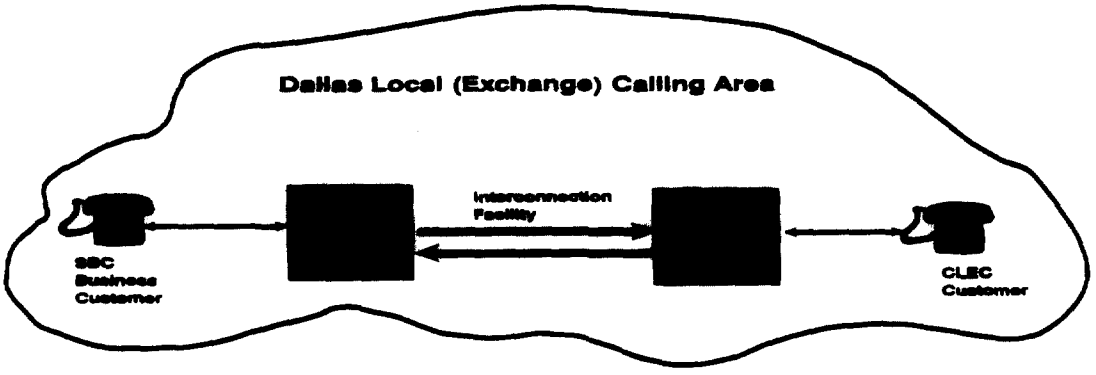
4

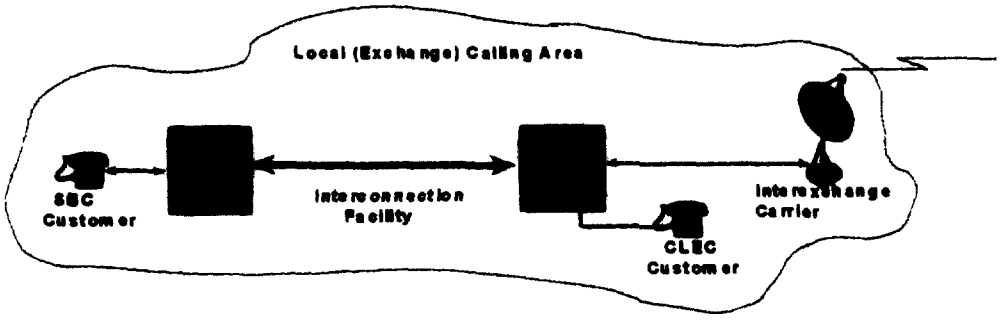
ISPs USE OF THE LOCAL EXCHANGE NETWORK FOR INTERNET ACCESS IS SIMILAR TO IXCs USE OF THAT NETWORK FOR TOLL ACCESS

The establishment of an environment where multiple local exchange providers can compete for customers within a specific geographical area requires that all customers within that competitive geographical area be able to place calls to and from each other regardless of which local exchange company they chose to be their local service provider. Such an environment requires the interconnection of competing local exchange company ("CLEC") networks so *local* calls originated by a customer on one company's network can be completed to a local exchange customer served by a different local exchange company in a manner which is transparent to the customers involved. Local exchange customers are not charged separately for *receiving* local calls from other local customers--the network cost of terminating local calls are factored into the monthly local exchange service rate. In recognition of this situation **reciprocal compensation** was established as a method whereby a local exchange company would be compensated for the use of its network to terminate a **local call** originated on the network of a different local service provider. This local compensation for network interconnection is the same process that has been used by LECs to interconnect and compensate each other for use of their respective networks. As depicted in the following diagram, where a local call is originated by a SBC customer and terminated to a CLEC's customer, SBC compensates the CLEC for the use of the CLEC's network to terminate the local call and *visa versa*.

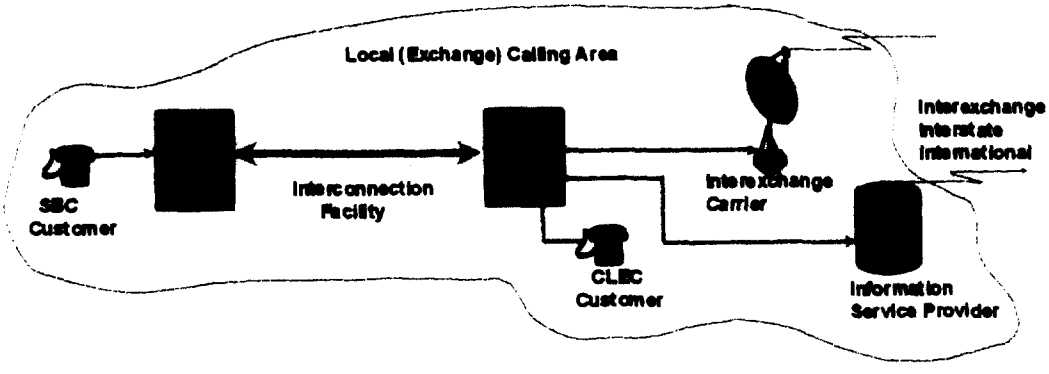


However, **reciprocal compensation** was not intended to require local exchange companies to compensate each other for handling calls which were not associated with the mutual provision of local exchange service. For example, the following diagram illustrates a situation where a SBC customer originates a call that is to be carried to a different exchange (or different state) by an interexchange carrier ("IXC") that is connected to a CLEC. In these situations, SBC and the CLEC charge (meet point bill) access service rates to the IXC for the respective portions of their interconnected network that is used to deliver the call to the IXC's

point of presence ("POP")—SBC and the CLEC do not charge each other for any portion of the call even though the call was exchanged between their networks within the local exchange. The customer that originated the call is charged by the IXC for the interexchange service provided to the customer by the IXC. Again, this is the same process that has been used by LECs to jointly provide access service to IXCs.



As depicted by the following diagram, an Information Service Provider ("ISP") operates in exactly the same manner as an IXC in that the ISP charges the local exchange customer for any call the customer places to the ISP's network. And, just as with an IXC, the call to the Internet via the ISP rarely, if ever, actually terminates at the ISP's premises but is carried for completion to an interexchange, interstate, or international location. Consequently, the call to the Internet, like the IXC's call is an access call. SBC and the CLEC should not charge each other for use of each others network but instead, both SBC and the CLEC should charge the ISP (meet point bill) access rates for their respective portion of the interconnected local exchange network access that is used to deliver the Internet call to the ISP's POP.



However, because of the FCC's exemption, usage based access charges are not levied on Internet ISP network usage as they are on IXC network usage. Consequently, in order to avoid these legitimate interstate charges (which provide for (a) recovery of access costs and (b) support of universally available local exchange service at just, reasonable and affordable rates) existing and new IXCs have devised methods to arbitrage and inappropriately game the system (take advantage of the exemption loophole) and route their traffic, not via normal IXC networks, but on the Internet.

