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February 27, 2004

VIA E-MAIL & UPS OVERNIGHT DELIVERY

Carol J. Washburn **Executive Secretary** Washington Utilities and **Transportation Commission** 1300 S. Evergreen Park Drive S.W. Olympia, WA 98504-7250

> WECA, et al. v. LocalDial Re:

> > WUTC Docket No. UT-031472

Direct Testimony of William Page Montgomery Submitted on Behalf

of LocalDial

Dear Ms. Washburn:

Enclosed for filing in the above-referenced docket are the original and 15 copies of the Direct Testimony of William Page Montgomery submitted on behalf of LocalDial. Copies of this document have also been sent to the parties on the attached Certificate of Service via the method(s) indicated therein.

If you have any questions, please feel free to contact me.

Sincerely,

Enclosure 240499/1

Parties of Record cc:

CERTIFICATE OF SERVICE

I hereby certify that I have this 27 th day of February, 2004, served the true and correct original, along with the correct number of copies, of the foregoing document upon the WUTC, via the method(s) noted below, properly addressed as follows:		
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I declare under penalty of perjury under foregoing is true and correct.	the laws of the State of Washington that the
DATED this 27 th day of February, 2004, at	t Seattle, Washington.
	Kathleon Miller

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON EXCHANGE CARRIERS ASSOCIATION, et al.,

Docket No. UT-031472

Complainants,

v.

LOCALDIAL CORPORATION, an Oregon corporation,

Respondent.

DIRECT TESTIMONY OF

WILLIAM PAGE MONTGOMERY

ON BEHALF OF LOCALDIAL CORPORATION

February 27, 2004

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I. INTRODUCTION AND SUMMARY

2 Q. CAN YOU STATE YOUR NAME AND BUSINESS AFFILIATION?

A.

A. My name is William Page Montgomery. I am the principal of Montgomery Consulting in
Laguna Beach, California, which I founded in 1993 after 16 years with the consulting
firm of Economics and Technology, Inc.

6 Q. WHAT IS YOUR EXPERIENCE IN TELECOMMUNICATIONS POLICY MATTERS?

I have been involved in telecommunications public policy and regulatory matters since 1974. I have provided consulting services regarding many common carrier matters before the Federal Communications Commission ("FCC"). I have also participated in several hundred state-level telecommunications proceedings, and have submitted expert testimony in such matters many times. I have had considerable experience in the development of regulatory mechanisms designed to create improved efficiency incentives for monopoly local telephone companies; as well as policies and practices to increase competition in the telecommunications industry. I have been involved in extensive analysis of rates, costs and cost accounting systems; the roles and effects of changing telecommunications technologies; and a number of other issues. I have degrees in law and economics from Duke University and Butler University respectively.

Certain aspects of my experience are especially pertinent to this proceeding. Starting in 1977, I was significantly involved in the development of policies by the FCC, rate structures and tariffs for access charges, as well as analyzing the effects of access pricing on universal service. I participated in directly developing the initial access charge

regime adopted by the FCC in 1983 prior to the AT&T divestiture, and in developing access charge policies and structural rules in the 1980-1985 period that in many instances are still reflected in FCC rules despite numerous modifications over the years. These policies, pricing structures and other rules are generally mirrored in access charge tariffs in Washington State. I also participated in over 20 proceedings at the FCC concerning specific access charge rules and access charge rates and tariffs in the 1984-1994 period.

From approximately 1980 through the early-1990s, I participated in the FCC proceedings that gave rise to its policies regarding the regulatory treatment of enhanced services (also called information services) including the FCC's Second Computer Inquiry (Docket No. 20828) and Computer Inquiry III (CC Docket No. 85-229). I participated in these and related matters on behalf of large corporate users of data communications networks, whose interests (in common with telephone companies at the time) was to ensure that data communications and information services were not subject to common carrier or tariff-related regulation.

For the last eight to nine years, I have been involved primarily in local competition proceedings and activities associated with implementing the Telecommunications Act of 1996 in a number of state jurisdictions and at the FCC. I have testified in Arizona, California, Colorado, Connecticut, Illinois, Indiana, Iowa, Kentucky, Maryland, Massachusetts, Michigan, Nebraska, New Mexico, New York, Ohio, Oregon, Pennsylvania, Texas, Utah, Washington State and Wisconsin. Approximately 25 of these proceedings involved access tariffs and other intercarrier

compensation issues such as reciprocal compensation. A more complete statement of my qualifications is contained in Exhibit WPM-2 to my testimony.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

4 A. I was retained by LocalDial Corporation to independently evaluate the claims of the Washington Exchange Carrier Association ("WECA") in this proceeding and the related 5 6 matter before the U.S. District Court, Western District of Washington State (Cause No. C03-5012RBL). I was asked to evaluate the factual and policy basis of WECA's claims 7 8 that LocalDial should be subject to its members' switched-access and carrier common 9 line tariffs for all calls wholly within Washington State placed or received by LocalDial's 10 customers using LocalDial's "Voice over Internet Protocol" (VoIP) service. The claims 11 I analyzed include WECA's assertions about the economic harm its members have 12 experienced due to LocalDial's service. I based my evaluation on a review of the 13 documents submitted in this case, analysis of a number of state, FCC and court orders 14 concerning telecommunications pricing, orders and policies concerning universal service. 15 and the intrastate access charge tariffs filed by WECA members.

16 Q. WHAT IS YOUR UNDERSTANDING OF THE BASIS FOR WECA'S CLAIMS?

18 A. I understand WECA's claims to be based primarily on three assertions, namely:

¹ The telephone companies that are specifically part of the complaint are CenturyTel of Washington, Ellensburg Telephone Company (TC), Hood Canal TC, Inland TC, Kalama TC, Lewis River TC, Mashell Telecom, McDaniel TC, Tenino TC, Toledo TC and YCOM Networks.

That the routing of its customer's messages to LocalDial's facility is essentially identical to the routing performed by WECA members for interexchange (long-distance) carriers and therefore the same access charges should apply to these customer messages as to long-distance calls;
 That the terms and conditions of WECA's access charge tariffs unambiguously apply to LocalDial's IP telephony service; and

3. That LocalDial's failure to pay the tariffed access charges has caused actual pecuniary harm to the WECA members. WECA has estimated "lost" revenues due to its failure to collect switched-access charges from LocalDial back to 2001 and would likely seek to collect these revenues retroactively.

However, each of these assertions is in large measure simply not correct. WECA apparently assumes that LocalDial's service is a telecommunication offering, not an information service that is subject to the FCC's primary determinations. However, the FCC has never ruled that a service with the characteristics of LocalDial's service is not an information service. WECA's theories taken in totality significantly understate the complexity of the facts concerning LocalDial's service, VoIP services in general, intercarrier compensation, and the best policies to ensure continued universal service in the face of massive and unprecedented changes in telecommunications markets and new technologies. The FCC itself, as well as other state commissions, continue to struggle to create sustainable policies in the face of these massive changes.

1 Q. CAN YOU SUMMARIZE THE CONCLUSIONS OF YOUR FACTUAL ANALYSIS?

A.

Yes. First, all of the telecommunications services LocalDial uses are provided by appropriately authorized telecommunications carriers. LocalDial is not a carrier itself; its service "rides" on other providers' telecommunications offerings. All of these offerings are already subject to one or more forms of intercarrier compensation, including but not limited to traditional switched-access charges in certain configurations. Thus, as a threshold matter, WECA's claim LocalDial owes additional compensation involves double counting of existing compensation flows.

Second, WECA's insistence that the "routing" of calls placed by LocalDial's customers determines the correct compensation arrangement is misplaced. The routing of all types of local, long-distance and information service traffic (e.g., dialed calls to Internet Service Providers or ISPs) is functionally equivalent in each WECA members' network. Yet these types of traffic are subject to several different forms of retail or wholesale pricing; pricing depends on the *type* of service not the *routing* of the traffic. One of the serious and long-standing issues in U.S. telecommunications involves the ongoing proliferation of different pricing arrangements for traffic that is by and large functionally indistinguishable ("a minute is a minute"). This problem exists precisely because pricing issues for specific types of traffic are not as simple as WECA suggests.

Besides being largely irrelevant to the issue of whether WECA members' switched-access tariffs should apply to calls by LocalDial's customers, WECA's emphasis on the "routing" of calls ignores a much more basic issue. What WECA

proposes would impose access fees on LocalDial even though LocalDial is not a customer of WECA's members. This could lead to the unprecedented situation of a telephone company trying to charge an entity that is not even its customer. As I will discuss, LocalDial's access numbers are supplied by other telecommunications service vendors, such as competitive local exchange carriers ("CLECs"), not WECA's members. The compensation arrangement between LocalDial's local providers and LECs like WECA members falls under reciprocal compensation arrangements that are currently moving towards bill-and-keep arrangements.

Third, retroactive application of any intercarrier compensation, including but not limited to switched-access charges, is entirely unwarranted. Whether any intercarrier compensation arrangement should apply to LocalDial turns first of all on whether the company is providing an information service. The FCC, which has the exclusive authority to define "information services," is just now embarking on a review and new consideration of how to classify various types of VoIP offerings. However, LocalDial's service is an enhanced or information service as that term is currently defined by FCC rules. In fact, voice signals (or any audio or video signal) transmitted by packet switching might be unintelligible without the information service functions LocalDial's equipment uses.

For LocalDial's service *not* to be deemed an information service, the FCC would have to formulate new rules, effective prospectively, which could include parts of a shorthand test to which the FCC has referred but has not adopted as a formal rule.

LocalDial's service certainly uses telecommunications facilities, but then so do telephone company voice-mail services, the ubiquitous credit card "slide machines" found at most point of sale locations, as well as all calls to Internet Service Providers. All of these services are unregulated information services.

Fourth, WECA's assertion about the monetary impacts of LocalDial's service on WECA's members is highly exaggerated. WECA claims that LocalDial's service has "deprived" WECA's members of well over \$1.5 million in intrastate switched-access revenues in the 2001-2003 period. WECA's compensation claim involves double counting of existing intercarrier compensation payments by LocalDial's vendors, as I noted. In addition, WECA's estimate of switched-access compensation that its members supposedly forego, fails to account for the stimulation of customer demand created by LocalDial's very low-priced service. Numerous estimates of the price elasticity of demand for long-distance service confirm that LocalDial's service, which is 40% to 50% less costly to consumers than the current retail intrastate toll price benchmark (Qwest's \$0.05 per minute plan), has stimulated customer usage of LocalDial's service by 34% to nearly 60%.

Thus, WECA's calculation of its monetary "losses" is circular: WECA's broad average switched-access charges are about 2.6 times higher per minute than the average total price (reckoned in a per minute basis) for LocalDial's flat-rate service. Considering that, LocalDial would have had to price the service to cover its own costs as well as WECA's intrastate switched-access charges, LocalDial would have had to price its

service as much as four times higher in order to recover WECA's charges. At such a price, the service would have been too costly to be attractive to any consumers and the service would not have been used. The "losses" WECA believes exist would not have occurred if the remedy it seeks had been in place (or were put in place retroactively).

