has not been determined or considered at the time. State responses are shown in figure C-1 and table C-1.

**FIGURE C-1: AUTHORITY TO REGULATE OPEN ACCESS**



Source: NRRI survey, 2002.

TABLE C-1

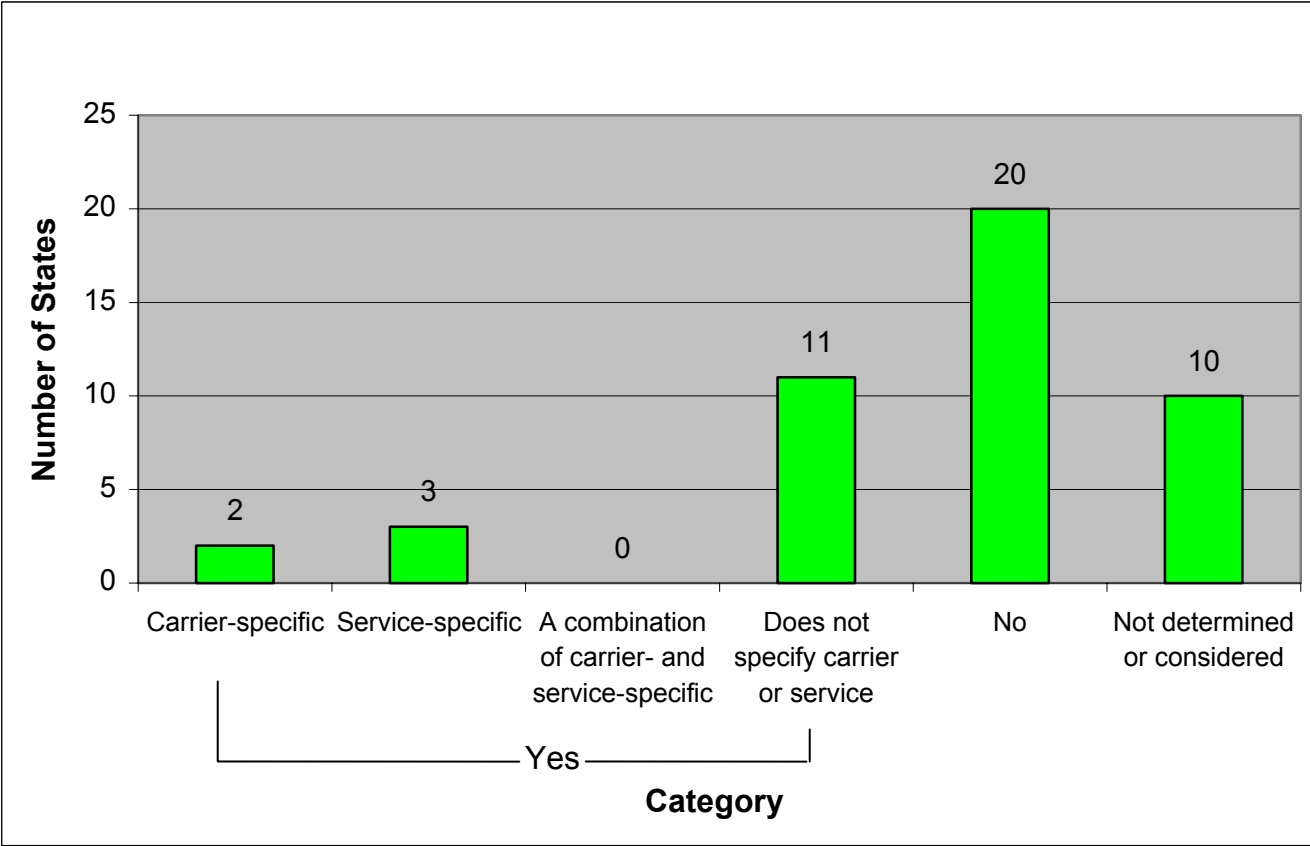
Does your commission have any authority to regulate open access?	
<b>Yes (1)</b>	<b>MN</b> (The Commission has authority to regulate cable companies that provide telecommunications services but decided not to require cable operators to provide open access.)
<b>No (24)</b>	<b>AL, AK, AR, CO, CT, DE, DC, FL, HI, ID, IA, KY, MI, MS, MO, MT, NE, ND, OK, PA, TX, VA, WV, WY</b>
<b>Not determined or considered (21)</b>	<b>AZ, CA, IN, KS, LA, ME, MD, MA, NH, NM, NY, NC, OH, OR, SC, SD, TN, UT, VT, WA, WI</b>

### ***Common Carriage Requirements for Advanced Services***

Commissions were asked whether any advanced services were subject to common carriage requirements within their jurisdictions. Among the 46 responding commissions, less than half (16 commissions, or about 35 percent) reported that advanced services were subject to common carriage requirements. Only a few commissions indicated that the common carriage requirements were either carrier-specific (two commissions: New York and Pennsylvania) or service-specific (three commissions: Massachusetts, Mississippi, and West Virginia), while 11 commissions reported that they did not specify carrier or service type for common carriage requirements.