5

IXCs ARE USING THE EXEMPTION AS A LOOPHOLE TO AVOID ACCESS PAYMENTS

The attached advertisements and articles are indicative of the Internet toll calling plans being created by IXCs as a result of the FCC's ESP exemption to avoid access payments.

- The local exchange network of ILECs and CLECs is being used by IXCs to gain interstate access to the Internet.
- The Internet backbone is being used to transport the toll call.

News Release

FOR RELEASE TUESDAY, NOVEMBER 11, 1997

More users get local, toll-free access to AT&T WorldNet Service

Country's largest direct internet service adding 75 points of presence

BASKING RIDGE, N.J. -- AT&T announced today that another 8.3 million people will be able to reach the Internet through AT&T WorldNet* Service with a local, toll-free call by year-end.

The company will increase the reach of its AT&T WorldNet Service, the country's largest direct Internet service, with the addition of 75 points of presence (POPs) by the end of the year. The additional access points will give AT&T WorldNet Service a total of 330 POPs. Each POP represents one or more local telephone numbers that AT&T WorldNet Service subscribers can use to reach the service with a local call that carries no toll charge.

"Customers want local access to reach AT&T WorldNet Service," explained Dan Schulman, AT&T vice president for AT&T WorldNet Service. "This action expands our local footprint to more than 70 percent of the country."

AT&T WorldNet Service currently operates 255 POPs in the United States. It is the largest direct Internet service in the U.S, with nearly one million subscribers.

Individuals should check with their local telephone company to determine whether they can reach the nearest AT&T WorldNet Service POP without paying a toll charge.

AT&T WorldNet Service is a unique service that enables customers to get to and use material from leading content providers in ways best suited to each individual's needs. It offers unlimited access for $19.95* a month, hourly pricing plans, free software for multiple platforms, and no start-up cost. AT&T WorldNet Service was selected as the top Internet service provider by *Smart Money* (5/97) magazine and *PCWorld* (7/97), with both publications citing its outstanding reliability.

AT&T WorldNet Service ranked first among 13 major Internet service providers during September in its ability to connect customers on the first try -- 96.2 percent of the time as measured over a 24-hour period. Measurements were made by Inverse Network Technology. AT&T WorldNet Service software for Windows* 95, Windows 3.1, Windows 3.11 for Workgroups and Macintosh* is available by download free of charge from the public AT&T WorldNet Website (http://www.att.net/) and from the AT&T Corporate Website (http://www.att.com/) or by calling 1-800-WORLDNET.

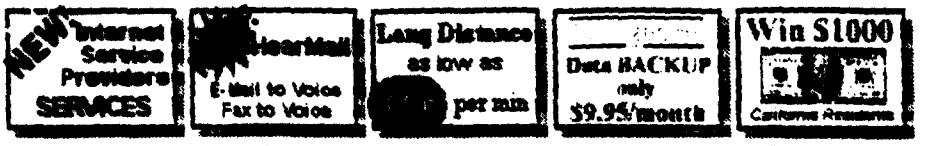
To find the POP serving your location, contact AT&T at www.att.net/ or 1-800-WORLDNET.

*** Telephone access and other charges may apply.**

PAC WEST TELECOMM, INC.

Your Full Service Telephone Company Throughout California!

- Home
- Company Info
- Investment
- Contact
- Customer Service
- Online Sign-Up



Local Dial-Up Services for Internet Service Providers
Click Here to find out why you should be with Pac-West

NEW! **56Kbps Modems:** Questions and Answers

NEW! **Bargain Priced High Quality Long Distance**
Fiber Optic Quality and 5 Star Service from 4.9¢ per minute
Click Here for details.

Constant Touch® VoiceMail has arrived!
Click Here for details on this exciting new service.

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At Last - True Telephone-To-Telephone Internet Telephony!

To Learn More About Global Internetwork[SM]

Global Internetwork in the News
World Wide Press Release

Global Internetwork[SM]

An Introduction

USA Global Link's **Global Internetwork**[SM] is an advanced global Internet telephony system that does not require either the caller or the recipient to have a computer, modem, or any peripheral equipment. The system is capable of transmitting voice, fax, video, and data via the worldwide Internet backbone and a distributed network of private lines and proprietary nodes, without the delays or lack of quality commonly associated with Internet telephony. *Global Internetwork*[SM] is projected to have no delays.

The low costs associated with Internet transmission will greatly reduce prices for telephone calls to USA Global Link customers using **Global Internetwork**[SM]. Exact calling rates are yet to be determined, but it is anticipated that rates will be 80-90% less than conventional international calling, and 20-40% less than callback. "Callers can expect rates of from $US0.25-$0.45, anywhere to anywhere," says Christopher Hartnett, USA Global Link chairman. "By using **Global Internetwork**[SM], everyone with a phone will be able to make low-cost international telephone calls."

Global Internetwork[SM] is simple, seamless and transparent to callers. USA Global Link customers will simply dial their phone and be able to call anyone, anywhere in the world, for a fraction of conventional long distance rates. Voice calls will be instantly transformed from analog to digital signal and transmitted via the Internet to any telephone in the world. Once the call reaches its destination, the data is transformed back into analog voice format and forwarded to the recipient via the local telephone system. Digitized data travels on the Internet unhindered by the regulations which artificially inflate the cost of traditional voice traffic. The advanced **Global Internetwork**[SM] technology developed by USA Global Link allows customers to enjoy the tremendous cost benefits of the Internet without a computer or other equipment, and with no sacrifice of quality.

USA Global Link—The World's First Truly International Internet Service Provider[SM]

As the world's largest provider of discount international telecommunications services, USA Global Link brings a unique combination of telecom advantages to Internet telephony. Unlike other providers of Internet services, USA Global Link is a major facilities based international communications company, with its own global fiber optic network and advanced telecommunications technology.

In implementing **Global Internetwork**[SM], USA Global Link is dedicated to service quality that cannot be adapted by companies supplying Internet services only. USA Global Link is rolling out this voice product over the

Internet only after extensive development in network provisioning for the highest quality standards. Quality standards will include 24-hour customer service, network management, engineered traffic analysis for non-blocking networks, and redundant facilities with emergency restoration for the maximum availability.

Because USA Global Link routes conventional international voice and data calls through a flexible multi-layer network, utilizing advanced least-cost routing technologies, the company is able to carry conventional international telephone calls to more than 200 countries and territories at greatly reduced costs while maintaining the highest level of quality. This scope of activity allows USA Global Link to offer truly international Internet service. With the implementation of *Global Internetwork*SM, USA Global Link becomes the world's first truly *International Internet Service Provider*SM *(IISP)*.