Applying WECA members' intrastate switched-access charges to LocalDial would likely terminate LocalDial's business. WECA's switched-access charges are, on average, significantly higher than the corresponding rates for *retail* intrastate long-distance services (referencing Qwest's intrastate rate plans) that would be used by LocalDial's customers if LocalDial were forced to raise its prices to cover the switched-access charges. In other words, WECA's "remedy" would place LocalDial in a "price squeeze" between WECA's switched-access rates and retail intrastate toll rates and discounted calling plans.

Finally, the futility from the perspective of WECA members, it seems to me, may be more significant. There is general agreement, I believe, that telecommunications public policy should not allow revenue erosions faced by incumbent providers, like WECA's members, to reduce universal service. LocalDial's service has almost no impact on this issue. Data provided by WECA members to LocalDial shows that the telephone companies' intrastate switched-access minutes have declined by over 25 million minutes *per year* on average since 1999. Significant decreases in WECA's intrastate switched-access minutes occurred even before LocalDial commenced its operations. These effects reflect the impact of cell phone pricing (where long-distance

minutes are bundled with other usage at a flat monthly rate), e-mail, instant messaging and a host of other means of communication that did not exist ten years ago. In 2002, the last full year for which usage data is available from the WECA complainants, customer usage of LocalDial's service (appropriately adjusted to remove excess, stimulated demand based on average price elasticities) accounted for only about 12% of the decline in intrastate switched-access minutes of use reported by the WECA complainants that year. The remaining decrease in switched-access minutes is presumably attributable to cell phones, e-mail and other long-distance substitutes. So, putting LocalDial out of business, which is what WECA's proposed remedy amounts to, would have virtually no impact on WECA's ongoing erosion of intrastate switched-access minutes and the possible impact of losing the contribution to universal service from the vastly inflated switched-access charges. WECA seems to be pursuing a misguided and ineffective remedy here.

- Q. CAN YOU SUMMARIZE WHAT ACTIONS YOU ARE RECOMMENDING THAT THIS COMMISSION SHOULD TAKE IN THIS PROCEEDING?
- 17 A. Yes. In this specific proceeding this Commission should determine that:

- 1. WECA members' switched-access tariffs do not apply to LocalDial's service.
- 2. WECA members' switched-access tariffs cannot be applied retroactively to LocalDial's service because LocalDial is not a customer of any WECA members regarding the provision of this service, and because the service

1			satisfies the current definition of enhanced or information services under
2			FCC rules and federal law.
3		3.	The issue of whether LocalDial's service would be deemed an information
4			service or telecommunications service in the future is a question to be
5			decided in the first instance by the FCC, and is subject to current open
6			FCC proceedings regarding VoIP services.
7		4.	The issue of what type of intercarrier compensation, if any, should be
8			imputed to telecommunication service fees paid by LocalDial to its
9			vendors should not be decided until the completion of the FCC
10			determinations just noted.
11		5.	If the issue of intercarrier compensation becomes ripe for consideration by
12			this Commission in the future, the compensation should be based on
13			reciprocal payments between a WECA member and the local carriers used
14			by LocalDial, focusing particularly on the default "bill-and-keep" method
15			currently authorized by the FCC.
16		I	I. OVERVIEW OF LOCALDIAL'S SERVICE
17	Q.	CAN YOU DI	ESCRIBE LOCALDIAL'S SERVICE?
18	A.	Yes. Once a c	customer establishes an account with LocalDial, the company provides the
19		customer with	a local access number. The local number is provided by a carrier in the
20		form of a "fore	eign exchange" type of service. WECA's members do not provide the local
21		numbers used	by LocalDial's customers. From that initial point, LocalDial uses
22		"backbone" cir	rcuits to carry the local call to the appropriate LocalDial service hub or

node. When the customer calls the local access number, LocalDial matches the customer's telephone number with its billing database. This process involves LocalDial's customer interacting with information stored in LocalDial's database, just as a credit card user's information interacts with a database when the card is run through a slide machine. If the account is authorized, LocalDial's equipment prompts the customer to input the number of its called party. The second number is not used to route the call on an interexchange basis. Instead, the second number is converted by LocalDial into Internet addressing using the domain name system of Uniform Resource Location numbers.

A.

The signal associated with the second number is converted to Internet Protocol (IP) packet switching using computer processing equipment known as a VoIP gateway, especially designed for voice traffic, and routed to its destination over Internet backbone circuits that carry all types of Internet traffic. There a reverse conversion takes place and the signal is sent to the called party. As I will describe in more detail below, the VoIP gateway acts on the content and format of the customer's voice signal and inherently involves generating, storing, retrieving and converting information that is not part of the original voice signal.

Q. WHAT ARE OTHER ASPECTS OF LOCALDIAL'S SERVICE?

LocalDial customers can call anywhere in the contiguous United States, but international calling is not offered. Calls to areas where LocalDial does not have a node or hub are routed to a long-distance carrier for completion and are subject to traditional intercarrier compensation for such calls, including payments to support universal service and other

social goals. In fact, all of the telecommunications facilities used by LocalDial may involve charges that are designed in part to support either interstate or intrastate universal service.

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LocalDial offers its service only to residential customers.² The service was initially priced at \$15.00 per month for unlimited numbers of calls. The basic price is now \$20.00 per month, with a discount for customers who commit to three months' service. Existing customers who refer new paying customers to LocalDial receive one month's free service for each such referral.

LocalDial's customers are able to use their telephones for all other traditional uses. They can call E-9-1-1 in an emergency, and, if they are unfortunate enough to attract the attention of law enforcement, their normal phone line can be subjected to court-ordered intercepts.

13 Q. IS LOCALDIAL'S SERVICE IDENTICAL TO OTHER TYPES OF CURRENT VOIP OFFERINGS?

15 A. No, not insofar as other VoIP services have been described in regulatory filings and trade 16 press accounts. As I just noted, LocalDial's service is a VoIP "overlay" on a network of 17 telecommunications facilities offered by a variety of telecommunications services 18 vendors. In Washington State, LocalDial informs me these vendors consist of one or 19 more long-distance carriers, resellers, Qwest and four CLECs. These suppliers are all

² LocalDial discourages its customers from attempting to send faxes over the service.

properly authorized to provide their services, and each one pays or receives the appropriate type of intercarrier compensation for the services they provide LocalDial.

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LocalDial's service does not require a special telephone instrument such as the service offered by Vonnage (which requires a device using the Session Initiation Protocol (SIP) to be used by the caller). LocalDial's service does not require a broadband computer connection and special peer-to-peer software, like the Free World Dialup service. Nor is the VoIP technology used by LocalDial only one part of multiple telecommunications technologies by which it transmits calls, unlike some VoIP applications which substitute VoIP for other technologies only in parts of much larger networks.³ The VoIP technology overlay used by LocalDial amounts to a pure information service.

III. PUBLIC POLICIES AFFECTING VOIP INFORMATION SERVICE

- 14 Q. DO CURRENT REGULATORY POLICIES DIFFERENTIATE AMONG 15 THE DIFFERENT "FLAVORS" OF VOIP THAT YOU JUST 16 DESCRIBED?
- 17 A. No, current policies treat all types of information or enhanced services identically and the
 18 FCC has just begun to address VoIP technology in a formal way. The FCC noted this
 19 commonality with respect to VoIP services in its *Unified Intercarrier Compensation*20 Notice of Proposed Rulemaking (NPRM):

³ See, e.g., Petition for a Declaratory Ruling that AT&T's Phone-to-Phone IP Telephony Services are Exempt from Access Charges, WC Docket No. 02-361 (See AT&T Petition and comments filed December 18, 2002).

The phrases "Internet telephony" and "Internet Protocol telephony" ("IP telephony") refer to similar, but distinct concepts. IP telephony involves the provision of a telephony service or application using Internet Protocol. IP telephony may be provided over the public Internet or over a private IP network. In contrast, Internet telephony is a subset of IP telephony that is distinguished by the fact that it is provided over the public Internet and uses the domain-name system for routing. See, e.g., In the Matter of Federal-State Joint Board on Universal Service, Report to Congress, 13 FCC Rcd. 11501, 11541-51 ¶ 83-104 ("Stevens Report") (discussing Internet and IP telephony); HARRY NEWTON, NEWTON'S TELECOM DICTIONARY 378 (14th ed. 1998). For simplicity, the text will refer generally to the broader concept of IP telephony.

IP telephony can also be categorized by the equipment used to provide the service. For example, IP telephony may be provided using two personal computers ("computer-to-computer" IP telephony); the service may be provided between a computer and a standard telephone using a single IP gateway ("computer-to-phone" IP telephony); or it may be provided using two standard telephones that connect through two IP gateways ("phone-to-phone" IP telephony). See, e.g., Stevens Report, 13 FCC Rcd. at 11543-44 ¶¶ 87-89.⁴

Q. WHAT IS THE STEVENS REPORT?

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A. The FCC reported to Congress in 1998 concerning how services using new technology like the Internet might affect universal telephone service. The report was limited to universal service issues; it did not discuss intercarrier compensation as such. In the report, the FCC characterized the types of IP telephony referred to in the quote above, as well as describing Internet Service Providers:

[T]he Commission ruled in the Universal Service Order that entities providing enhanced or information services are not thereby providing

⁴ Developing a Unified Intercarrier Compensation Regime, Notice of Proposed Rulemaking, CC Docket No. 01-92, April 27, 2001, FCC 01-132, 16 FCC Rcd 9610 (2001), footnote 5. HTTP://HRUANFOSS.FCC.GOV/EDOCS PUBLIC/ATTACHMATCH/FCC-01-132A1.DOC.

"telecommunications service." Universal Service Order, 12 FCC Rcd at 9179-80, paras. 788-89. It found that the 1996 Act's definition of telecommunications, which "only includes transmissions that do not alter the form or content of the information sent," excludes Internet access services, which "alter the format of information through computer processing applications such as protocol conversion and interaction with stored data."

In essential aspect, Internet access providers look like other enhanced – or information – service providers. Internet access providers, typically, own no telecommunications facilities. Rather, in order to provide those components of Internet access services that involve information transport, they lease lines, and otherwise acquire telecommunications, from telecommunications providers – interexchange carriers, incumbent local exchange carriers, competitive local exchange carriers, and others. In offering service to end users, however, they do more than resell those data transport services. They conjoin the data transport with data processing, information provision, and other computer-mediated offerings, thereby creating an information service.⁵

The second quote above appears to correspond closely to the way LocalDial provides its service, although LocalDial's service involves the human voice. However, the Report said that some voice services "appear to present a different case." The FCC "tentatively" identified four conditions associated with phone-to-phone IP telephony, at least some of which apply to LocalDial, that might in the future require the assessment of universal service contributions.

⁵ Report to Congress, 13 FCC Rcd. 11501, 11541-51, ¶ 31 and 81.

⁶ *Id.*, ¶¶ 88-89.

Q. HAS THE FCC SUBSEQUENTLY APPLIED THE FOUR CONDITIONS WITH RESPECT TO EITHER UNIVERSAL SERVICE OR ANY OTHER PUBLIC POLICY ISSUE?