Twenty commissions responded that they did not have advanced services that were subject to common carriage requirements. In addition, ten commissions reported that the issue of common carriage requirements has not been determined or considered yet. Taken together, the majority of the responding commissions (30 out of 46, or 65 percent) reported that currently the common carriage requirements do not apply to advanced services because they either do not have such requirements for advanced services or have not decided at the time. Details can be seen in figure C-2 and table C-2.

**FIGURE C-2: COMMON CARRIAGE REQUIREMENTS FOR ADVANCED SERVICES**



Source: NRRI survey, 2002

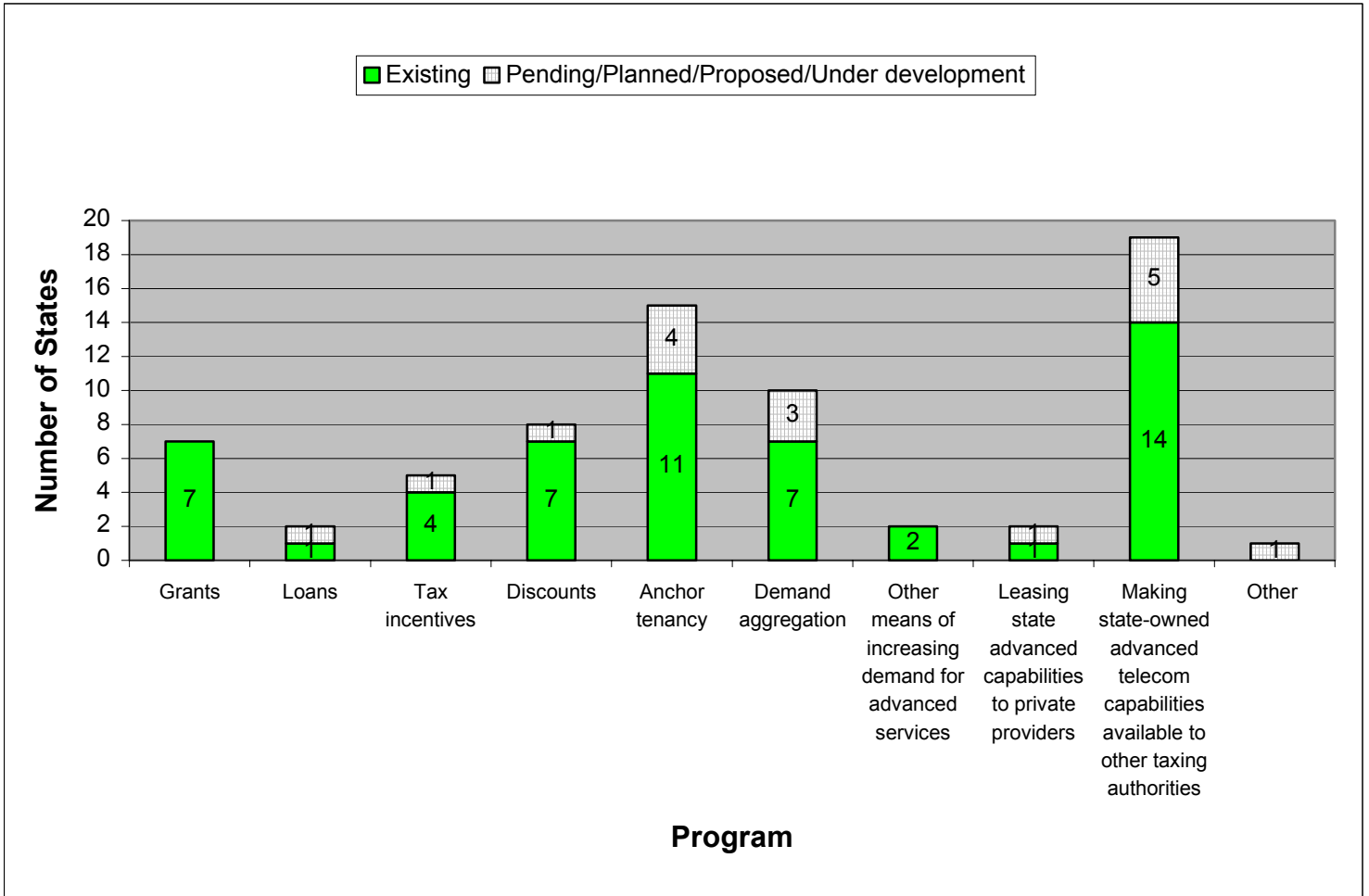
TABLE C-2

Does your state have any advanced services that are subject to common carriage requirements?		
Yes (16)	Carrier-specific (2)	NY, PA
	Service-specific (3)	MA, MS, WV
	A combination of carrier- and service-specific (0)	
	Does not specify carrier or service (11)	AK, CA, HI, KY, MD, MN, ND, UT, VA, WA, WI
No (20)	AL, AR, CO, CT, DE, DC, FL, ID, IA, KS, LA, MI, MT, NE, NM, NC, OK, OR, TX, WY	
Not determined or considered (10)	AZ, IN, ME, MO, NH, OH, SC, SD, TN, VT	
State	Comment	
AK	All advanced services	
CA	The CPUC has jurisdiction over all intrastate telecommunications services offered by a carrier registered with or certified by the state. In addition, the CPUC has jurisdiction over all telecommunications carriers doing business in California to resolve disputes concerning service quality, consumer fraud, and other consumer protection issues.	
HI	All intrastate telecommunications services	
KY	Generally, the KY statutes define utility service as two-way communication provided to the public for compensation without reference to carrier type or service type.	
MA	Wholesale advanced services offered by CLECs and ILECs	
MD	All tariffed advanced services	
MN	All telecommunications services, including advanced services	
MS	Certain types of advanced services (e.g., DSL, Internet)	
NY	"Telephone companies," except those (e.g., wireless) for which application of the relevant Public Service Law has been suspended.	
ND	All advanced services	
PA	All carriers regulated by the PA PUC are subject to common carriage requirements.	
UT	All advanced services	
VA	All advanced services	
WA	All telecommunications services	
WV	Frame relay and switched multi-megabit data services	
WI	All telecommunications services	