At Last—True Telephone-To-Telephone Internet Telephony!

Imagine the cost savings of making a long distance telephone call through the Internet, without needing a computer, modem, or any peripheral equipment. USA Global Link **Global Internetwork**SM users will be able to make long distance and international calls just as they would any other call. Callers simply pick up the phone, dial the number, and connect with the called party anywhere in the world—at rates 80-90% less than conventional long distance prices.

By utilizing our advanced technological and global network advantages, USA Global Link's **Global Internetwork**SM **enables** callers to connect worldwide through standard telephones, using the Internet, without any special equipment or dialing procedures by caller or receiver. Our special **Global Internetwork** SM technology allows you to talk with or fax to business associates, friends, and family—anywhere in the world, with the high quality you demand.

USA Global Link will make the service available in a host of major business centers, including the USA, Germany, Japan, Brazil, Hong Kong, England, France, South Africa, Australia, Indonesia, Korea, Chile, and the Benelux countries. The system will expand rapidly throughout the world in the following months, creating a revolutionary global Internet telephony network.

Technology Behind Internetwork	Contact Us	World Press

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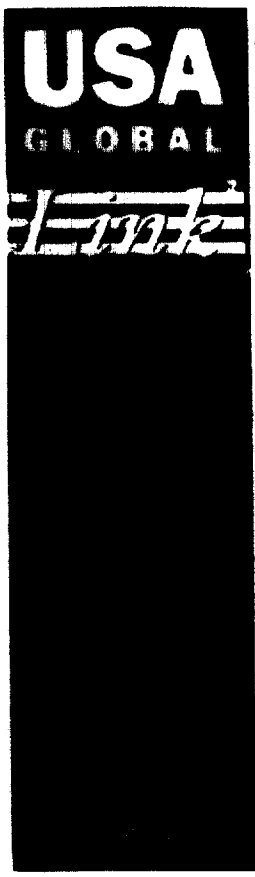
webmaster@usagl.com



USA Global Link Partners with 3Com On Its $1.2 Billion Internet Telephony Deployment

FAIRFIELD, Iowa, February 10, 1998—USA Global Link, Inc., the world's largest provider of discount international telecommunications services, signed a letter of intent with 3Com Corporation (Nasdaq: COMS), to supply network infrastructure for its $1.2 billion worldwide Internet telephony system called *Global InterNetwork*SM, a multi-pathway/multi-protocol global telecommunications network. 3Com is the premier manufacturer of carrier-class multi-service access platforms and VOIP-access solutions.

The proposed agreement encompasses a complete arrangement for 3Com to engineer, furnish and install facilities on a global basis. Installation of 3Com's Total ControlTM multi-service platforms will begin this spring and continue with the planned installation of 500 switches over the next 3 years. Initial installation will begin in Brazil, Germany, The Netherlands, Japan, the U.S., Switzerland and Hong Kong, with other countries in Europe, South America and the Asia-Pacific region to follow. Investment for this phase of the *Global InterNetwork* deployment will exceed $500 million.

"Last spring USA Global Link opened the floodgates on Internet telephony with the announcement of our *Global InterNetwork* system," said Mr. Christopher W. Hartnett, Founder and Chairman of the company. "Partnering with 3Com is a cornerstone to the successful deployment of the most sophisticated and ubiquitous telecommunications network in the world. Our vision and 3Com's expertise form a powerful synergy for success."

As the world's premier provider of alternative telecommunications services, USA Global Link has been deploying the *Global InterNetwork* system, an advanced network platform for the delivery of voice, data, fax, video and broadband multi-media services. Integral to the *Global InterNetwork* design and deployment has been the integration of IP pathways for voice and data services. Having researched the technology packages of all the leading developers of IP access and routing products, the company has adopted 3Com's Total Control VOIP system as the most flexible and advanced of the few carrier-class products available.

"It is critical to the company's *Global InterNetwork* strategy that any solutions adopted be carrier-class," said Mr. Gary Hamm, Vice President of Global InterNetwork and Chief Technology Officer. "Early developments in VOIP products lacked the integration of features into an existing carrier environment. 3Com's products meet our requirements in a completely integrated technology package, making a new range of quality services possible, and allowing us to dramatically expand the envelope of telecom services worldwide. Also critical to the choice is 3Com's global expertise and support presence."

The *Global InterNetwork* system is a complete global telecommunications network, which will ultimately encompass over 1000 points-of-presence (POPs) in all major metropolitan centers of the world, with a projected total capital investment of $1.2 billion. The company is actively searching for co-location and marketing partnership opportunities.

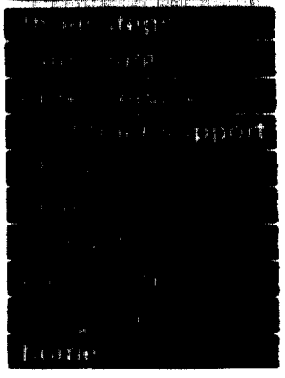
"We are extremely pleased to be partnering with USA Global Link, a company with the vision, resources and tenacity to pull off a scheme as impressive as *Global InterNetwork*," said Mr. Ross Manire, Senior Vice President of 3Com

Carrier Systems. "Our Total Control platform is a perfect fit with its picture of the global telecommunications network of the next century--flexible, powerful and adaptable to changing and expanding market conditions."

USA Global Link is the undisputed leader in alternative, innovative telecommunications strategies, such as: discount international long-distance, international callback, *Global 800SM* numbers, phone-to-phone Internet telephony and wholesale carrier least-cost routing services. USA Global Link also offers one of the world's largest corporate travel and prepaid calling card programs.

USA Global Link was recently cited as one of the world's 50 largest international carriers and one of the world's fastest growing telecom companies by *CommunicationsWeek International* and the Yankee Group in a joint survey published last December. USA Global Link provides service to more than 200 countries and territories around the world and is an active member of the International Telecommunication Union (ITU) in Geneva, Switzerland, and the U.S. Department of State's International Telecommunication Advisory Council (ITAC). The company is headquartered in Fairfield, Iowa, U.S.A.

Note: Global InterNetwork is a registered service mark of USA Global Link, Inc.



Step One

The Internet Phone Company (IPC) is dedicated to providing the highest quality International Long Distance Telephone Service at the lowest possible prices to the Internet User Community. Once you have reviewed our rates, we think you will agree that we have met our objective. Depending on where your call originates and terminates, **you can save up to 70% over local telephone rates**.