4 A. No it has not, and that fact has very important implications for this case insofar as 5 WECA's claims are concerned. The FCC may be poised to begin changing the current. common treatment of all IP telephony, but the process is only beginning. Moreover, the 6 7 FCC recently reaffirmed its right to first determine whether a specific service is an "information service" or a "telecommunications service" irrespective of state law or 8 9 policy.⁸ The changes to be made in the future by the FCC may or may not affect 10 LocalDial's service. But today, the quote from the Unified Intercarrier Compensation 11 NPRM above accurately reflects current policy and the common treatment of all 12 information services that handle the human voice. WECA's implicit assumption that 13 LocalDial provides a telecommunications service cannot be sustained, and therefore, 14 WECA has no basis for collecting switched-access charges from LocalDial at this time 15 and, needless to say, not retroactively.

⁷ In the Matter of IP-Enabled Services, Notice of Proposed Rulemaking, WC Docket No. 04-36 (FCC 04-28), adopted February 12, 2004.

Petition for Declaratory Ruling that pulver.com's Free World Dialup is Neither Telecommunications nor a Telecommunications Service, WC Docket No. 03-45, *Memorandum Opinion And Order* (Pulver order) (FCC 04-27), February 19, 2004, at ¶¶ 15-17, 20, 24.

IV. INTRASTATE SWITCHED-ACCESS CHARGES DO NOT APPLY TO LOCALDIAL'S SERVICE

Q. SHOULD THE WECA MEMBERS' INTRASTATE SWITCHED-ACCESS SERVICES APPLY TO LOCALDIAL'S SERVICE?

A.

No, for several reasons. First, the archaic nature of the WECA members' current switched-access charges should foreclose their application. Multiple tariffs could apply to the calls LocalDial's customers make to the company's local access numbers based on the functional equivalency of the routing from the end user to LocalDial's foreign-exchange arrangement. The switched-access tariffs are by far the most costly of these options. If any intercarrier compensation did apply, some form of reciprocal compensation arrangement between the WECA members and the CLECs who provide LocalDial's access numbers could be appropriate. Currently, the FCC's policy is that the ILEC-CLEC compensation should transition towards bill-and-keep arrangements.

In addition, until the FCC has completed its review of the status of various VoIP offerings, this Commission should find that LocalDial's service has many aspects of an information service and that the FCC may conclude that it is such. Information services are not subject to regulation and are not subject to access charges. Incumbent carriers' voice-mail offerings do not pay switched-access charges, even though many carrier's voice-mail offerings are based in voice-mail server "farms" located in exchange areas that can be many miles and many exchanges distant from the voice-mail user. A bank's credit card data center may likewise be located many miles and many exchange boundaries away from the POS slide machines accessed by the credit card customer, but

the transmission of these data signals is not subject to switched-access charges. ISPs who establish local access numbers, like LocalDial, pay no access fees.

3 Q. WHAT DO YOU MEAN THE WECA'S SWITCHED-ACCESS TARIFFS ARE "ARCHAIC"?

WECA's tariffs were changed to reflect this Commission's implementation of the "terminating access charge rule," which recognizes that long-distance carriers cannot control where their subscribers' call and, thus, prevents monopoly rents on terminating access. However, generally, the tariffs have undergone almost no other modification or reform, particularly compared to the interstate access charges regulated by the FCC or the access tariffs of larger incumbent carriers in states that have used excess earnings adjustments, rate rebalancing and other mechanisms to reduce access fees. Since the mid-1980s, multiple FCC proceedings have reduced access tariff rate levels, adopted price caps and the associated adjustment mechanisms to continue rate reductions, and eliminated or restructured explicit subsidy elements in the tariffs. In Washington State, as in most states, smaller ILECs' access tariffs have not warranted the time and effort that

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⁹ WAC 480-129-540.

would be necessary to parallel these reforms. As a result, smaller ILECs' access rates
have remained substantially higher than the rates of large incumbents.

However, it is widely recognized that even *after* this series of changes and reforms the interstate access tariffs regulated by the FCC are still highly uneconomic:

The current structure of interstate access charges is irrational, and substantial revision of the Commission's access charge rules is needed. At present, the price of access to the local exchange carriers' networks bears very little relation to the way in which the costs of access are actually incurred – per-minute charges for access are far higher than they should be, whereas fixed charges are artificially low. As substitutes for traditional circuit-switched long-distance services, such as packet-switched Internet-based telephony, become more widely available, the regulatory distortions created by the Commission's rules are increasingly untenable. 11

This observation applies many times over to WECA's switched-access tariffs.

The FCC has begun the process of reforming the access charge and subsidy systems for smaller, more rural telephone companies like WECA's members. Federal-State Joint Board on Universal Service; Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers, CC Docket Nos. 96-45, 00-256, Fourteenth Report and Order, Twenty-Second Order on Reconsideration, and Further Notice of Proposed Rulemaking, 16 FCC Rcd 11244 (2001) (RTF Order). Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent LEC and IXCs, Second Report and Order and Further Notice of Proposed Rulemaking in CC Docket No. 00-256, Fifteenth Report and Order in CC Docket No. 96-45, and Report and Order in CC Docket Nos. 98-77 and 98-166, 16 FCC Rcd 19613 (2001) (MAG Order).

HTTP://HRUANFOSS.FCC.GOV/EDOCS_PUBLIC/ATTACHMATCH/FCC-01-304A1.DOC
Third Order on Reconsideration, FCC 03-106 (May 8, 2003).

Access Charge Reform, Price Cap Performance Review For Local Exchange Carriers, Low-Volume Long-distance Users, Federal-State Joint Board On Universal Service, Report and Order, CC Docket Nos. 96-262, 94-1, 99-249, 96-45. Statement of Commissioner Harold Furchtgott-Roth, Concurring In Part and Dissenting In Part. 15 FCC Rcd. 12962 (2000) ("Calls Order") (FCC 00-193).

1 Q. WECA MEMBERS' SWITCHED-ACCESS TARIFFS ARE NOT AT ISSUE 2 IN THIS PROCEEDING, BUT CAN YOU PROVIDE A REFERENCE 3 POINT TO DESCRIBE THE RELEVANT RATE LEVELS?

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Yes. Individual WECA members' traffic sensitive switched-access tariffs exhibit five or six different rate structures, although each company concurs in WECA's carrier common line tariff. Most of the tariff sensitive rate structures are still highly similar to the original rate structures that were specified in the first access tariffs filed with the FCC and state commissions in 1983 in anticipation of the AT&T divestiture. Mapping any one of these rate structures to a particular customer of each company's network would be a complex exercise, but would be required to determine the impact of LocalDial's service on each of the complainants individually. Such an exercise is not required at this time. WECA has estimated its members average unit (per-minute) revenues, however, which can be used simply to provide a reference point to switched-access rate levels.

Currently, the WECA originating access revenues range from a low of \$0.049 per minute to \$0.1114 per minute. Terminating access charge revenues range from \$0.071 per minute to \$0.1572 per minute. On a revenue-weighed basis the average originating unit revenue is \$0.0597 per minute; the terminating revenue is \$0.0996 per minute. Based upon the pattern of customer calls in WECA areas to or from LocalDial's access numbers, the weighed average unit revenue, originating and terminating, is \$0.0713

WECA's Second Supplemental Response to Local Dial's First Data requests, Request No. 5 (January 24, 2004). The actual response is confidential; the values provided here are approximations of individual companies' tariff rate elements and the tariffs are not confidential.

per minute. (A confidential workpaper for my testimony contains the precise calculations). In contrast, a customer using LocalDial's flat rated service pays approximately the equivalent of between \$0.024 per minute and about \$0.034 depending upon each customer's actual level of usage.

- 5 Q. WHAT IS WECA'S BASIS FOR BELIEVING THAT THESE
 6 INTRASTATE SWITCHED-ACCESS TARIFFS SHOULD APPLY TO
 7 TRAFFIC ORIGINATED BY LOCALDIAL'S CUSTOMERS?
- 8 My understanding is that WECA's claim rests mainly upon the routing of the first call A. 9 dialed between a LocalDial customer's telephone and LocalDial's local access number. 10 As I said, the local access number is provided by LocalDial's own vendor (typically a 11 CLEC) in the form of a foreign exchange (FX) type connection. The local access number 12 is not provided by a WECA member. Hypothetically, if LocalDial obtained these FX 13 type services from incumbent LECs, switched-access charges would not apply. For 14 example, Qwest's and CenturyTel's Washington State intrastate foreign exchange tariffs 15 do not apply traffic sensitive switched-access rates on the open end of these FX arrangements¹³ (these carriers do apply certain flat-rate surcharges or fixed mileage 16 17 charges but not usage sensitive fees).

¹³ See Owest U-40 Corporation, Tariff WN section 5, original sheet 21 HTTP://TARIFFS.USWEST.COM:8000/IIOP/ WAIMAP?OBJECTID=0-2842; CenturyTel Communications Tariff. WN U-1. Schedule WWW.CENTURYTEL.COM/INDEX.CFM?ACTION=SERVICES&SUBACTION=TARIFFS &DETAILS=WASHINGTON.

LocalDial does *not* obtain FX services from incumbents like Qwest or CenturyTel, but rather from CLECs. CLECs are free to apply their own pricing arrangements to these services and need not mirror ILEC tariffs. Moreover, a CLEC's FX services connecting to WECA members' exchanges are subject to mutual, reciprocal compensation under the Telecommunications Act – not switched-access charges.

Q. IN WHAT WAY HAS WECA EMPHASIZED THE MERE "ROUTING" OF CALLS TO AND FROM LOCALDIAL'S CUSTOMERS?

WECA's arguments in the federal court proceeding that preceded this docket placed the most emphasis on the routing of this call. WECA stated that "[t]he case requires an understanding of the manner in which telephone companies like [WECA members] and LocalDial transport calls originating and terminating on their networks" and "[t]his case is a simple matter of statutory interpretation." WECA's statement is incorrect, because LocalDial does not have its own network. Leaving that aside, WECA's analysis seems highly simplistic. WECA also developed an analogy concerning how long-distance carrier traffic is routed to and from its members, noting "[t]his VoIP system still uses the [WECA members'] facilities to originate and terminate the calls of their customers in the same manner that [a long-distance carrier] used the [WECA members'] facilities..." MECA also noted later that "[f]unctionally speaking there is no difference between the

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¹⁴ Plaintiffs' Memorandum in Opposition to Defendant's Motion to Dismiss, U.S. District Court, Western District of Washington, Cause No. C03-5012RBL, July 10, 2003, pp 2-3.

¹⁵ *Id.*, p. 5.

'routing' that a CLEC [the local carrier for LocalDial in the example] does and the 'routing' that a long-distance carrier does." 16

Q. DOES "ROUTING" DETERMINE THAT THE SWITCHED-ACCESS TARIFFS APPLY?

Clearly it does not, and WECA's emphasis of this point is misguided at best. WECA's claim ignores the very relevant fact that LocalDial is not a WECA member's customer, but rather a customer of a CLEC or other telecommunications service vendor. I cannot recall any situation where a telephone company has attempted to impose a tariff on a non-customer. (Moreover, as I discuss below, LocalDial does not buy services from WECA members, including but not limited to switched-access, because LocalDial does not use such services.) But, even if LocalDial were a customer of a WECA member company, "routing" as such is hardly dispositive of which tariff should apply.