#### **D. State Programs on Advanced Services (N = 47)**

Survey results show that many states are active in encouraging the deployment of advanced services. State efforts are being made through various programs that are designed to help deploy advanced capabilities or services in their jurisdictions. Among the programs we asked about in the survey, as shown in figure D-1, the two most commonly used programs in the responding states are “making state-owned advanced telecommunications capabilities available to other taxing authorities” such as municipalities, public libraries, and schools (existing: 14; planned or under development: 5) and anchor tenancy (existing: 11; planned or under development: 4). In addition, demand aggregation (existing: 7; planned or under development: 3), discounts other than federal programs (existing: 7; planned or under development: 1), and grants (existing: 7) are adopted in several states. Other programs such as tax incentives (5 states), loans (2 states), leasing state advanced capabilities to private providers (2 states), and other means of increasing demand for advanced services other than demand aggregation (2 states) are used or considered in relatively small numbers of states. Details are shown in figure D-1 and table D-1.

**FIGURE D-1: STATE PROGRAMS ON ADVANCED SERVICES**



Source: NRRI survey, 2002.

**TABLE D-1: STATE PROGRAMS ON ADVANCED SERVICES**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
a. Grants	AZ	Existing	Communities (for assessment purposes, not for actual infrastructure)	Arizona Department of Commerce	Brad Trittle, Telecom Division Manager, Government Information Technology Agency (602-364-4794/ <a href="mailto:btrittle@gita.state.az.us">btrittle@gita.state.az.us</a> ) <a href="http://www.gita.state.az.us">www.gita.state.az.us</a>
	CO	Existing	Municipal agencies, hospitals, etc.	Colorado Department of Local Agencies	<a href="http://www.state.co.us/mnt">www.state.co.us/mnt</a>
	IL 1. Digital Divide Elimination Fund	Existing	Public hospitals; libraries; park districts; state educational agencies; local educational agencies; institutions of higher education; other public and private nonprofit or for-profit educational organizations; and any entity that received a Community Technology Center grant under the federal Community Technology Centers Program.	Department of Commerce and Community Affairs	<a href="http://www.commerce.state.il.us/tech/tech_eliminate.html">www.commerce.state.il.us/tech/tech_eliminate.html</a>

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
a. Grants (Cont'd)	IL 2. Digital Divide Elimination Infrastructure Fund	Existing	Eligible entities shall be either: (a) an entity that maintains, in good standing, a certificate from the commission to provide telecommunications services, or (b) an entity that is not required to hold a certificate from the commission to provide telecommunications services but can demonstrate, through information provided in its grant proposal, its technical, financial and managerial resources and abilities to construct high-speed data transmission facilities.	Illinois Commerce Commission	Julie Musselman ( <a href="mailto:jmusselm@icc.state.il.us">jmusselm@icc.state.il.us</a> ) <a href="http://www.icc.state.il.us">www.icc.state.il.us</a>