Our state of the art Intelligent Services Platform (ISP) combines the economy of Callback Service and the features of a Debit Card. As an IPC customer, you will be assigned a personal telephone number on our US based switching platform. When you wish to place a call, simply dial your personal number, hang up and wait for a Callback. When you pick up your phone, you will be prompted to enter your Debit Card number, hear your remaining balance and receive dial tone to place your call.

Unlike many other callback companies, **we bill our calls based on actual connection time** - you only pay for the time you are talking. Many of our competitors bill their calls from the time you receive your callback or use some complicated formula that can add up to 25% to the cost of a call. IPC's billing is straight forward and always allows you to verify our charges by announcing your credit balance each time you use the service. We also bill your calls in six second periods (after the initial 60 second period) to save you even more money.

If you would like more details about our service, please visit our FAQ page.

Lets go to *Step Two* for my rates.

| Home | Contact Us | FAQ | Library | Order | Rates | Search | Support | Three Steps | User Guide |

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DIGEX Showcase

Choosing an Internet Service Provider

Selecting the right ISP is the most important decision you can make.

Finding an Internet Service Provider in Your Area

Examine the ISP's Network

Support: What Are You Really Buying?

Getting Connected. How Much Will They Help You?

Price

Conclusion

This white paper is written for corporations or organizations interested in high-speed access (56 Kbps or higher) to the Internet. Different selection criteria are necessary for dial-up capabilities or for reselling bandwidth from an Internet Service Provider (ISP).

I. Finding an Internet Service Provider in Your Area

Begin your search by finding a provider who has a point of presence (POP) local to the corporate site where the circuit will be installed. This does not mean that the ISP needs to be headquartered in your city, but that the ISP has an access point to their network within your service area. For many of the access services ISPs sell, the closer the ISP's point of presence is to your site, the less expensive your monthly recurring telecommunications charges will be. Try to avoid the additional charges of ordering and paying for a long distance circuit into the point of presence. Unfortunately, this may not be an option for those in smaller cities.

Prices for point-to-point dedicated circuits are based on the exact mileage from your site to the ISP's point of presence. Other services such as Frame Relay are not distance sensitive, but may not be offered in all areas and do not offer full

Cheap calls via the Net

How's 5¢ a minute sound? It's just the start

USA TODAY

More Life

TUESDAY, FEBRUARY 10, 1998

COVER STORY

Internet could revolutionize phone service

New phone technology could be 'unstoppable'

By Steve Rosenbush
USA TODAY

NEW YORK — Almost a year ago, AT&T research chief David Nagle demonstrated an Internet telephone call during a two-day meeting with stock analysts.

He placed the call from a computer, not a telephone. The sound quality was terrible. The delays were annoying.

The story was far different last month when AT&T executives met once again with Wall Street analysts. President John Zeglis showed off a new kind of higher quality, phone-to-phone Internet call. And the demonstration was accompanied by a stunning announcement that AT&T would be the first major U.S. long-distance carrier to jump into the emerging market now known as Internet Protocol (IP) telephony. It is basically a cheaper, more efficient technology that could allow millions of AT&T phone calls to travel via the Internet instead of the regular phone network.

The shift at AT&T is powerful evidence of a remarkable change that has occurred in telecommunications during the past year. Telephone calls over the Internet, dismissed not long ago as a high-tech version of ham radio, are suddenly taken very seriously by the communications establishment.

That raises the prospect of lower prices and new services for consumers and major changes in the structure of the industry now dominated in the USA by AT&T, MCI, Sprint, GTE and the regional Bell phone companies. AT&T's trial begins during the second quarter. Qwest Communications and a few other carriers already allow people to make calls over the Internet for 5 cents to 7.5 cents a minute.

By 2002, the Internet could account for 11% of U.S. and international long-distance voice traffic, up from just 0.2% last year, predicts analyst Mark Winther of International Data Corp. "Internet telephony is a reality, and telcos have

Please see COVER STORY next page ▶

COVER STORY

Quality of Net calls improving fast

Continued from 1B

surprisingly awakened to that rather early," analyst David Goodtree of Forrester Research says. "It will be the catalyst that forces the total restructuring ... of the profits of all telcos worldwide."

Perhaps this forecast was the wakeup call. IP telephony could eliminate the profits of U.S. long-distance carriers by stealing just 6% of U.S. telephone traffic, the International Telecommunications Union warned in a report last year.

Evidence of the hastening convergence of the phone network and the Internet is overwhelming.

The same day that AT&T announced its Internet telephone plans, MCI revealed a pact with Netspeak, a company that makes computers that connect phone networks to the Internet. Bell Atlantic announced a day later that it wants to build high-speed Internet transmission lines across its local phone territory. US West announced the following day that it was forming an Internet-development alliance with equipment maker Cisco Systems.

America Online, the country's largest on-line service, is testing IP telephone service with 3,000 users. Tele-Communications Inc., the country's largest cable TV operator, said in December that it would begin offering Internet phone service in late 1998. Last month, start-up Level 3 said it would build the nation's first telephone network based entirely on Internet standards.

"Over the next few years, you will see very rapid growth in IP telephony," says Joe Nacchio, CEO of Qwest, which is constructing a 16,000-mile fiber network that uses both traditional phone switching technology and the Internet. "I think it will be unstoppable." He already offers consumers IP telephony in nine Western cities.

Humble beginnings

Internet telephony barely existed until February 1995, when an Israeli company, VocalTec, introduced a software program that allowed people to speak to each other using their PCs and a microphone.

"It was like ham radio," recalls analyst Francois de Brabander of Frost & Sullivan, an early user. "People could only talk to other personal computer users who run the same software and happened to be logged onto the Internet at the same time."

The medium took a huge step forward in 1996, when VocalTec unveiled a "gateway" computer that connects the Internet to the phone network. That allowed people to speak to each other over the Net using regular phones instead of PCs.

The advance was a major break with tradition. The basic design of the phone network hasn't changed since AT&T invented it more than 100 years ago. It's a vast roadway where every call has its own lane, or circuit. A telephone call ties up an entire circuit, even when people pause between words or put the phone down to answer the doorbell. The Internet is much more efficient. Calls travel a short distance over copper phone lines to the nearest phone company office, where a gateway computer converts the sound of the voice into the ones and zeros of computer language and breaks it into little pieces known as packets. Compressed packets are thrust into the Internet or data network, where they share lines with other transmissions, such as e-mail.

The result is that Internet calls are cheaper than regular calls. "This is going to be the snake that finally drives a hole through the heart of the ... enormous costs associated with traditional voice communications," says Jim Courter, president of IDT, which charges 5 cents a minute for long-distance calls over the Internet. "The cost of calls is going to be dramatically reduced."