The routing of purely local calls handled by WECA members for their own customers (some of whom are also LocalDial's customers) is essentially identical to the routing applied to those same customers' calls to the CLEC interconnection point used by LocalDial, as well as the routing of calls from those same customers to an ISP and to the routing of long-distance calls placed by the customers to IXCs. Based upon this essentially identical routing any one of *six different pricing schemes* could apply to a call. Many persons familiar with telecommunications policy issues have long argued that these multiple pricing schemes are irrational and unwarranted (as in the quote from the

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¹⁶ *Id.*, pp.12-13.

FCC Commissioner, above). The remedy widely agreed to is to treat all usage the same – "a minute is a minute." This widely held view demonstrates that the "routing" of a particular call is *not* economically significant.

4 Q. CAN YOU DESCRIBE THE COMMON ROUTING OF A CALL IN ANY LEC'S NETWORK?

A.

Yes. The common routing of a call, in economic terms, involves three relevant physical locations. Location A is where the call originates (or terminates). Location B consists of the local exchange carriers facilities transited by the call, including local loops, one or more switching points and possibly transport between LEC switching points. Location C consists of where the call leaves (or enters) the subject LEC's network, which could be at the network interface device of a called party, or at an interface or facility operated by another LEC or CLEC, an ISP or an interexchange carrier.

Twenty or thirty years ago, there were consequential engineering differences between "local," "short-haul" and "long lines" network facilities that had different cost effects (although even then price levels for long-distance calls were more affected by embedded subsidies than by actual cost differences related to network engineering). Today, the economic cost differences among different routing distances are trivial. The cost of a call from downtown Seattle to Olympia approximates the cost of call from Seattle to Tokyo. In other words, although "routing" never influenced actual costs to the degree that prices differed by distance (and the types of facilities transited), "routing" has steadily lost importance as an economic matter. Thus, although its possible to devise complex "routing" diagrams showing all manner of different facilities in complicated

1		fashion, econ	nomically routing between Locations A, B and C, in any LEC network is
2		functionally t	he same for all calls.
3 4 5	Q.	STATED C	EN ARE THE SIX DIFFERENT TYPES OF PRICING YOU OULD APPLY TO THE ROUTING OF CALL IN A WECA LOCAL NETWORK?
6	A.	The six types	are:
7		1.	WECA's local service tariffs for end user customers: the call enters and
8			leaves the network at premises of two subscribers of the same LEC or two
9			LEC areas connected by an extended area service (EAS) arrangement.
10		2.	Intrastate access charge tariffs (as alleged to be applicable here): the call
11			leaves the WECA member network at an IXC node and the tariff applies
12			based upon the physical destination determined by the dialed number
13		3.	Interstate access charges under tariffs concurred in by WECA members:
14			the call leaves network and the tariff is determined in the same way.
15		4.	Explicit monetary reciprocal compensation arrangements under
16			agreements approved by state commissions for intercarrier payments
17			among competing local telecommunications service providers: the call
18			leaves the WECA network either directly or indirectly through an
19			intermediate carrier; the compensation is determined by agreement.
20		5.	The alternative intercarrier reciprocal compensation arrangements
21			developed by the FCC for "concentrated" traffic such as calls terminating

to ISPs, which is to be applied by the states: the call leaves the WECA

1 members' network in the same manner as in the above example but the 2 reciprocal monetary compensation is capped based upon FCC guidelines 3 with respect to disproportionately high volumes of outbound calls to the 4 ISP. 5 6. A bill-and-keep arrangement: the call has the same routing as above but 6 there is no monetary intercarrier compensation. 7 Of course the last three of these reciprocal compensation arrangements are governed currently by FCC rules.¹⁷ Moreover, the reciprocal compensation issues are 8 9 subject to an unresolved subsequent remand by a federal court to the FCC of the FCC's last reciprocal compensation ruling. 18 10 11 Q. CAN YOU SUMMARIZE THE STATUS OF CURRENT FCC REVIEWS 12 OF THESE VARIOUS TYPES OF PRICING PLANS THAT YOU JUST **DESCRIBED?** 13 14 A. Yes. In 2001, the FCC imposed a transitional pricing arrangement for intercarrier 15 reciprocal compensation for local calls. The routing of these calls among incumbents and 16 competitive carriers is identical to the routing of calls by WECA members to LocalDial's

local access numbers. A phased reduction in reciprocal compensation payments remains

¹⁷ Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Intercarrier Compensation for ISP-Bound Traffic, CC Docket Nos. 96-98 and 99-68, *Order On Remand and Report And Order*, (First Remand Order) (FCC 01-131) 16 FCC Rcd ____ (2001).

¹⁸ *WorldCom v. FCC*, 288 F.3rd 429 (2002) (U.S. Court of Appeals, DC Circuit).

in effect until further FCC action; the current reduced rate is \$0.07 per minute. As presently structured, the long term default compensation arrangement enunciated by the FCC is a bill-and-keep arrangement. This pricing arrangement may be impacted by any FCC decision with respect to the *Unified Intercarrier Compensation* NPRM, although three years have passed without action since that Notice was released. The default arrangement for bill-and-keep of these calls is also subject to the Appeals Court remand of the last FCC Order on Remand. These existing actions may be affected by the FCC's February 12, 2004 NPRM alon pricing of VoIP calls and/or by action on the pending but unresolved petitions of several parties for FCC declaratory rulings regarding VoIP access pricing. It would be fair to say that these issues are "unsettled," but in the meantime the existing rules regarding reciprocal compensation pricing, and regarding the definition of enhanced services, remain in full force and effect.

13 Q. ASIDE FROM THE FACT THAT THE "ROUTING" OF LOCALDIAL
14 CUSTOMERS' CALLS DOES NOT DETERMINE HOW THOSE CALLS
15 ARE PRICED, IS THERE ANY OTHER EVIDENCE THAT WECA
16 MEMBERS' INTRASTATE SWITCHED-ACCESS TARIFFS DO NOT
17 APPLY?

18 A. Yes. I have noted that LocalDial is not, in fact, the "customer" of WECA members and
19 cannot be forced to pay tariff charges as if it were a customer. But WECA members'

¹⁹ First Remand Order, ¶ 8.

See Footnote 4 above.

²¹ See Footnote 7 above.

intrastate switched-access tariffs themselves, by their own terms, demonstrate that the incumbent LECs could not and did not satisfy their own tariff requirements in the periods since LocalDial has been in business. The switched-access tariffs of WECA's members demonstrate that these tariffs nominally would require WECA to provide LocalDial with services and functions that LocalDial does not need and would not be able to utilize. WECA members do not provide these services to LocalDial. Were LocalDial deemed to be retroactively liable for the intrastate switched-access charges, the company would in effect be paying for services that it neither received nor had any need for.

Under the WECA and CenturyTel tariffs,²² the affirmative obligations of the telephone company for switched-access service include providing network management protective measures; network design and traffic routing, including sizing network capacity and offering uni-directional or two way trunk groups. The WECA telephone company must provide a long-distance carrier with service performance data, such as call completion and non completion statistics, and trunk group usage measurements. The WECA telephone company, rather than LocalDial, is obligated to determine the number of transmission paths, based on access tandem or end office routing; the number of end office transport terminations; and the design Blocking probability, such as the blocking

References here are to Washington Exchange Carrier Association Tariff WN U-2, Access Service, § 5.5 and 5.8. CenturyTel does not use this tariff but largely identical provisions are found in its relevant tariff. CenturyTel of Washington Tariff WN U-4, Access Service, § 6.5 and 6.8.

threshold for a first routed end office with no alternate or the blocking threshold via an access tandem.

WECA members also are obligated to provide a number of optional features, without charge, to long-distance carriers who purchase switched-access services. Of course, LocalDial never utilized these services nor would ever need to. For example, there are six different types of customer specified supervisory signaling; customer specified receive transmission levels; and specification options for local transport terminations for switched-access (5.8.1 D). Local switching non-chargeable optional features for long-distance carrier customers include: ANI, revertive pulse signaling and four other types of signaling, and optional service class routing, alternative traffic routing, trunk access limitations, call gapping arrangements, as well as others (5.8.2 A.1.). The switched-access tariff also specifies non-chargeable optional features for four types of transport termination trunks (5.8.2 B).

In other words, not only is WECA proposing to apply its very expensive switched-access tariffs to an entity, LocalDial, that is not a carrier and is not a customer of any WECA members, but WECA also has not provided the services it would be obligated to provide under the very tariffs its claims are applicable to calls to or from LocalDial's CLEC-provided access numbers.

19 Q. CAN YOU SUMMARIZE YOUR DISCUSSION OF WECA'S CLAIMS ABOUT INTRASTATE SWITCHED-ACCESS CHARGES?

A. WECA's claim is incorrect because it would result in levying switched-access charges on an entity that is not a customer of WECA members and WECA members do not – indeed

cannot – provide the services specified in the switched-access tariffs to LocalDial. The routing of calls from LocalDial's customers to LocalDial access numbers is functionally equivalent to the routing within WECA members' networks of all types of local, intrastate and interstate calls and cannot be used in and of itself to determine what pricing should apply to these calls. The closest intercarrier compensation analogy based on the call routing and the vendors used by LocalDial is some form of reciprocal compensation between WECA members and LocalDial's carriers. However, no compensation applies as long as LocalDial's service meets the current definitions of an information service.

V. LOCALDIAL'S SERVICE INVOLVES DATA STORING, ADDING, REFORMATTING AND OTHER FUNCTIONS CHARACTERISTIC OF "INFORMATION SERVICES"

Q. HOW DOES ONE DISTINGUISH "INFORMATION SERVICES" FROM "TELECOMMUNICATIONS SERVICES?"

A.

The distinction requires specific references to the actual functions involved in providing the service in question because there are many similarities between the two service concepts, at least superficially. Both "telecommunications services," and "information services" involve the movement of electronic signals of some type. Information services can also be non-electronic (in the form, for example, of a public library) but the distinction between these electronic services must consider the functions that each type actually activates and uses. The current definition of an information (or enhanced) service has been in effect for about 20 years in the FCC rules:

For the purpose of this subpart, the term enhanced service shall refer to services, offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar

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aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information. Enhanced services are not regulated under title II of the Act.²³

The Communications Act, as amended by the 1996 Act, defines the term "information service" as "the offering of a capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications. and includes electronic publishing, but does not include any use of any such capability for the management, control, or operation of a telecommunications system or the service."24 management of telecommunications The Act defines "telecommunications" as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."²⁵ Enhanced services and information services are considered synonymous.

Thus, the application of the term information service requires a specific understanding of the functions performed by communications and information equipment.

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²³ 47 CFR § 64.702(a).

²⁴ 47 U.S.C. § 153 (20). The Pulver Order (¶ 13) appears to limit the "management, control or operation" exception of processing functions from the scope of "information services" to functions traditional monopoly carriers (*i.e.*, AT&T and the RBOCs in the early 1980s) were allowed to include in the provision of their regulated services in order to improve their telecommunications networks

²⁵ 47 U.S.C. § 153 (43).