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
a. Grants (Cont'd)	OR	Existing	Telecom carriers and communities	Oregon Economic Development Department	<a href="http://www.econ.state.or.us">www.econ.state.or.us</a>
	TX	Existing	School districts	Texas Infrastructure Fund	<a href="http://www.tifb.state.tx.us">www.tifb.state.tx.us</a>
	WA	Existing	Qualified applicants	Washington Department of Community Trade and Economic Development	<a href="mailto:sungy@cted.wa.gov">sungy@cted.wa.gov</a>
	WI	Existing	Medical clinics, public schools, nonprofit organizations	Public Service Commission TEACH Board (public schools) *TEACH: Technology for Educational Achievement in Wisconsin	<a href="http://www.legis.state.wi.us">www.legis.state.wi.us</a> (for Wis. Adm. Code ch. PSC 160) <a href="http://www.psc.state.wi.us">www.psc.state.wi.us</a> (for medical "teleequipment" program and nonprofit program) <a href="http://www.teachwi.state.wi.us">www.teachwi.state.wi.us</a> (for TEACH program)
	<b>(7)</b>	<b>(Existing: 7)</b>			
b. Loans	MI	Pending (Public Acts 49 and 50 of 2002 are in process of being implemented)	All providers	Michigan Broadband Development Authority	<a href="http://www.michigan.gov">www.michigan.gov</a>
	TX	Existing	School districts	Texas Infrastructure Fund	<a href="http://www.tifb.state.tx.us">www.tifb.state.tx.us</a>
	<b>(2)</b>	<b>(Existing: 1, Pending: 1)</b>			

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
c. Tax incentives	CO	Existing	All qualifying investors	Colorado Public Utilities Commission	<a href="mailto:joseph.molloy@dora.state.co.us">joseph.molloy@dora.state.co.us</a>
	FL	Existing	NAP (Network Access Point)	Department of Revenue	<a href="http://www.internetcoast.com">www.internetcoast.com</a> fcr.state.fl.us/dor
	ID (Broadband tax credit)	Existing (2001-)	Any	Idaho Public Utilities Commission and Idaho Tax Commission	<a href="http://www.puc.state.id.us/telecom/28784.pdf">http://www.puc.state.id.us/telecom/28784.pdf</a>
	MI	Pending (Public Acts 49 and 50 of 2002—in process of being implemented)	ILECs and CLECs	Department of Treasury	<a href="http://www.michigan.gov">www.michigan.gov</a>
	MT	Existing	Telcos	Department of Commerce	Andy Poole (406-444-3797)
	<b>(5)</b>	<b>(Existing: 4, Pending:1)</b>			
d. Discounts (other than the federal programs of discounts to schools, libraries and rural health care facilities)	AZ (Telecommunications Open Partnerships of Arizona—TOPAZ)	Existing	Political subdivisions, municipalities, Indian Tribes, nonprofit educational and public health institutions can purchase from State Carrier Services Contract.	Government Information Technology Agency	Brad Tritle, Telecom Division Manager, Government Information Technology Agency (602-364-4794/ <a href="mailto:btritle@gita.state.az.us">btritle@gita.state.az.us</a> ) <a href="http://www.gita.state.az.us">www.gita.state.az.us</a>

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
d. Discounts (other than the federal programs of discounts to schools, libraries and rural health care facilities) (Cont'd)	CA (California Teleconnect Fund—discounts programs up to \$50M/year for schools, libraries, and administrative agencies)	Existing	Public and private schools and libraries, municipal or county owned hospitals or healthcare clinics, US Code Title 26 section 501(c)(3) or (d) community-based organizations, job training, job placement, and/or educational instructional services.	California Public Utilities Commission	<a href="http://www.cpuc.ca.gov/publishes/Comment_resolution/9697.htm">http://www.cpuc.ca.gov/publishes/Comment_resolution/9697.htm</a> CPUC, Telecommunications Division, Public Programs Branch
	ME	Existing	Schools and libraries		
	MD	Planned	State agencies and local governments	Department of Budget and Management, Office of Information Technology, Telecommunications Division	Connie McDonnell (410-767-4647), net.work.Maryland <a href="http://www.techmd.state.md.us">www.techmd.state.md.us</a>
	OK	Existing	Schools, libraries, rural health care facilities, county seats, and not-for-profit hospitals	OCC (Oklahoma Corporation Commission)	<a href="http://www.occ.state.ok.us">www.occ.state.ok.us</a>
	TN	Existing	Schools and libraries	Provided by BellSouth Overseen by TRA	BellSouth/Tennessee Regulatory Authority

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
d. Discounts (other than the federal programs of discounts to schools, libraries and rural health care facilities) (Cont'd)	TX	Existing	Schools and libraries	Public Utilities Commission	Elango Raj ( <a href="mailto:512-936-7392/raj@puc.state.tx.us">512-936-7392/raj@puc.state.tx.us</a> )
	WI	Existing	Qualified applicants (need for service/affordability)	Public Service Commission	<a href="http://www.psc.state.wi.us">www.psc.state.wi.us</a>
	<b>(8)</b>	<b>(Existing: 7, Planned: 1)</b>			
e. Anchor tenancy	AK	Existing	State agencies	Department of Administration, Information Technology Group	<a href="http://www.state.ak.us/local/akpages/ADMIN/info/rfoweb/">www.state.ak.us/local/akpages/ADMIN/info/rfoweb/</a>
	AZ (Telecommunications Open Partnerships of Arizona—TOPAZ)	Existing	Political subdivisions, municipalities, Indian Tribes, nonprofit educational and public health institutions can purchase from State Carrier Services Contract; total purchasing power is leveraged to encourage infrastructure buildout.	Government Information Technology Agency	Brad Tritle, Telecom Division Manager, Government Information Technology Agency (602-364-4794/ <a href="mailto:btritle@gita.state.az.us">btritle@gita.state.az.us</a> ) <a href="http://www.gita.state.az.us">www.gita.state.az.us</a>