IP calls are especially cheap now, because they are exempt from long-distance carriers must pay local carriers for access to the local networks, where all long-distance calls begin and end. Local carriers want that to change, but IP technology would still be more efficient than a regular long-distance call.

Cable TV companies and Internet service providers entering the $80 billion long-distance business are sure to benefit. By 2002, the Internet will drain $3 billion in annual revenue from U.S. long-distance carriers, Forrester Research estimates. That's about 4% of their revenue base. About $2 billion of that will go to new long-distance providers, and about $1 billion will go directly to telephone users in the form of price cuts.

Profitable niches

Others, too, will benefit as IP phone service takes hold.

▶ Up to 10% of the world's fax market, which generates $45 billion in telecom revenue a year, will move to the Internet in two or three years, says CEO David Friend of FaxNet, a long-distance carrier just for faxes.

▶ "The $18 billion market for calls from the United States to foreign destinations will be the first and biggest target of Internet telephony," Forrester says. Key reason: The Internet bypasses international telephone networks, which are often outrageously expensive. USA Global Link announced plans in early 1997 to build an IP-based network just for international calls.

▶ A company can easily slash its phone budget 35% by moving its voice traffic to the same network that handles its data transmissions, says Eric Benhamou, CEO of Internet equipment maker 3Com. A Forrester survey of 52 Fortune 1000 companies finds that more than 40% of telecom managers plan to move some voice or fax traffic to the Internet by 1999.

One major force driving the rapid growth of the Internet phone business is that the basic technology behind the Internet is available to the public for free. But today's Internet has drawbacks, too. It is dogged by traffic jams that can occur during peak usage. Even users with high-speed access can get bogged down when the network is overloaded. Newer versions of the Net will be able to assign higher priority to certain kinds of transmissions, such as phone calls.

AT&T's Nagle serves on a presidential advisory committee that is guiding the development of another ... high-speed network that will be available in several years.

Meanwhile, he says the quality and security of IP telephony on the existing Internet is improving. The implications of that are just reaching consumers.

Bruce Ravenel, TCI's senior vice president for telecommunications, says TCI's 12 million customers won't be able to tell the difference between a regular phone call and an IP call. "The technology inside the network will be IP, but the experience for the customer is that they will make a 'toll' quality phone call, just like they do today with conventional telephone networks."

John Roth, CEO of equipment maker Nortel, Northern Telecom, goes even further. He sees the day when voice calls will be virtually free and video and data transmission will be the real moneymaker.

Who will dominate?

Newcomers might have an edge in the market to provide this new breed of phone service. "Give me one example of any company in any industry that has managed to deal with an tectonic change of that magnitude and be dominant in the next era," says James Crowe, CEO of Level 3. "There isn't one."

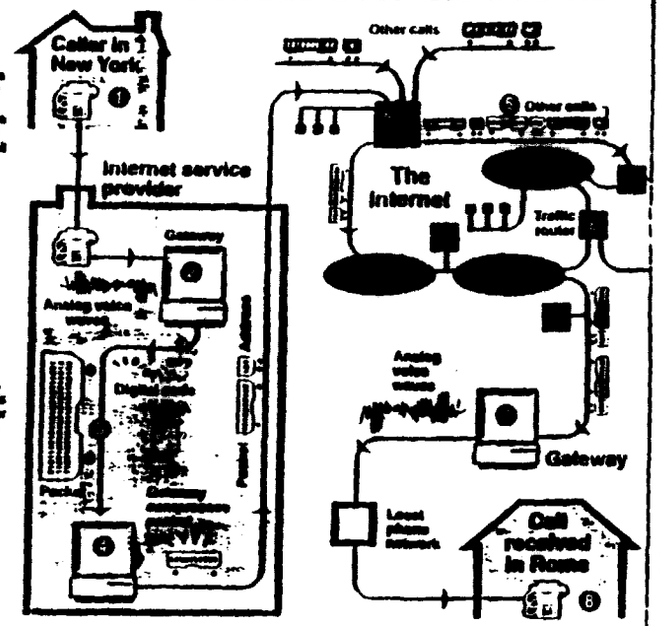
Even old-line phone carriers that develop a good strategy for IP telephony might run into trouble, because they will need to take huge charges to write off their old networks, says Francis McInerney, partner with North River Ventures, an investment and consulting group.

But Nagle says big phone companies already have paid off many of their network investments. And new data networks will lower costs for traditional carriers, so profit margins won't be gained by falling prices. Finally, he notes, history shows that traffic on communications networks rises as prices fall.

Nagle says the fact that AT&T has been able to create an Internet phone offering between 1801 and 1800 is proof that it can compete.

"The industry is moving more quickly. And more important for us, we're moving a lot more quickly," he says. "We have realized the potential and importance of the Internet, and we are resolved to be leaders in this industry."

How phone calls are made over the Internet



1 The caller
The caller dials a toll-free number and an ID number that connects him or her to a gateway computer, a bridge between the regular phone network and the Internet. The caller then dials the number of the party in Rome. The call travels the phone network until it gets to the gateway.

2 The gateway
The gateway digitizes the caller's voice, turning it into the ones and zeros of computer language.

3 Digitization
The gateway breaks the digitized voice into pieces known as packets. A typical packet includes 10 to 30 milliseconds worth of conversation. Each packet is coded with the second party's phone number, just as a letter is put in an envelope with an address.

4 Compression
The gateway compresses the digitized packets.

5 Transmission
The gateway thrusts the compressed packets into the Internet, where they share lines with other data transmissions.

6 Routers
The packets travel the Internet, passing through routers, computers that read the addresses on each packet and assign them transmission lines.

7 Back to analog
The packets finally arrive at a gateway that decompresses them and converts the digital signal back to analog.

8 Connection
The gateway transfers the call to the local phone network, which delivers it to the intended party.

By Dave Hood, USA TODAY

ICG Joins Telephony Price Wars, Plans 5.9 Cents a Minute for Long Distance

By STEPHANIE N. MEHTA
Staff Reporter of THE WALL STREET JOURNAL

ICG Communications Inc., jumping into the Internet telephony price wars, plans to offer long-distance calling for 5.9 cents a minute.

The rate undermines the dime-a-minute pricing widely available to consumers. It also undercuts Qwest Communications International Inc.'s 7.5 cent-a-minute price for calls using Internet technology. IDT Corp., a small carrier in Hackensack, N.J., is offering a five-cent rate in a limited number of markets.

These new carriers are able to offer lower prices in part because their calls bypass the tolls that traditional long-distance carriers must pay to local phone companies, which carry the calls into homes and offices. Such fees, known as access charges, can total more than four cents a minute. "I can offer calls at this [5.9 cents] rate and still make money," said J. Shelby Bryan, president and chief executive of ICG, in Englewood, Colo.