1 Q. CAN YOU DESCRIBE THE FUNCTIONS THAT LOCALDIAL'S EQUIPMENT PERFORMS?

3 A. Yes. LocalDial's equipment configuration broadly speaking consists of two types of 4 facilities arrangements: (1) The hub or node configuration essential to VoIP service; and 5 (2) the facilities used for carrying and completing the transmissions between LocalDial's 6 users. The hub configuration (1) consists of: (a) VoIP gateway devices that include 7 software and firmware functions (software designed into specialized chip sets) that 8 clearly provide information service functions; and (b) other hardware and software 9 systems. This other equipment includes routers to channelize the transmission facilities 10 LocalDial acquires from telecommunications carriers and integrated access devices 11 (IADs) that provide interface functions to create transmission paths of different capacities 12 and bandwidths, as well as multiplexing/demultiplexing and network management 13 functions, such as managing and redirecting traffic flows. The diagrams in Exhibit 14 WPM-3 to my testimony show this configuration graphically and functionally: the IADs are referred to as "Atlas" in the diagrams in reference to their brand name. 26 15

16 Q. ARE THE DEVICES AND SOFTWARE YOU DESCRIBED IN (1)(b) 17 ABOVE ACTUAL COMPUTER PROCESSING SYSTEMS?

A. No. While these devices are essential to LocalDial's ability to offer and manage an economically, efficient VoIP service, the devices I described in (1)(b) above, are identical to the types of devices used in end user voice and data networks and provide the same

See <u>HTTP://WWW.ADTRAN.COM/ADTRANPX</u> click on "Product > <u>BY PRODUCT NAME</u> > ATLAS".

types of functions that might be used by any other data communications business customer of local telephone companies. The devices described under this part (b) cannot as a technical matter be used to distinguish LocalDial's operation from that of any other commercial customer.

Similarly, the transmission facilities identified in (2) above cannot be used to distinguish LocalDial's operation from any other data communications configuration. All of these facilities are acquired by LocalDial from local or long-distance carriers that are either properly certificated by this Commission (with respect to facilities running only within the borders of Washington State) or otherwise properly authorized to provide interstate common carrier services. LocalDial does not utilize any facilities not offered by common carriers and is not a common carrier itself.²⁷ Moreover, most pertinent to this matter, all of the common carriers from which LocalDial acquires these facilities must be presumed to properly compensate each other under one or more of the several intercarrier compensation arrangements applicable to such common carriers.

Q. ARE THE TRANSMISSION SYSTEMS LOCALDIAL ACQUIRES FROM ITS VENDORS ANY DIFFERENT FROM THE CIRCUITS USED TO TRANSMIT OTHER INTERNET FUNCTIONS?

A. No. I understand that LocalDial initially operated the transmission facilities it acquired from common carriers using voice telephony protocols in the backbone (i.e., the higher

The restrictions on using LocalDial's service, some of which relate to limitations of VoIP technology, indicate that the company does not hold out the service indifferently to all potential users.

capacity, longer haul transmission facilities). Now these facilities are operated using the IP packet switching protocol on an end to end basis. Thus, packets that LocalDial generates for its customers are combined with packet traffic generated by any number of other Internet applications, including traffic from ISPs and in some instances private Internet systems like virtual private networks. Some Internet networks dedicated to a particular firm or customer, so-called Intranets, may also share the same backbone circuits that LocalDial's traffic uses. This traffic is routed between LocalDial's nodes or hubs based on Internet URL domain name addressing (such as 68.4.42.134).

9 Q. DOES LOCALDIAL'S USE OF INTERNET PROTOCOL BACKBONE CIRCUITS PROVIDE THE INFORMATION SERVICE COMPONENT?

A. Yes, but only indirectly in the sense that use of the IP backbone is enabled by the VoIP and other IP based equipment LocalDial uses. Because many different Internet applications may transit the IP backbone, it is essential that the application being carried fully comply with the relevant Internet specifications. But regardless of LocalDial's configuration of the hardware and software components identified in (1)(b) and (2), the VoIP hub configuration identified in 1 (a) is the heart of the VoIP processing. The functions of these VoIP gateways have not changed as LocalDial moved from telephony based backbone circuits to the IP backbone. The VoIP gateways provide several functions essential to the combination of voice signals with the Internet Protocol packets. None of these functions was required or utilized by previous voice technologies, and these functions fall within the realm of information services as currently defined by the FCC rule.

O. WHAT TYPE OF VOIP GATEWAY DOES LOCALDIAL USE?

2 A. LocalDial uses gateways designed by AudioCodes, Ltd., a company based in the U.S. and 3 Israel. The company was an author of one of four or five international standards for voice compression and encoding for packet switching networks, the International 4 Telecommunications Union (ITU) G.723.1 standard.²⁸ Although its gateway devices 5 comply with this and other international standards, the internal functions of the boards in 6 7 the devices also use highly proprietary algorithms and other computer software processes. 8 These boards perform the functions that are essential to LocalDial's service and which 9 are clearly information service functions.

Q. CAN YOU DESCRIBE THESE FUNCTIONS?

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Yes. I cannot state precisely how LocalDial's vendor accomplishes these functions in its gateway devices because the details of its proprietary processes are unknown, but the *general* architecture of VoIP systems involves multiple components. The VoIP boards contain a microprocessor, such as an Intel Pentium® chip used in computers and servers. VoIP systems in particular use the ITU H.323 protocol. H.323 is the technology that provides the basis for voice and multimedia communications over packet-based networks, in particular for transporting VoIP. H.323 provides for direct session setup and control between intelligent endpoints on an IP network. In addition to the computer

²⁸ See <u>HTTP://WWW.AUDIOCODES.COM/MAIN_ID20_1.HTML</u>. Other ITU "vocoder" standards are G.726, G.728, and G.729. G723.1 is a multi-rate coder protocol that can compress six to 12 channels in a single DS0 capacity bandwidth (64 Kbps).

processor and the H.323 protocol stack, a VoIP gateway board has firmware with digital signal processing (DSP) algorithms to convert telephony signaling such as time division multiplexing (TDM), the ITU G.723.1 voice encoding protocol I mentioned, and DSP algorithms for DTMF signaling conversions, echo cancellation and packet phase jitter buffering algorithms, and the combined processing and streaming of TDM and packetized voice signals.

Q. HOW DO THESE FUNCTIONS MAKE UP AN INFORMATION OR ENHANCED SERVICE?

A.

Signal compression and suppression functions are required to convert the standard voice "signal" (whether the "signal" is speech emanating from someone sitting next to you or a sound over a telephone line) into the IP protocol packet switching. The human voice is a notoriously inefficient "data stream" (if you will). In traditional telephone calls, all of this inefficiency is simply passed over the users' connection, including non-voice sounds and silence. This level of inefficiency cannot be handled well by discrete, identified packets, which is one reason why initial VoIP applications had extremely poor sound quality, reliability and connectivity compared to traditional calls. VoIP suppression and compression functions in gateway devices detect and delete periods of silence in the conversation and other non-voice sounds. Then, in order to maintain the packet framing and to make the transmission sound more like a voice call, the gateways create false information and insert that data into the stream of packets they are defining. This is sometimes referred to as "white noise" but is, in fact, often inaudible to the parties on the call. The gateway and the software thus literally detect and "act on the...content...or

similar aspects of the subscriber's transmitted information [and] provide the subscriber additional, different, or restructured information" as the FCC's information service definition requires. LocalDial's service, through its gateway and software, offers the capability for "storing" and "transforming" information "via telecommunications," and therefore has the characteristics of an "information service" as that term is defined by federal law.

Q. ARE THERE OTHER INFORMATION SERVICE FUNCTIONS INVOLVED?

A.

Yes. Many attributes of packet switching that are perfectly acceptable for some Internet functions would totally defeat the use of packetized voice applications. If one downloads a document from this Commission's website, the download does not complete until all of the packets containing information in the document have arrived at their destination, packets with errors have been discarded and replacement packets generated in their place. The reassembly of the information is structured to correct errors, that inevitably occur with packet switching, at the end of the download. These error problems include accumulation delay; which is the delay created when the vocoder collects voice samples into a frame (the ITU G723.1 delay is 30 milliseconds, for example). Delays also occur because of processing the voice packets for encoding and sampling the packets. Other delay may be introduced by the network transmission medium, by the activation of various protocols, and by buffers that are used to compensate for and remove what is referred to a "jitter." Of course, a full explanation of these issues is well outside the

scope of my testimony,²⁹ but the important point is error corrections which may simply slow the download of a Commission document have to be performed *during* the two-way voice conversation with VoIP.

Q. DO THE ERROR CONTROL ALGORITHMS NEEDED FOR VOIP ALSO CONSTITUTE AN INFORMATION SERVICE FUNCTION?

A.

Yes. The VoIP gateway software also retrieves data previously stored from the packet stream and/or creates new data (like the so-called white noise) that does not exist in the original signal as an error control process. The creation of information or retrieval of stored information – which is substituted for other information that is simultaneously deleted – is defined as an information service as I noted above. The "error control" used in data communications transmissions that are not deemed information or enhanced services, but rather basic services, simply involves the repetitive re-transmission of each portion of the message that was received in a garbled state. This, "keep sending it until it comes in right" technique is a main reason why traditional analog data modems attached to ordinary telephone lines can be exceptionally slow. Packetizing the two-way, interactive voice signal in Internet protocol would never work with this type of error control. Assembling a static signal, like a Commission document, for packet switching is more efficient than traditional analog modem transmission but still requires less real-time processing than a packetized voice signal.

A White Paper prepared by Texas Instruments, which manufactures chips with many of the functions, entitled "Voice Over Packet" is included in my workpapers.

1 Q. WHAT OTHER INFORMATION PROCESSING FUNCTIONS ARE INVOLVED WITH VOIP?

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VoIP gateways also assemble the information in the voice signal into packets, then add information at the beginning of the message regarding the protocol-required identification, addressing, routing and synchronization data. The receiving gateway uses this information to control its end of the data flow, as well as reading control information added by the originating gateway in the packet stream in order to identify errors in the message. The latter information is used in conjunction with information stored by the receiving gateway in a buffer until the correct order of the information is confirmed. All of this control-related information is internal to the message itself rather than being imposed from outside (as would be the case when a traditional voice call encountered a "fast busy" signal denoting network congestion).³⁰

The gateway technology thus adds, deletes, and processes information by acting "on the format, content, code [and] protocols" of the caller's voice signal, in a manner that ordinary telephony data transmissions did not. The gateway employs "computer processing application" as the definition of an enhanced or information service specifies.

This part of the process might be compared in some sense to the header and routing information that is incorporated in and used by an e-mail message, in contrast to the send and receive tones generated by two fax machines connected to an ordinary telephone line.

1 Q. DOES LOCALDIAL'S INFORMATION SERVICE SATISFY OTHER PUBLIC POLICY OBJECTIVES?

A.