TABLE D-1 (CONT'D)

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
e. Anchor tenancy (Cont'd)	CO	Existing/ planned	State government	Colorado Department of Personnel	<a href="http://www.state.co.us/mnt">www.state.co.us/mnt</a>
	ID (IdaNet)	Proposed/ under development (facing imple- mentation difficulties)		Department of Administration, Information Technology Resource Management Council	<a href="http://www2.state.id.us/itrmc/index.htm">http://www2.state.id.us/itrmc/ index.htm</a>
	KY	Existing	State government and associated agencies	Kentucky Information Highway through Finance and Administration Cabinet	<a href="http://www.state.ky.us/dis/highway.htm">http://www.state.ky.us/dis/ highway.htm</a>
	MT (Summit Net II Project)	Planned	State government offices	Department of Administration, Information Services Division	Tony Herbert (406-444-2700)
	NE	Planned	State/local governments, public schools/ universities, public libraries	Division of Communications	Brenda Decker ( <a href="mailto:bdecker@doc.state.ne.us">bdecker@doc.state.ne.us</a> ) <a href="http://www.nitc.state.ne.us">www.nitc.state.ne.us</a>
	NM	Existing	Any customer in the same town	Information Technology Management Office	<a href="mailto:Marcia.martinez@state.nm.us">Marcia.martinez@state.nm.us</a>
	NC	Existing	Libraries, schools, community colleges, universities	Office of Information Technology Services	<a href="http://btsweb02.its.nc.us/its/products/dservice.asp?service">btsweb02.its.nc.us/its/products/ dservice.asp?service</a> (ID=70)
	OK	Existing	Schools and universities	OneNet	Troy Raider (405-225-9444)
	OR	Planned	State, local governments, schools, tribes, local telecom consortia	Department of Administrative Services	<a href="http://irmd.das.state.or.us/soen.htm">irmd.das.state.or.us/soen.htm</a>

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
e. Anchor tenancy (Cont'd)	TX	Existing	State government , school districts, and municipalities	Texas General Services Commission	<a href="http://www.gsc.state.tx.us">www.gsc.state.tx.us</a>
	VA	Existing	State, local governments and commercial	Virginia Tech, Center for Innovative Technology (CIT), Department of Information Technology	<a href="http://www.networkvirginia.net">www.networkvirginia.net</a> ; <a href="http://www.virginialink.org">www.virginialink.org</a> ; <a href="http://www.dit.state.va.us">www.dit.state.va.us</a>
	WI	Existing	State agencies, local governments, state universities/ technical colleges, public schools and libraries, and private college and schools	WiscNet, BadgerNet	Enterprise.state.wi.us/static/Badger
	WY	Existing	State agency, political subdivisions schools	Administration Director's Office	<a href="http://www.kiz.wy.us/technology/wen.html">www.kiz.wy.us/technology/wen.html</a> ; <a href="http://www.state.wy.us/ai/ai_admin.html">www.state.wy.us/ai/ai_admin.html</a>
	(15)	(Existing:11, Planned: 4)			

TABLE D-1 (CONT'D)

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
f. Demand aggregation	AZ (Telecommunications Open Partnerships of Arizona—TOPAZ)	Existing	Political subdivisions, municipalities, Indian Tribes, nonprofit educational and public health institutions can purchase from State Carrier Services Contract—Aggregation of these buyers in individual communities is being promoted.	Government Information Technology Agency	Brad Tritle, Telecom Division Manager, Government Information Technology Agency (602-364-4794/ <a href="mailto:btritle@gita.state.az.us">btritle@gita.state.az.us</a> ) <a href="http://www.gita.state.az.us">www.gita.state.az.us</a>
	FL (Suncom)	Existing	Nonprofit organizations, state/local governments	Department of Management Services (Division of Information Technology)	<a href="http://www.myflorida.com">www.myflorida.com</a> <a href="http://suncom.state.fl.us">suncom.state.fl.us</a>
	ID (IdaNet)	Proposed/ under development (facing implementati- on difficulties)		Department of Administration, Information Technology Resource Mgmt Council	<a href="http://www2.state.id.us/itrmc/index.htm">http://www2.state.id.us/itrmc/index.htm</a>
	MA (Berkshire Connect, Franklin County Connect)	Existing	Business customers	Massachusetts Technology Collaborative	<a href="http://www.masstech.org">www.masstech.org</a>