Acquisition Is Cited

ICG, which offers local service in California, the Southeast and parts of the Midwest, is able to offer long-distance service nationwide because of its recent acquisition of Internet service provider Netcom On-Line Communication Services Inc., with network facilities in 238 markets. Netcom's local offices will serve as gateways for the long-distance calls, which must be broken into digital "packets" before transmission over the Internet. ICG said Lucent Technologies Inc. will supply equipment for the service.

Mr. Bryan said the service will be available to business and residential customers in 166 markets by year end.

The 5.9-cents-a-minute rate applies to calls originating and terminating in those markets, which represent about 90% of domestic long-distance traffic, ICG said. Calls terminating outside the cities will cost 7.2 cents a minute.

The leap into the long-distance business is a significant move for tiny IGC, which had revenue of $273 million last year. Mr. Bryan said the company has had to invest in customer-service centers and software to sign up and bill new long-distance customers.

Regulators to Decide

There are risks, too. Consumers may not tolerate the inferior quality of "voice-over-Internet" calls. The big savings such carriers garner from bypassing the traditional telephone architecture could evaporate if regulators decide to subject Internet telephone calls to the same access charges as regular phone calls.

Separately, ICG is expected to announce plans to offer high-speed Internet access to small businesses and some consumers in the local markets it serves. The company plans to use digital subscriber line, or "DSL," technology to allow customers to download data quickly over traditional copper telephone lines.

To deliver the service, ICG said it will install equipment in the Baby Bells' central offices and lease access to local telephone lines from the Bells. Mr. Bryan said ICG is the first of the competitive local exchange carriers to announce a DSL offering, something that many Baby Bells and GTE Corp. plan to deploy.

Bells begin tolling for Net calls

By Paul Davidson
USA TODAY

Making long-distance calls over the Internet could soon lose its price advantage after the Federal Communications Commission said some Internet phone providers should be regulated like phone companies.

BellSouth will immediately begin charging access fees to Internet phone services, says company spokesman John Schneidawind. Several other Bell carriers plan to file complaints asking the FCC to force Internet companies to pay the fees, FCC officials say.

The Internet could account for 11% of long-distance voice traffic by 2002, up from 0.2% last year.

The controversy turns on whether companies that carry voice calls over the Internet, or similar data networks, are more like Internet service providers (ISPs) or long-distance companies.

H. Darr Beiser, USA TODAY

Kennard

Long-distance companies must pay fees to Bell companies to begin and end calls, and to subsidize phone service in poor and rural areas.

ISPs, such as America Online, are exempt from such fees because they provide an "information service." But in a report submitted to Congress Friday, the FCC says some Internet phone carriers "bear the characteristics of telecommunications services."

The FCC backed off a plan to automatically treat the companies like long-distance carriers after the White House said the move would smother Internet commerce. Instead, the FCC says it will consider complaints from the Bells individually. Generally, companies that carry voice calls between phones — as opposed to personal computers — would be subject to the charges, says FCC Chairman William Kennard.

If BellSouth or other phone companies simply start charging access fees, "The industry would probably not pay it," says Joe Garrity of Qwest Communications, an Internet long-distance provider. The Bell might then file a complaint, forcing the FCC to rule.

The agency is caught between the White House on one side, and traditional phone companies and rural-based senators on the other. Imposing access fees could double the price of Internet calls, which now cost as little as 5 cents a minute, officials say.

Circuits

D1

THURSDAY, APRIL 16, 1998

The New York Times

Internet Phone Calls, No Computer Necessary

When Calls Go Through Cyberspace, the Cost Can Drop Considerably, and It Still Sounds Like Mom

By SETH SCHIESEL

MAKING a phone call over the Internet used to be a challenge. For one thing, there was no phone involved.

In 1995, for instance, Steve R. Frampton was helping to link a school system in Kingston, Ontario, to the Internet. Sometimes he tried to use the computer in his laboratory to call his girlfriend on her computer in Japan.

"How the old way worked was both parties would have sound cards, and then the sound cards would be hooked up with a microphone and a speaker, and you would choose from a client software package," he recalled. "The configurations were very easy. The interfaces were really nice, but the quality was really bad. Basically it was either completely unintelligible or it sounded like you were talking in a toilet or something."

Last fall, after trying three generations of modems, Mr. Frampton gave up and went back to paying about $1.50 a minute to talk over a conventional phone line.

Today anyone can make an Internet phone call, with a telephone.

Nora S. Spohr has no need for a computer when she makes long-distance calls. But her conversations still travel through cyberspace.

"My phone bills used to be up to $500, $700," said Ms. Spohr, a leather merchant in Englewood, N.J., who often calls Florida, Europe and South America. But she recently started using prepaid phone cards from a New Jersey corporation called IDT, which routes many of its calls over the Internet rather than over traditional communications networks.

With each call, people like Ms. Spohr and the companies that serve them are shaking up the telecommunications industry. They are beginning to usher in a time when computers will have to share cyberspace with other technologies, just as cars share the highway with motorcycles and trucks.

Less for More

The cost of a 10-minute phone call from New York to Brisbane, Australia, on a weekday morning, using traditional and Internet phone services

	AT&T	MCI	IDT	DELTA 3
Standard plan	$10.90	$10.89	$1.60	$3.60
Reduced-rate plans*	$4.70	$4.50		
	+$3 fee each month			

The New York Times

On Friday, the Federal Communications Commission took the first step toward regulating Internet calls when it recommended that some cyberspace phone carriers pay the same fees paid by traditional phone companies. But for now, people like Ms. Spohr are relishing their low rates.

"I used to pay like 89 cents a minute to Argentina because I had this urge to pick up the phone at any time and the phone companies have many different rates," she said, adding that IDT let her call Argentina for about 48 cents a minute at any time.

"With the card, I just get to call whenever I feel like it," she said on a recent weekday. "I called Buenos Aires today because I forgot my uncle's birthday, and I don't have to worry. I don't want to be restricted to have to wait for Sunday or Saturday to get a good rate.

"I find no problem with the quality, and it's not

Continued on Page 8

Internet Phone Calls, No Co

Continued From Page 1

complicated at all," she added. "And by buying the cards, I'm limiting myself to around $100 or a little more a month."

The Internet has allowed people to talk to one another through their computers since the early 1990's, but the technology was complex and the sound quality dismal. Around 1996, companies began offering phone service that allowed people to use their computers to talk to other people who used telephones, but the sound quality was still poor.

Howard Jonas, chairman of IDT, which started one of the first computer-to-phone services, said the first customers tended to come from the digitally adept. "In the beginning," he said, "it was like: 'Hey, Mom, you can't believe it. I'm calling you from Bangladesh, and it's only a dime a minute.' And Mom was like, 'Whaddya say?'"