Yes. The intent of the FCC's long standing treatment or enhanced or information services, still in effect today, was to encourage the development of innovative new information processing technologies unconstrained by common carrier regulation. It is notable that this policy was put in place more than twenty years ago and well before the creation of the Internet. The particular FCC policy seems to have succeeded. With the development of the Internet public policies have sought to encourage its use. The VoIP gateway technology used by LocalDial is just this sort of innovative information service technology—that substitutes Internet use for less efficient circuit switched telecommunications networks. In its pending review of VoIP applications the FCC will have to decide whether voice applications like LocalDial's – which use both the Internet and local dial-up access in the same manner as many ISP applications – should be treated in a manner that could decrease use of the Internet itself. At this point LocalDial's voice application is not subject to regulation unless and until the FCC alters the definition of enhanced services.³¹

When it considers whether to change the definition of enhanced services, the FCC will likely consider whether extending regulation of some such services is compatible with the current Bush Administration position in the current General Agreement on Trade in Services (GATS) negotiations, which proposes to classify *all* packet-switched data transmission services (not just those that use IP protocol) as information services rather than basic telecommunications services as they are currently classified for trade purposes. *See*, "EU Report Questions FCC's Competition Policies," TR Daily, December 22, 2003.

1 Q. IF THE VOIP GATEWAYS USED BY LOCALDIAL INVOLVE
2 FUNCTIONS THAT QUALIFY AS "ENHANCED" OR "INFORMATION
3 SERVICES," ARE THERE ANY COUNTERVAILING
4 CONSIDERATIONS INDICATING THAT LOCALDIAL SHOULD BE
5 REGULATED AS A "COMMON CARRIER"?

A.

No. Once the functions performed by VoIP gateways are determined to perform functions that fall within the definition of enhanced services, no further policy considerations are justified. Nor in fact have other policy considerations ever been applied to types of information services. There is no minimum threshold that information services must meet in employing computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; there is no minimum necessary amount of additional, different, or restructured information that an enhanced service must provide to a subscriber; and there is no lower limit on a subscriber's interaction with stored information.

Voice-mail services offered by incumbent telephone companies and others are treated as enhanced services even though these network services are essentially server-based answering machines that involve little or no protocol processing or format changes – voice-mail services do involve interaction with stored information, of course. Credit card "slide machines" at point of sale (POS) locations do involve processing applications that act on the content of transmitted information (contained partly on the cardholder's magnetic strip) but use standard telephony protocols between the POS and the card issuer's databases. In other words, any information service that meets *any* part of the definition qualifies as free of regulation and free of access charges. The current

definition is quite robust and encompasses many variations of information services. If, hypothetically, the FCC were to decide that some or all forms of VoIP were not information or enhanced services under this definition, it would have to formulate a new or extended definition, because the VoIP gateways used by LocalDial do satisfy the current definition with the functionality of those devices.

6 Q. IS THIS FACT SIGNIFICANT WITH RESPECT TO THIS COMMISSION'S DELIBERATIONS?

Yes. The formal interpretation of Washington State statutes, and rulings by this Commission and the courts, is no more within the scope of my testimony than would be an engineering dissertation on the use of packet switching buffering algorithms to compensate for phase jitter delays. Still it seems to me that current definitions in the State's laws, taken literally, involve some conflict with the FCC's definitions of enhanced services and how those definitions have been applied. In Washington State, a telecommunications service is defined broadly:

Telecommunications" is the transmission of information by wire, radio, optical cable, electromagnetic, or other similar means. As used in this definition, "information" means knowledge or intelligence represented by any form of writing, signs, signals, pictures, sounds, or any other symbols.³²

Strictly from a factual standpoint, this definition seems to embrace services that would be deemed information services under the FCC's rules and the Communications Act, as amended in 1996. But as far as I can ascertain the WUTC has never attempted to

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³² R.C.W, § 80.04.010.

regulate an incumbent telephone company's voice-mail service or the information transmissions between a POS location in the state and a bank credit card processor operating a data processing center within Washington State physical boundaries. These applications meet the broad definition of "telecommunications" quoted above, so the definitions in the Washington State law do not seem to entirely explain the current regulatory practices, strictly as a factual matter. Nor to the best of my knowledge has any other state commission attempted to regulate these types of services deemed enhanced by the federal rules and statutes.³³ The *de facto* condition seems to be that enhanced services like LocalDial's have not been regulated by the WUTC or other states. If in fact data communications, voice-mail or other information services have not been regulated by this Commission, that result could be viewed as consistent with the legislative policy statement in R.C.W. § 80.36.300. Not treating these services as "telecommunications" despite Washington State broad statutory definition of the term seems consistent with policies such as maintaining and advancing the efficiency and availability of telecommunications service; ensuring that customers pay only reasonable charges for telecommunications service: and promoting diversity supply the telecommunications services and products in telecommunications markets throughout the state.

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³³ I am not aware of any case in which federal-state preemption issues arose regarding enhanced or information services. However, neither the WUTC nor any other state commission has ever attempted to regulate information services that might be classified as "telecommunications" under state definitions.

VI. WECA'S ESTIMATE OF THE IMPACT OF LOCALDIAL'S SERVICE IS INCORRECT AND DISTORTED

Q. CAN YOU EXPLAIN THE ERRORS THAT WECA HAS MADE BY CLAIMING THAT ITS MEMBERS ARE HARMED BY LOCALDIAL'S SERVICE?

A.

Yes. First, WECA is wrong to believe that the remedy it proposes, levying its intrastate switched-access charges, on calls by LocalDial customers to the company's service would yield any money to WECA members. I noted above that an approximation of the revenue per minute that LocalDial would incur under the average level of WECA members' tariffs is \$0.0713 per minute.

Of course, to that value one must add some margin for LocalDial's own costs. If LocalDial's gross margin were, say, 50%, the effective cost to the company of fees paid for WECA's switched-access rates would be about \$0.107 per minute. The assumed 50% margin for LocalDial may well be low, because not only does LocalDial incur the costs of its own network equipment and VoIP gateways it must pay resellers and long-distance carriers to complete off-network calls, particularly to the other 48 contiguous states, as well as its own GS&A costs. WECA broad average switched-access charges are about 2.6 times higher per minute that the average total price (reckoned in a per minute basis) for LocalDial's flat-rate service. Considering LocalDial's own costs as well as WECA's intrastate switched-access charges, LocalDial would have had to price its service as much as four times higher in order to recover WECA's charges.

Clearly LocalDial's current effective price, perhaps \$0.025 to \$0.03 per minute, not only would be unsustainable in the future but would never have been offered in the

first place if the switched-access tariffs applied. Thus, WECA's calculation of its monetary "losses" is circular: The "losses" WECA believes exist would *not* have occurred if the remedy it seeks had been in place (or were put in place retroactively).

Even if, for some reason, LocalDial had chosen to offer its service to customers in exchanges served by WECA members, the minutes that WECA believes represent "lost" access revenues are highly inflated. LocalDial's "effective" price per minute for its customers ("effective" because the service is sold for a flat monthly charge) is 40% to 50% lower than a retail benchmark rate of \$0.05 per minute. Thus, the usage attributed to LocalDial reflects a significant stimulation of demand that would not exist but for LocalDial's low prices.

O. WHAT IS STIMULATION OF DEMAND?

A.

Stimulation of demand refers to consumers' response to a decrease in the price of a good or service. It is the opposite of the retardation or repression of demand responding to a price increase. The extent of stimulation (or repression) is a function of the observed price elasticity of demand for the good or service in question. Elasticity, in turn, is the percentage change in quantity relative to the percentage change in price. Experience in the U.S. long-distance industry with respect to interstate long-distance price decreases created by access charge rate reductions since the AT&T divestiture demonstrates that telecommunications demand increases in response to a price decrease proportionately more than the corresponding change in the opposite direction, *i.e.*, a decrease in demand caused by the same percentage increase in price. Thus, the significant decrease in

1 consumers calling costs represented by LocalDial's service must cause a significant
2 stimulation in demand that would not exist but for LocalDial's reduced prices.

Q. CAN YOU ESTIMATE THIS DEMAND STIMULATION EFFECT?

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A. Yes. A large number of empirical studies over the last 30 years have estimated telecommunications demand elasticities; many of the studies examined long-distance calls. I examined a limited number of surveys of these studies in order to approximate the demand stimulation effect of LocalDial's low priced service.³⁴ The surveys reported toll price elasticities of between -0.665 and -1.331 although a 1996 study by Professor Frank Wolak of Sanford University (which I did not use) reported a considerably higher elasticity, -2.07. The average of the price elasticities summarized in these surveys is -0.939. Stated another way, if LocalDial's service is priced on average 45% below the benchmark Owest intrastate toll tariff, the demand stimulation effect is 42.3% (0.939).

³⁴ Michael Weingarten and Juan Jose Benito-Martin, "U.S. Telecommunications Demand: A Macroeconomic View," Monitor Telecom Advisory Services, November, 1994; "Review of Price Elasticities of Demand for Fixed Line and Mobil Telephone Services" for the New Zealand Commerce Commission, Review of the Telecommunications Service Organization (August 2003); Marc Aldebert, Marc Ivaldi, Chantal Roucolle, (France Telecom R&D Institut D'Economie Industrielle and Ecole Hautes Etudes des Sciences-Sociales) "Telecommunications demand and pricing structure: An econometric analysis" (1998); and state specific studies by Professor Lester Taylor [Telecommunications Demand in Theory and Practice, Kluwer Academic Publishers, 1993].

times 45%). Therefore the base amount of usage attributable to LocalDial's service is only 57.8% (1-42.3%) as high as WECA calculated.³⁵

Q. YOUR DEMAND ADJUSTMENTS ASSUME THAT LOCALDIAL WOULD HAVE OFFERED ITS SERVICE IN WECA MEMBERS' AREAS EVEN THOUGH DOING SO WOULD HAVE BEEN UNPROFITABLE. RECOGNIZING THAT THE ASSUMPTION IS QUESTIONABLE AT BEST, IF LOCALDIAL'S BASE AMOUNT OF USAGE WERE ONLY 58% OF WECA'S ESTIMATE DOES THAT PROVIDE THIS COMMISSION WITH ANY USEFUL INFORMATION?

A. Yes, it would. We can compare LocalDial's base amount of usage, from data supplied by LocalDial to WECA, with the overall erosion of switched-access minutes experienced by the complainants since 1999. The usage attributed to LocalDial by WECA, properly adjusted for price elasticity demand stimulation effects, can be compared to the overall decreases in switched-access minutes that WECA has reported and implied that such decreases are due to VoIP services.

WECA's and other telephone associations' December 16, 2002 Comments in WC Docket 02-336 before the FCC (regarding AT&T's Declaratory Ruling petition) included graphs showing significant declines in switched-access minutes experienced by these companies over the last few years. These comments implied that the decreases were attributable to VoIP services like LocalDial's. Indeed, the WECA members who are complainants in this docket have experienced *average annual* declines of well over 25

These calculations are documented in my confidential workpapers. WECA's calculations of the usage of LocalDial's customers – the value that I estimate is 57% too high – is found in WECA's Second Supplemental Response to LocalDial's First Data Request, Request No. 5 (January 21, 2004), which is incorporated into my workpapers.

million intrastate switched-access minutes since 1999.³⁶ With an approximation of the *un-stimulated* usage of LocalDial's customers we can calculate that these customers' usage of the company's service in 2002 was about 12% of the annual decreases that WECA members have experienced. Significant decreases in WECA's intrastate switched-access minutes occurred even before LocalDial commenced its operations. These decreases reflect the impact of cell phone pricing (where long-distance minutes are bundled with other usage at a flat monthly rate), e-mail, instant messaging, and a host of other means of communication that did not exist ten years ago.³⁷

9 Q. WHAT CONCLUSIONS MIGHT BE DRAWN FROM THE FACT THAT 10 LOCALDIAL'S "CONTRIBUTION" TO THE ONGOING DECREASES 11 IN WECA'S MINUTES OF USE IS MINIMAL?