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
f. Demand aggregation (Cont'd)	MT	Existing	Hospitals, clinics, tribal health clinics, schools, MT Army National Guard	Private	
	NE (NEBCOM)	Planned	State/local governments, public schools/ universities, public libraries	Division of Communications	Brenda Decker ( <a href="mailto:bdecker@doc.state.ne.us">bdecker@doc.state.ne.us</a> ) <a href="http://www.nitc.state.ne.us">www.nitc.state.ne.us</a>
	NC	Existing	Libraries, schools, community colleges, universities	Office of Information Technology Services	<a href="http://btsweb02.its.nc.us/its/products/dservice.asp?service(ID=70)">btsweb02.its.nc.us/its/products/dservice.asp?service (ID=70)</a>
	OR	Planned	State, local governments, schools, tribes, local telecom consortia	Department of Administrative Services	<a href="http://irmd.das.state.or.us/soen.htm">irmd.das.state.or.us/soen.htm</a>
	TX	Existing	State government, school districts, and municipalities	Texas General Services Commission	<a href="http://www.gsc.state.tx.us">www.gsc.state.tx.us</a>
	VA	Existing	State, local governments and commercial	Virginia Tech, Center for Innovative Technology (CIT), Department of Information Technology	<a href="http://www.networkvirginia.net">www.networkvirginia.net</a> ; <a href="http://www.virginialink.org">www.virginialink.org</a> ; <a href="http://www.dit.state.va.us">www.dit.state.va.us</a>
	<b>(10)</b>		<b>(Existing: 7, Planned/ Proposed: 3)</b>		

TABLE D-1 (CONT'D)

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
g. Other means of increasing demand for advanced services	TX	Existing	State government, school districts, and municipalities	Texas General Services Commission	<a href="http://www.gsc.state.tx.us">www.gsc.state.tx.us</a>
	VT (Board has approved various docket settlements that included advanced services for local schools.) <b>(2)</b>	Existing <b>(Existing: 2)</b>	Schools and libraries	Various	
h. Leasing state advanced capabilities to private providers	FL (Suncom)	Existing	Nonprofit organizations, state/local governments	Department of Management Services (Division of Information Technology)	<a href="http://www.myflorida.com">www.myflorida.com</a> <a href="http://suncom.state.fl.us">suncom.state.fl.us</a>
	MD <b>(2)</b>	Planned <b>(Existing: 1, Planned: 1)</b>	Underserved regions where no broadband capability exists	Department of Budget and Management, Office of Information Technology, Telecommunications Division	Connie McDonnell (410-767-4647), net.work.Maryland <a href="http://www.techmd.state.md.us">www.techmd.state.md.us</a>

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
i. Making state-owned advanced telecommunications capabilities available to other taxing authorities (e.g. libraries, municipalities, schools)	FL (Suncom)	Existing	Nonprofit organizations, state/local governments	Department of Management Services (Division of Information Technology)	<a href="http://www.myflorida.com/suncom.state.fl.us">www.myflorida.com/suncom.state.fl.us</a>
	ID (IdaNet)	Proposed/ under development (facing implementation difficulties)		Department of Administration, Information Technology Resource Mgmt Council	<a href="http://www2.state.id.us/itrmc/index.htm">http://www2.state.id.us/itrmc/index.htm</a>
	IA	Existing	Authorized users only	Iowa Communications Network	<a href="http://www.icn.state.ia.us">www.icn.state.ia.us</a>
	KY	Existing	State government and associated agencies	Kentucky Information Highway through Finance and Administration Cabinet	<a href="http://www.state.ky.us/dis/highway.htm">http://www.state.ky.us/dis/highway.htm</a>
	MD	Planned	Schools, libraries, hospitals, and universities	Department of Budget and Management, Office of Information Technology, Telecommunications Division	Connie McDonnell (410-767-4647), net.work.Maryland <a href="http://www.techmd.state.md.us">www.techmd.state.md.us</a>
	MI	Existing	All	Department of Management and Budget	<a href="http://www.michigan.gov">www.michigan.gov</a>
	MS	Existing	Being changed	Department of Information Technology Services (ITS)	<a href="http://www.its.state.ms.us">www.its.state.ms.us</a> David Litchliter (601-359-1395)
	MT (Montana Met Net Project, Montana Summit Net)	Existing	Schools, state agencies	Department of Administration, Information Services Division	Tony Herbert (406-444-2701)
	NE (NEBCOM)	Planned	State/local governments, public schools/ universities, public libraries	Division of Communications	Brenda Decker ( <a href="mailto:bdecker@doc.state.ne.us">bdecker@doc.state.ne.us</a> ) <a href="http://www.nitc.state.ne.us">www.nitc.state.ne.us</a>

TABLE D-1 (CONT'D)