But now companies are offering phone-to-phone long-distance service that routes calls over the Internet but keeps the sound quality close to that of a standard call.

Standard calls still have the edge in quality over Internet calls. That is because a standard telephone call travels like a train down an empty track: Each conversation has its own set path, which occupies a certain amount of network space, regardless of whether the callers are actually speaking or not. An Internet call often travels like a train that has had its cars split up and sent down all sorts of different paths: the sound is translated into binary computer code, and bits of code travel different routes. When those pieces of code are put back together, they can remain a little jumbled (and the call is not as clear as it could be).

As the oldest consumer electronics device, the phone has all the glamour of a long-serving handyman — dutifully reliable, sometimes cranky, quietly indispensable.

But that is changing. As Internet technology begins to transform the world of plain old telephone service (or POTS, in telecommunications jargon), the phone is taking the Internet out of the expensive computer boxes in which it has traditionally resided and making it useful for people who do not know a DOS prompt from a disk drive.

In fact, the people who are using ordinary

New phone service providers cut costs by routing calls over the Web.

telephones to make calls though cyberspace — a process called telephony (pronounced tel-EF-own-ee) — may be the first people to use the Internet without using a computer. But they will not be the last.

"We're going to see a massive amount of Internet use with appliances which have been Internet-enabled but which we don't think of as PC units," said Vinton G. Cerf, who co-designed the Internet in the late 1960's and is now a senior executive at MCI, the No. 2 long-distance telephone company. "Telephony is only one example of that. Videocassette recorders, televisions, washing machines, water heaters will all show up on the network for all kinds of reasons."

In Mr. Cerf's vision, VCR's could sprout Internet connections so they could be programmed from home, or a water heater could step out into cyberspace so a local power company could turn it on when electricity was cheapest.

The main reason that telephones are showing up on the network is cost. For people who live in major metropolitan areas of the United States, most calls can be made less expensively with a carrier that uses Internet technology.

EVOLUTION Steve R. Frampton of Ontario used to make calls to Japan on his computer.

minute for calls anywhere in the United States at any time of day; the traditional phone companies' standard flat rate is 10 cents.

The savings on international calls can be even greater. U.S.A. Global Link, a private company that uses Internet technology to deliver international calls primarily outside the United States, says that its rates typically undercut those of traditional carriers by around 30 percent. The company is planning to begin selling service soon to United States consumers.

Internet calls are cheaper than those over standard networks for two basic reasons. By splitting up the train cars (the pieces of information) that constitute a conversation, a carrier can often use its network more efficiently. On a standard telephone network, two people enjoying a moment of silence generally use as much of the system as a screaming match does. But during that moment of silence, a network using Internet technology would be sending parts of another conversation involving two other people. If the technology was working properly, the quiet of the first call would not be interrupted.

More important, however, companies that transmit phone calls over the Internet are able to undercut the established carriers because Internet carriers often do not have to pay the fees mandated by national and international regulation.

When AT&T, for instance, carries a call from Albany to Chicago, the company has to pay a total of about 4 cents a minute to Bell Atlantic, the local phone company in New York, and Ameritech, the local phone company in Illinois, for connecting the call. After paying those fees, AT&T still has to recoup its internal costs, raising the price of the call.

In the Telecommunications Act of 1996, Congress exempted Internet companies from having to pay those fees to local phone companies in most cases because it was concerned that the Internet might not become a hit.

Now that the Internet seems firmly established, the F.C.C. has taken the first step to level the playing field when entrepreneurs use cyberspace to duplicate the traditional network's main function: connecting calls. That could make Internet calls more expensive.

But the Internet's regulatory advantage remains strong for international calls because Internet companies are often able to avoid or reduce the huge fees, known as

Shortcuts Around Long-Distance Charges

Dozens of companies sell some sort of telephone service that uses the Internet. Dozens more say they have the best technology for talking through cyberspace. The five companies below represent most factions in the new wave of long-distance Internet phone carriers. Local calling has not yet emerged as a fertile market for Internet entrepreneurs. As put by Sanjay Mewada, an analyst for the Yankee Group in Boston: "It is cheaper on a per-mile basis for you to fly from New York to London than to take a cab from Manhattan to Queens. But that doesn't mean you should take a plane to Queens."

APLIO

(888) 642-7546

Aplio, a company based in France, recently released a small box that sits between a normal telephone and a wall jack. The user must have a standard dial-up Internet account and then can call another Aplio user anywhere in the world, the company promises, for no more than the price of a local call. The cost of the unit is $199, plus monthly Internet access fees.

DELTA 3

(888) 335-8230

Delta 3, a unit of Ronald S. Lauder's RSL Communications, sells phone cards

mputer Necessary

Nina Berman for The New York Times

r. Nora S. Spohr of Englewood, N.J., uses a phone card for long-distance Internet calls.

settlement rates, that some countries levy against calls to or from other nations. Some countries allow Internet traffic to cross their borders without special charges because they are seeking to increase access to cyberspace.

"Internet telephony is bypassing the settlement process altogether," said C. Holland Taylor, chief executive of U.S.A. Global Link. "It allows you to treat voice, which has traditionally been very regulated, as a series of data packets transiting the globe as a nonregulated media."

But the regulatory forces that allow Internet phone companies to undercut their larger, older competitors may not last for more than a few more years. Even before last week's F.C.C. recommendation, the domestic access fees that traditional long-distance carriers must pay to local phone companies were decreasing, allowing the long-distance giants to lower their prices.

In the international arena, agreements reached under the auspices of the World Trade Organization are intended to reduce the settlement fees that increase the price of standard cross-border calls. That would put more pressure on the Internet carriers.

Even the proprietors of Internet telephony see their window closing. "My basic thought is, eventually it's going to die," said Mr. Jonas, chairman of IDT.

If the market for basic phone calls over the Internet disappears in the next few years, the next step for the technologists and marketers may be to convince people like Ariella Levy that there is more to a phone call than talking.

Ms. Levy, who recently graduated from the University of Pennsylvania, heard about IDT's Internet phone cards on the radio. She bought one, which she uses to make inexpensive long-distance calls to her friends.

"It's just the same as a phone," she said. "You can't tell the difference. The only thing they can do to make a phone call better is bring the person into the room."

Mr. Jonas is looking to sell Internet phone calls in ways that traditional phone companies cannot match. He says video links may eventually prove popular, but he admits that he is stumped after that.

Referring to a futuristic machine in Woody Allen's 1973 film "Sleeper" that enveloped its user and delivered sexual pleasure, Mr. Jonas said: "Frankly, I don't know what more people want from the phone. You can talk to people. You can see people. The next step is either 'Kirk, beam me up' or it's jump in the orgasmatron."