A.

Instead of proposing actions by this Commission that would simply put LocalDial out of business, WECA and its member companies could possibly devote resources to the larger problem revealed by the data I just discussed. Putting LocalDial out of business, which is what WECA's proposed remedy amounts to, would have virtually no impact on WECA's ongoing erosion of intrastate switched-access minutes and the possible impact of losing the contribution to universal service from the vastly inflated switched-access charges.

³⁶ WECA Response to LocalDial's First Data Request, Confidential Exhibit 2.

³⁷ By way of example, another project I am working on generated about three hundred e-mail messages in a three or four day period last month – all from persons located miles away from me. As I was cleaning out these messages I was struck by the fact that I had not a single telephone call to or from those persons in that time period.

VII. CONCLUSION

2 Q. CAN YOU SUMMARIZE YOUR TESTIMONY?

Yes. WECA members' switched-access tariffs do not apply to LocalDial's service. WECA members' switched-access tariffs cannot be applied retroactively to LocalDial's service because LocalDial is not a customer of any WECA members regarding the provision of this service, and because the service satisfies the current definition of enhanced or information services under FCC rules and federal law. The issue of whether LocalDial's service would be deemed an information service or telecommunications service in the future is a question to be decided in the first instance by the FCC, and is subject to current open FCC proceedings regarding VoIP services. The issue of what type of intercarrier compensation, if any, should be imputed to telecommunication service fees paid by LocalDial to its vendors should not be decided until the completion of the FCC determinations just noted. If the issue of intercarrier compensation becomes ripe for consideration by this Commission in the future, the compensation should be based on reciprocal payments between a WECA member and the local carriers used by LocalDial, focusing particularly on the default "bill-and-keep" method currently authorized by the FCC.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

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BIOGRAPHICAL STATEMENT WILLIAM PAGE MONTGOMERY

Page Montgomery has experience in a variety of economic and public policy areas affecting the telecommunications industry, spanning nearly twenty four years of the most significant changes in the history of the industry. He has been involved in over 300 state level public policy and rate matters and has testified before public utility regulatory commissions in thirty states. Mr. Montgomery has been involved in numerous FCC common carrier matters since the AT&T divestiture. He has acted as a consultant in some 115 common carrier and cable proceedings before the Federal Communications Commission and other federal forums. He focuses on regulatory policy and economic issues in telecommunications and cable television.

Mr. Montgomery has undertaken a variety of research projects for state regulators in several jurisdictions, and has participated in projects undertaken for state consumer groups, attorneys general and other state agencies. Montgomery has presented testimony on behalf of consumer advocate agencies in several states. His consulting assignments on behalf of public agencies have included the Connecticut Public Utilities Control Authority, the District of Columbia Public Service Commission, the Washington Utilities and Transportation Commission, the Minnesota Department of Public Service, the Kansas Corporation Commission, the Common Carrier Bureau, Federal Communications Commission and the Canadian Radio-television and Telecommunications Commission.

He has analyzed a wide variety of telecommunications issues, studying policy and pricing issues as well as forecasting cost, service and structural trends. The studies have examined trends affecting suppliers and influencing telecommunications management objectives. The studies have addressed pricing practices for toll and local services; tariffs and costs associated with private line services; the economic impacts of the revenue and cost settlement process in the telephone industry; and the potential effects of various changes in federal telecommunications laws.

Montgomery was a consultant for the Telecommunications Policy Committee of the International Communications Association (ICA) from 1981 to 1996. In 1993, he was co-recipient of the Industry Achievement Award from the ICA, the largest group of business telecommunications users in the world. Previous recipients of this award have included the Chairman of AT&T, Robert Allen, and the former Director General of the UK Office of Telecommunications (Oftel), Sir Brian Carsberg. He has published articles for industry publications and has served as an invited speaker or moderator at many telecommunications forums, numerous proprietary conferences and many private companies.

Mr. Montgomery has degrees in law and economics. He received a B.A. degree in economics Magna Cum Laude (with High Honors) from Butler University in Indiana and a J.D. degree from Duke University in North Carolina. He was elected Managing Editor of a legal research publishing project at Duke and published an analysis of international agreements concerning intellectual property rights in the *Trademark Reporter*.

Formerly the Senior Vice President at Economics and Technology, Inc. in Boston where he worked for 16 years, he founded an independent consulting practice, Montgomery Consulting, in September 1993. From 1974-77 he was employed by the Regulatory Law Division of the U.S. General Services Administration in Washington, serving at the end of his tenure in the capacity of the chief counsel for telecommunications regulatory activities.

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[* Principal author; ** Contributing author]

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PARTICIPATION IN FEDERAL AND STATE MATTERS

FCC Docket or Other	
Matter	Subject Matter
78-72	MTS and WATS Market Structure
79-105	Detariffing Installation Inside Wiring
79-245	Cost Allocation Manuals
79-246	AT&T Private Line Restructure
80-286	Federal-State Joint Board Separations
	Investigation
80-765	AT&T WATS: Time of Day Rates
81-893	Deregulation of AT&T Customer Premises Equipment
83-426	Investigation of "Private Carrier" Status and Part 94
83-1145	Investigation of Divestiture Related Tariffs
83-1147	Long-run Regulation of AT&T
84-369	Investigation of Special Construction Tariffs
84-469	Revision of Uniform System of Accounts
84-800	Rates of Return for Interstate Services
84-1235	Guidelines for Dominant Carriers Optional Tariffs
85-	Annual 1985 Access Tariff Filings
85-26	Furnishing CPE by Exchange Carriers
85-88	Detariffing of Billing/Collection Services
85-107	International Competitive Carrier Policy
85-124	Feature Group A/B Access Service
85-128	Investigation of AT&T PRO America Tariffs
85-166	Investigation of LEC Special Access Tariffs
85-203	AT&T Revisions to Tariffs 1, 9 and 10 (SDN)
85-229	Computer Inquiry III (Phases I and II)
85-308	Amendments of Annual Form M & Report 901

FCC Docket or Other Matter	Subject Matter
85-326	AT&T Revisions to Tariffs 2, 9 and 10 (Megacom)
85-400	AT&T Revisions to Tariffs 9, 10 and 11 (private lines)
85-ENF	BOC Petitions for Waiver, Section 64.702
86-125	Midyear 1986 Access Tariff Filings
86-1	Revisions to Parts 67 and 69 of Rules
86-10	Provisions of 800 Service Number Portability (Phases I and II)
86-79	Rules for BOC Marketing of CPE
86-81	AT&T WATS Rates
86-111	Amendment of Part 31 Accounting for Class A/B Companies
86-(misc.)	Petitions for Waiver of Part 69 - NTS Costs
86-125	Phase I 1985 Access Tariff Filings
86-182	Reporting Regulations for Tier 1 Carriers: (ARMIS)
86-297	Amendment of Part 67 - Separations Rules
86-421	Investigation of Dominant Carrier Deregulation
NTIA	Review of Rate of Return Regulation
US v. AT&T	Triennial Review of BOC Business Restrictions
86-497	Revisions to Rate Base Accounting Rules
86-423	Revised Line Power Requirements for DS1 Services
80-286	Joint Board Investigation of COE Separations (1987)
87-113	1988 Access Charge Rule Changes
US v. AT&T	Review of BOC Provision of Switching Services
87-215	Investigation of Access for Information Services

FCC Docket	
or Other	
Matter	Subject Matter
87-313	Regulatory Reform for Dominant
	Carriers (Price Caps)
87-447	Amortization of Depreciation Reserve Deficiency
87-469	Represcription of the Authorized Rates of Return
87-530	Investigation of Private Network Access
87-568	Investigation of AT&T Custom Services Tariffs
87-611	Investigation of AT&T 1988 Tariff Revisions
1987-88	Petitions Regarding FCC Network Jurisdiction
88-1	Investigation of Annual 1988 Access Tariffs
88-2	Review of Open Network Architecture
88-136	Investigation of Tariffs for DS3 Services
89-79	Investigation of Part 69 Rules for ONA and Other Services
89-624	Investigation of Rate of Return for Access Services
NTIA	US Telecommunications Infrastructure Investigation
90-132	Regulation in Interexchange Services Market
91-141	Expanded Special Access Interconnection of LEC Services
91-213	Local Access and Transport Pricing Investigation
92-13	Non-dominant Interexchange Carrier Tariff Filing Requirements
92-91	Investigation of ONA Tariffs
92-101	Investigation of Ratemaking Treatment of FAS 106
92-222	Switched Access Interconnection of LEC Services
92-265	Cable Act Implementation/Program Access

FCC Docket or Other Matter	Subject Matter
92-266	Cable Act Implementation/Rate Regulation
93-22	Implementation of Telephone Disclosure and Dispute Resolution Act
93-215	Cable Act Implementation/Cost of Service
93-251	Modifications of Cost Accounting Rules
93-252	Investigation of Telecommunications Fraud
94-1	LEC Price Cap Performance Review
94-102	Compatibility Rules for Enhanced 9-1-1 Service
96-98	Implementation of Sections 251 and 252 of the Telecommunications Act of 1996
99-68	Inter-Carrier Compensation for ISP- Bound Traffic

Date	State Regulatory Commission
August 1978	New Jersey Board of Public
	Utilities
November 1978	California PUC
May 1979	Michigan PSC
April 1980	Texas PUC
September 1980	Texas PUC
November 1980	Kansas SCC
December 1980	Indiana Public Service
	Commission
December 1980	Kansas SCC
November 1981	Illinois CC
December 1981	Kansas SCC
April 1982	Wisconsin PSC
August 1982	Kansas SCC
October 1982	Public Utilities Commission of
	Ohio
November 1982	New York PSC
March 1983	Wisconsin PSC
June 1983	California PUC

Date	State Regulatory Commission
August 1983	California PUC
October 1983	Kansas SCC
November 1983	California PUC
December 1983	California PUC
December 1983	Texas PUC
June 1984	New York PSC
October 1985	Texas PUC
January 1986	California PUC
February 1986	Texas PUC
February 1986	California PUC
May 1989	Illinois CC
May 1989	Connecticut DPUC
July 1989	Illinois CC
February 1990	South Carolina Public Service
	Commission
March 1990	Connecticut DPUC
September 1990	Florida PUC
November 1990	Louisiana Public Service
4 :14004	Commission
April 1991	Connecticut DPUC
September 1991	Colorado PUC
March 1992	Florida PSC
October 1992	Connecticut DPUC
May 1993	Connecticut DPUC
January 1994	Maryland PSC
June 1994	Washington UTC
August 1994	Illinois CC
October 1994	Texas PUC
October 1994	Washington UTC
November 1994	Pennsylvania PUC
November 1994	Iowa Board of Public Utilities
January 1995	Utah PSC
March 1995	Oregon PUC
April 1995	Washington UTC
May 1995	Maryland PSC
July 1995	Utah PSC
July 1995	Maryland PSC
August 1995	Michigan PSC
August 1995	Massachusetts DPU