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
i. Making state-owned advanced telecommunications capabilities available to other taxing authorities (e.g. libraries, municipalities, schools) (Cont'd)	NM	Planned	Any user	General Services Administration—Office of Communications	<a href="mailto:Larry.martinez@state.nm.us">Larry.martinez@state.nm.us</a>
	NC	Existing	Libraries, schools, community colleges, universities	Office of Information Technology Services	<a href="http://btsweb02.its.nc.us/its/products/dservice.asp?service(ID=70)">btsweb02.its.nc.us/its/products/dservice.asp?service(ID=70)</a>
	OK	Existing	Schools and universities	OneNet	Troy Raider (405-225-9444)
	OR (SOEN: State of Oregon Enterprise Network)	Planned	State, local governments, schools, tribes, local telecom consortia	Department of Administrative Services	<a href="http://irmd.das.state.or.us/soen.htm">irmd.das.state.or.us/soen.htm</a>
	TX	Existing	State government, school districts, and municipalities	Texas General Services Commission	<a href="http://www.gsc.state.tx.us">www.gsc.state.tx.us</a>
	VT (State Internet access is available to schools.)	Existing	Schools	Administration Agency	Patricia Urban, Chief Information Officer ( <a href="tel:802-828-4141">802-828-4141</a> )/ <a href="mailto:purban@cio.state.vt.us">purban@cio.state.vt.us</a> )
	VA	Existing	State, local governments and commercial	Virginia Tech, Center for Innovative Technology (CIT), Department of Information Technology	<a href="http://www.networkvirginia.net">www.networkvirginia.net</a> ; <a href="http://www.virginialink.org">www.virginialink.org</a> ; <a href="http://www.dit.state.va.us">www.dit.state.va.us</a>
	WA	Existing	K-20 Educational Telecommunications Network	Department of Information Services	<a href="http://www.wa.gov/k20">www.wa.gov/k20</a>

**TABLE D-1 (CONT'D)**

Program	State	Existing or planned?	Eligible beneficiaries	Administrative agency	Contact or web link for more information
i. Making state-owned advanced telecommunications capabilities available to other taxing authorities (e.g. libraries, municipalities, schools) (Cont'd)	WI	Existing	State agencies, local governments, state universities/ technical colleges, public schools and libraries, and private college and schools	BadgerNet	enterprise.state.wi.us/static/badger
	WY	Existing	State agencies, political subdivisions, and schools	Administration Director's Office	<a href="http://www.kiz.wy.us/technology/wen.html">www.kiz.wy.us/technology/wen.html</a> ; <a href="http://www.state.wy.us/ai/ai_admin.html">www.state.wy.us/ai/ai_admin.html</a>
	<b>(19)</b>	<b>(Existing:14, Planned/ proposed: 5)</b>			
j. Other	AZ				
	1. Development of Directory of Telecommunications Services available in state	Under development	General public	Arizona Telecommunications and Information Council (ATIC)	Brad Tritle, Telecom Division Manager, Government Information Technology Agency (602-364-4794/ <a href="mailto:btritle@gita.state.az.us">btritle@gita.state.az.us</a> ) <a href="http://www.gita.state.az.us">www.gita.state.az.us</a>
	2. Fiber in the right-of-way; leasing or permitting of state rights-of way to encourage laying of fiber	Under development	Entire state will benefit from excess capacity and state-owned conduit	Arizona Department of Transportation (ADOT)	Craig Stender Chief Information Officer, ADOT (602-712-8865/ <a href="mailto:Cstender@dot.state.az.us">Cstender@dot.state.az.us</a> )
	<b>(1)</b>	<b>(Under development: 1)</b>			

## CHAPTER 3

### SUMMARY AND CONCLUSION

The survey results reveal that in general state regulatory commissions regulate advanced telecommunications services within a very limited scope. Some general findings from the survey can be summarized as follows:

- It appears that state regulatory policies are largely focused on fostering competition in the markets and promoting social goals. Accordingly many state regulatory commissions do such things as certification of providers, arbitration of interconnection agreements, handling wholesale and retail complaints, and requiring providers to contribute to universal service funds. However, not many commissions impose economic regulation such as rate setting and price caps. When they do so, flexibility is allowed in many cases. There are still many state commissions that require tariff filings, though, while the regulatory treatment of filed tariffs differs from state to state depending on the type of service provider.
- As has been the case in telecommunications regulation for a century, regulatory emphasis at the state level appears to be placed on incumbent local exchange carriers, which have been traditionally monopolies in most local markets, and regulation of other categories or types of providers is very limited.
- Among categories of providers other than ILECs (CLECs, data CLECs, and providers that are neither ILECs nor CLECs), DSL providers are more likely to be regulated in many states compared to other types of providers such as wireless, cable, satellite, and IXCs.