A call to Hong Kong, for instance, costs 19 cents a minute from anywhere in the United States at any time, far less than AT&T's standard residential daytime rate of $1.93 a minute.

QWEST

(800) 468-0116

Qwest, which is building a national fiber-optic network of its own, sells phone cards that allow a user to call anywhere in the United States for 7.5 cents a minute, at any time. Qwest's cards are available in nine cities, mostly in the West, including Los Angeles, San Francisco and Salt Lake City.

IDT

(800) 225-5438

IDT sells phone cards that allow users to call anywhere in the United States, at any time, for 5 cents a minute. IDT's cards are available in 50 markets, including New York, Boston and Chicago.

I-LINK

(888) 238-9465

Unlike most Internet callers, I-Link's customers use the company as their default long-distance carrier. I-Link sells service in six markets, mostly in the West, including Phoenix, Dallas and Houston. The company offers domestic calling for 4.9 cents a minute, 24 hours a day.

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SPAPER

USA TODAY

NO. 1 IN THE USA . . . FIRST IN DAILY READERS

THURSDAY, APRIL 16, 1998

NEWSLINE

Net use doubling every 100 days

By Elizabeth Weise
USA TODAY

In its first major study of the economic effect of the Inter- net, the Commerce Depart- ment said Wednesday that Net traffic is doubling every hun- dred days and electronic com- merce should reach $300 bil- lion by 2002.

More than 100 million peo- ple are now on line, according to the wide-ranging report. The "digital economy" is growing a double the rate of the overal economy and represents mor than 8% of the gross domesti product, it said.

"Automobiles aren't the bi gest manufacturing industry i the country. We are, and w have been for the last year said Rhett Dawson of the Info mation Technology Industr Council in Washington, D.C.

In 1996, the latest figur available, the auto indust represented 3.1% of GDP; t formation technology repr sented more than 6%.

In fact, technology — cor puters, consumer electronic telecommunications, softwar satellites and the Internet — increasingly driving the U economy, Commerce Secr tary William Daley said.

In the past five years, inf mation technologies have be responsible for more than on quarter of real econom growth. And without the sta decline in the prices of techno ogy, inflation last year wou have been 3.1% — more than full percentage point high than the 2% it was.

Other findings:

▶ While radio took 30 yea to reach an audience of 50 m lion, and TV took 13, the int net took just four years.

▶ Ten million people in t USA and Canada had bou something on line by the end 1997, an increase from 4.7 m lion six months before.

The report recommen that government not burden commerce with "extensive r ulation, taxation or cens ship." Daley also stressed need for businesses to ad privacy standards for cons ers. And he aimed a salvo at strictions on the export of s ware with strong encryptio

Such programs allow m sages to be encoded to prev interception or tampering they make their way across Internet.

The Clinton administrat citing security and law enfo ment needs, has taken a h line against letting such s ware leave the USA.

The current policy ultim ly will result in foreign dom tion of the market and a los jobs, Daley said. He called compromise between gov ment and business as the hope against forcing com nies overseas.

The report is available line at www.ecommerce.go

6

FACTS AND STATISTICS REGARDING INTERNET USE

A. WINDFALL REVENUES THAT MAY BE PAID TO CLECs DUE TO INAPPROPRIATE APPLICATION OF LOCAL RECIPROCAL COMPENSATION TO INTERSTATE INTERNET USAGE ARE HARMING COMPETITION:

	Number of Operating CLECs (3-31-98)	Number of CLECs with agreements (3-31-98)	Est. 1998 Usage (MOU) Originated by SBC and transported to CLECs	Est. 1998 Usage (MOU) Originated by CLECs and transported to SBC by CLECs	Est. 1998 CLEC to SBC term. ratio	Est. 1998 % Internet of Column (c)	Cum. windfall payment to CLECs for Internet (as of 3-31-98)	Initial Est. 1998 monthly growth in Internet usage	Most recent actual monthly growth
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Arkansas	5	12	847M	26M	33 to 1	60%	$0.5M	17%	11%
California	16	29	33,374M	2,370M	14 to 1	89%	$18.4M	27%	18%
Kansas	1	12	54M	2M	27 to 1	80%	—	17%	—
Missouri	5	14	274M	7M	39 to 1	63%	$0.2M	17%	37%
Nevada	1	2	82M	8M	10 to 1	98%	—	17%	—
Oklahoma	5	13	2,969M	13M	228 to 1	92%	$6.0M	17%	11%
Texas	31	41	4,364M	161M	27 to 1	93%	$6.2M	17%	31%
Total	64	123	41,964M	2,587M	16 to 1	89%	$31.3M		

From this information it is clear that:

(1) Massive and inappropriate payments from SBC will flow to CLECs for ISP's (not SBC's) use of CLEC facilities to obtain access to the Internet.

- ISPs get a free ride or are paid to use access facilities that IXCs and others must pay to use.
- CLECs receive a windfall payment which as Columns (h) and (i) show is continuing to grow at an exponential rate.
- SBC receives no revenue to cover its costs for the thousands of trunks it has added (approximately 45,000 in 1997 and estimated to be 95,000 in 1998) and instead has to pay another access provider for the ISPs use of their facilities.

  These costs will grow at an exponential rate as Internet usage grows (Columns h and i).

If this distorted process is allowed to continue, quality universal service will suffer.

(2) The % Internet and SBC to CLEC originating ratio makes it clear that CLECs are concentrating on serving ISPs to the exclusion (for the reasons discussed in Tab 2) of residential and business customers. This is not the type of true local exchange competition that Congress intended when it passed the 1996 Telecommunications Act.

B. SBC INTERSTATE AND INTRASTATE ACCESS REVENUE AT RISK OF LOSS DUE TO THE INTERNET EXEMPTION LOOPHOLE.

	1997 Actual (000)
Interstate	$1,229*
Intrastate	$1,527

C. OTHER RELEVANT STATISTICS:

1. Holding Times:

	Non-Internet	Internet
Arkansas	3.9	30
California	3.3	25
Kansas	4.3	32
Missouri	3.8	26
Nevada	3.9	26
Oklahoma	4.0	40
Texas	3.6	28
Average	3.5	26

Clearly there is a significant difference in the average non-Internet minutes per call (including all access, local and toll calls) and the average Internet minutes per call.

2. Customer usage per day:

In a study of one ISP connected to a SBC office in the St. Louis area, the following customer usage patterns were found:

	Internet	Non-Internet
Average calls per customer per day	3.35	13.8
Average holding times per call	30 MOU	5 MOU
Average usage per customer per day	100 Min.	70 Min.

* Excluding Annualized PICC amount.