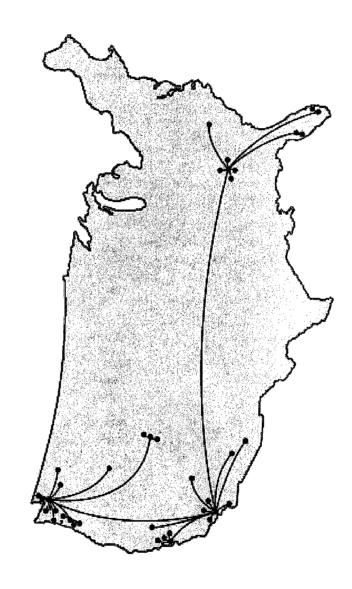
Date	State Regulatory Commission
September 1995	Connecticut DPUC (2)
October 1995	California PUC
November 1995	Iowa BPU
December 1995	Utah PSC
December 1995	Iowa BPU
January 1996	Pennsylvania PUC
January 1996	Illinois CC (2)
February 1996	Utah PSC
February 1996	Kentucky PSC
February 1996	Illinois CC
February 1996	Pennsylvania PUC
March 1996	Illinois CC
March 1996	Kentucky PSC
March 1996	Utah PSC
April 1996	Iowa BPU
April 1996	Illinois CC
April 1996	Utah PSC
April 1996	Michigan PSC
May 1996	Utah PSC
June 1996	California PUC
July 1996	California PUC
August 1996	Illinois CC
August 1996	Indiana Utility Regulatory
	Commission
August 1996	Virginia State Corporation
11000	Commission
August 1996	Michigan PSC
August 1996	Public Utilities Commission of Ohio
September 1996	Texas PUC
September 1996	Oregon PUC
September 1996	Arizona Corporation
	Commission
September 1996	Washington UTC
September 1996	Wisconsin PSC
September 1996	Utah PSC
September 1996	Nebraska PSC
October 1996	Massachusetts DPU
February 1997	Colorado PUC

on	

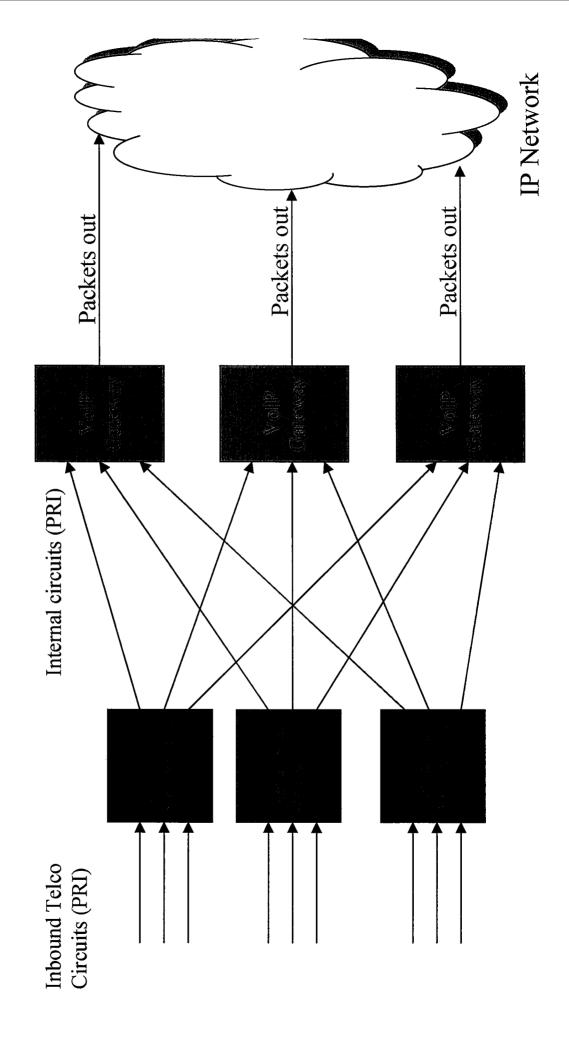
Date	State Regulatory Commission
February 1997	Washington UTC
February 1997	Illinois CC
March 1997	Michigan PSC
April 1997	Texas PUC
April 1997	Colorado PUC
April 1997	Michigan PSC
April 1997	Iowa BPU
April 1997	Washington UTC
June 1997	Colorado PUC
July 1997	Washington UTC
September 1997	Colorado PUC
September 1997	Texas PUC
October 1997	Illinois CC
October 1997	California PUC
November 1997	California PUC
November 1997	Texas PUC
November 1997	Illinois CC
November 1997	Michigan PSC (2)
November 1997	Wisconsin PSC
March 1998	California PUC
April 1998	Colorado PUC
April 1998	California PUC
June 1998	California PUC
June 1998	Colorado PUC
July 1998	Washington UTC

Date	State Regulatory Commission
August 1998	Washington UTC
September 1998	Utah PSC
September 1998	Nebraska PSC
October 1998	Washington UTC
October 1998	Oregon PUC
December 1998	Washington UTC
April 1999	Utah PSC
September 1999	Colorado PUC
October 1999	New Mexico Public Regulation
	Commission
October 1999	Oregon PUC
November 1999	Idaho Public Utilities
	Commission
December 1999	Arizona Corporation
	Commission
January 2000	Washington UTC
March 2000	Texas PUC
April 2000	Oregon PUC
July 2000	California PUC
August 2000	California PUC
October 2001	Nevada PSC
February 2003	California PUC
March 2003	California PUC
December 2003	California PUC
January 2004	California PUC

LocalDial Service Areas



Originating Call



Inbound Telco Circuits

- Purchased from LEC/CLEC
- ISDN PRI
- Each circuit is associated with (1) local calling area
- Can be part of a hunt group
- Federal, State, Local and USF fees paid to vendors

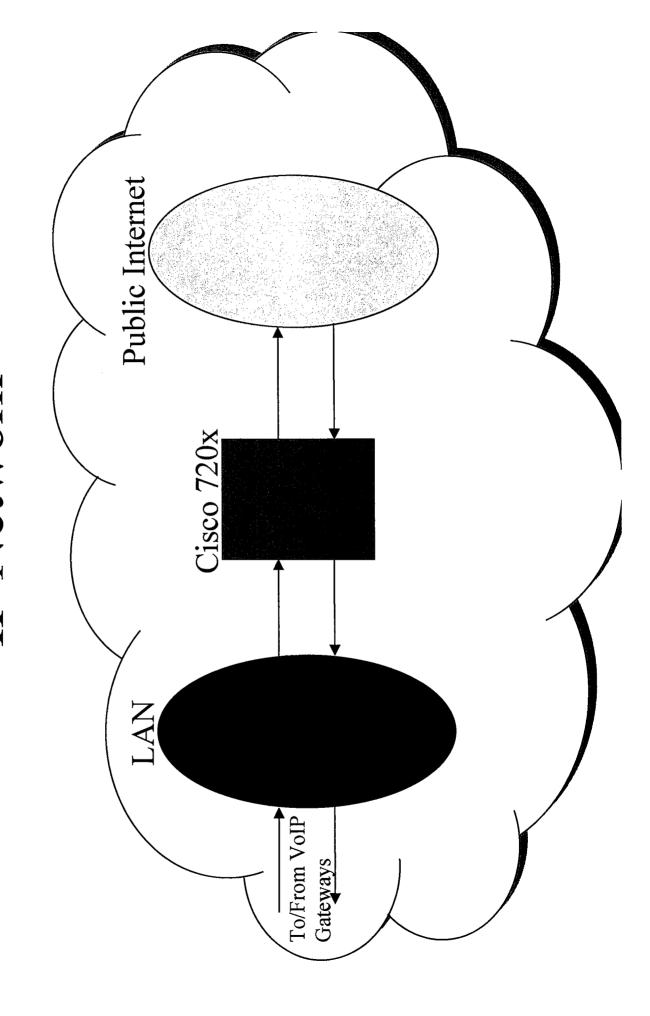
Atlas Functions (Inbound Circuits)

- Standardize PRI service to VoIP gateways
- Access concentration
- Manage traffic flow to VoIP gateways
- Re-direct traffic on VoIP gateway failure
- Mux/Demux

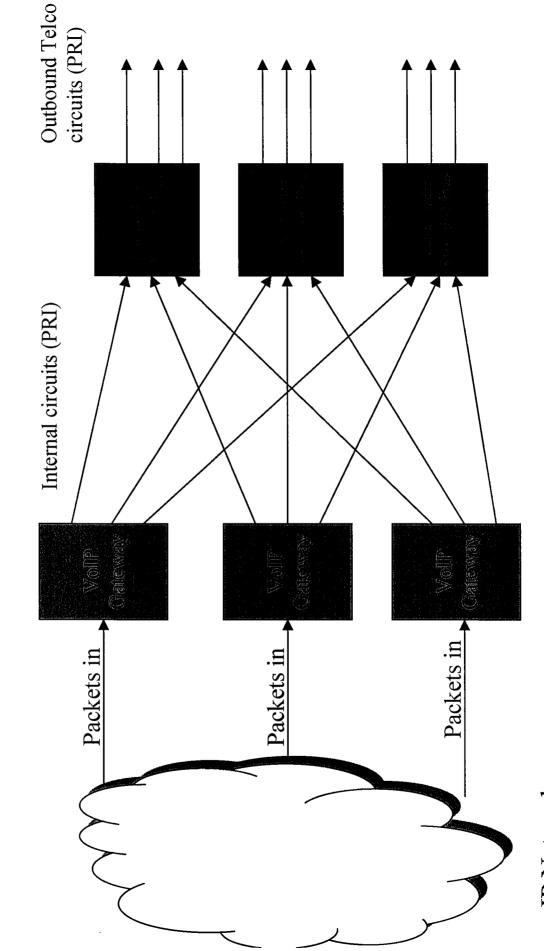
Inbound VoIP Gateway Functions

- Answer incoming call authenticate user play voice prompts
- Collect destination number
- Determine IP address and request destination gateway to process destination call
- Generate IP packet session with control information using industry standard H.323 format
- Compress and encode voice signal using G.723.1 vocoder standard
- Perform error checking and correction during call
- Disconnect incoming call upon completion; write call detail record

IP Network



Terminating Call



IP Network

Outbound VoIP Gateway Functions

- Select outbound port and place outbound call
- Transfers packets to/from inbound VoIP gateway
- Interoperate with inbound gateway for session control, and error correction
- Reformat packet information as required
- Disconnect outbound call upon completion

Atlas Functions (Outbound Circuits)

- Access concentration
- Hunt group management
- Provide NFAS capability
- Load balance
- Vendor failure isolation
- Mux/demux

Outbound Telco Circuits

- Purchased from LEC/CLEC or long distance service provider
- ISDN PRI
- One local calling area per circuit for flat rate service
- Access to lower 48 stated through long distance service provider