- It seems that in many situations state commissions do not distinguish service types in regulating telecommunications carriers. Rather, regulatory treatment is likely to depend upon carrier category/type (e.g., ILECs v. CLECs, DSL v. cable or satellite).
- Currently only a few states (9 out of 47) have their own definition of advanced capabilities or services with varying transmission speed from 144 Kbps to 51.84 Mbps in terms of downstream direction. Among them, two states have such definitions for purposes other than telecommunications regulatory policies, i.e., tax credit (Idaho) or funding telecommunications infrastructure projects (Oregon). In those states that do not have their own definition, whether to use the FCC's definition is largely an undetermined issue at the time.
- Regarding authority to regulate open access, only one state commission (Minnesota) indicated that it had such authority but decided not to require cable operators to provide open access. The other responding states (45) reported that either they did not have authority to regulate open access (24), or the issue has not been decided or considered (21).
- According to the responses, more states (20) do not impose common carriage requirements for advanced services, while 16 states do so with some degrees of variance in the requirements. Ten states reported that the issue has not been determined at the time.
- The survey results show that many efforts are being made by state governments to deploy advanced telecommunications capabilities or services. Among the various programs, "making state-owned advanced telecommunications capabilities available to other taxing authorities" (19 states) and "anchor tenancy" (15 states) are the two most commonly used or planned programs in the responding states. In addition, many states use or plan to use other programs such as "demand aggregation" (10 states), "discounts other than federal programs" (8 states), and "grants" (7 states).

- Many state programs designed to encourage deployment of advanced capabilities or services are done by other state agencies relating to economic development, community affairs, or information technology (IT), as well as state regulatory commissions. This may suggest that effective deployment of advanced capabilities requires cooperation and collaborative work between state regulatory commissions and other state agencies, by combining regulatory measures and other policy initiatives.

This survey is only an attempt to put pieces together to get a more complete picture of regulatory treatment and promotion of advanced services at the state level. The report shows state programs to aid deployment of advanced telecommunications capabilities as well as the status of state regulation of advanced telecommunications services. However, we did not go into much detail of individual state programs for advanced services. Thus, it seems that further studies are necessary to find out what programs are working and what programs are not in states. Those tasks are left for future research.

## **APPENDIX**

## RESPONDENTS TO ADVANCED SERVICES SURVEYS

The respondents to the NRRI surveys on advanced services (2000-2001 and 2002) are listed here in appreciation for their cooperation and help with the surveys. The author would like to thank the following individuals for responding to the surveys and providing information.

Alabama Public Service Commission	Mary Newmeyer
Regulatory Commission of Alaska	Wayne Wright
Arizona Corporation Commission	Phil Treuer
Arizona Government Information Technology Agency	Del Smith
Arkansas Public Service Commission	Brad Tritle
California Public Utilities Commission	Art Stuenkel
Colorado Public Utilities Commission	Phyllis White
Connecticut Department of Public Utility Control	Warren Wendling
Delaware Public Service Commission	Peter Pescosolido
District of Columbia Public Service Commission	Patty Reilly
Florida Public Service Commission	Jim Strong
Hawaii Public Utilities Commission	Constance Welde
Idaho Public Utilities Commission	Edward Ongweso
Illinois Commerce Commission	Norman Reiser
Indiana Utility Regulatory Commission	John Mann
Iowa Utilities Board	Lisa Kikuta
Kansas Corporation Commission	Christopher Lai
Kentucky Public Service Commission	Richard VanDrunen
Louisiana Public Service Commission	Wayne Hart
Maine Public Utilities Commission	Julie Musselman
Maryland Public Service Commission	Brian Mahern
Massachusetts Department of Telecommunications and Energy	Pam Taber
Michigan Public Service Commission	John Ridgway
Minnesota Public Utilities Commission	Guy McDonald
Mississippi Public Service Commission	Susan Palmer
Missouri Public Service Commission	Larry Harley
	Arnold Chauviere Jr.
	Joel Shifman
	Don Laub
	Geoff Waldau
	Mike Isenberg
	Ron Choura
	Tom Lonergan
	Mark Oberlander
	Randy Tew
	Natelle Dietrich

Montana Public Service Commission	Bonnie Lorang
	Kate Whitney
Nebraska Public Service Commission	Gene Hand
New Hampshire Public Utilities Commission	Kate Bailey
	Kath Mullholand
New Jersey Board of Public Utilities	Stuart Strongin
New Mexico Public Regulation Commission	Susan Oberlander
New York State Public Service Commission	Carl Johnson
North Carolina Utilities Commission	Nat Carpenter
	Mary Steel
North Dakota Public Service Commission	Patrick Fahn
Public Utilities Commission of Ohio	Allen Francis
Oklahoma Corporation Commission	Mark Tallent
	Steve Wilt
Oregon Public Utility Commission	Dave Booth
Pennsylvania Public Utility Commission	John Matchik
South Carolina Public Service Commission	Jim McDaniel
South Dakota Public Utilities Commission	Harlan Best
Tennessee Regulatory Authority	Teferi Mergo
	Joe Werner
Texas Public Utility Commission	Elango Raj
Utah Public Service Commission	Judith Hooper
Vermont Public Service Board	Peter Bluhm
Virginia State Corporation Commission	Sheree King
Washington Utilities and Transportation Commission	David Dittmore
	Bob Shirley
	Tom Wilson
West Virginia Public Service Commission	Todd Carden
Wisconsin Public Service Commission	Jeff Richter
Wyoming Public Service Commission	Dave Walker
	Don Biedermann