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FEDERAL COMMUNICATIONS COMMISSION  
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Magalie Roman-Salas  
Secretary  
Federal Communications Commission  
445 12 St., S.W.  
Washington, D.C. 20554

**ORIGINAL**

**Re: Ex Parte, Telecommunications Services for Individuals with Hearing and Speech Disabilities, and the Americans with Disabilities Act of 1990, CC Docket No. 90-571**

Dear Ms Salas:

The attached letter responds to questions raised at a May 8, 2001 discussion of WorldCom, Inc.'s IP-Relay service with Commission staffers: Karen Peltz-Strauss, Pam Gregory, Jerry Stanshine, Sean White, Pam Slipakoff, Dana Jackson, Jennifer Simpson, Les Selzer, and Susan McNaughty. Please associate this with the above-captioned docket file.

Sincerely,



Larry Fenster  
202-736-6513

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cc: Karen Peltz-Strauss  
Sean White  
Jennifer Simpson

Pam Gregory  
Pam Slipakoff  
Les Selzer

Jerry Stanshine  
Dana Jackson  
Susan McNaughty

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

June 6, 2001

Karen Peltz-Strauss  
Deputy Bureau Chief  
Consumer Information Bureau  
Federal Communications Commission  
445 12 St., SW  
Washington, DC 20554

Dear Ms. Peltz-Strauss:

It was a pleasure presenting the capabilities of WorldCom Inc.'s ("WorldCom") new internet protocol relay service (IP-Relay) at our May 8, 2001 meeting with you, Pam Gregory, Jerry Stanshine, Sean White, Dana Jackson, Jennifer Simpson, Les Selzer, Pam Slipakoff, and Susan McNaughty. In the meeting, staff requested further information and analysis to aid your consideration of WorldCom's petition requesting that the costs of this service to be reimbursed solely out of the Interstate Telecommunications Relay Service Fund.<sup>1</sup>

Specifically, staff requested further information on: 1) the impact a decision on WorldCom's request might have on the definition of basic service or telecommunications service on decisions under consideration in other proceedings; 2) the cost and demand characteristics of internet protocol (IP) relay and the impact these data might have on the regulatory or pricing treatment of IP-Relay; 3) whether IP-Relay will meet the Commission's mandatory minimum standards for relay service; and 4) the costs and benefits of interstate IP-Relay service.

*IP-Relay's Eligibility For Reimbursement As An Interstate Telecommunications Relay Service (TRS) Will Not Affect Decisions Currently Under Consideration Regarding The Definitions of Basic or Telecommunications Service Outside The Context Of Relay*

In our February 6, 2001 meeting with Commission staff we discussed three reasons why IP-Relay should be considered an interstate relay service: 1) it fit the definition of an enhanced service; 2) it fit the definition of an information service; and 3) it is impossible to identify a geographic location for the originating leg of the call. Enhanced services are defined in part as services "... which ... provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information."<sup>2</sup> IP-Relay currently stores a relay

<sup>1</sup>WorldCom, Inc., Petition for Clarification, ("Petition") Telecommunications Services for individuals with Hearing and Speech Disabilities, and the Americans with Disabilities Act of 1990, CC Docket No. 90-571, December 22, 2000.

<sup>2</sup> 47 C.F.R. § 64.702(a).

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conversation and offers the user a printable log of their conversation, and is therefore functioning as an enhanced service. The capabilities of IP-Relay will make other enhanced features available in the future. For example, users might be able to call up a directory of numbers and select a number to call that would automatically be forwarded to the communications assistant (CA).

The Commission has already determined that all enhanced services are information services.<sup>3</sup> This decision would not be affected by a decision on issues under consideration in the Computer III FNPRM.<sup>4</sup> In that proceeding, the Commission noted that in its Non-Accounting Safeguards Proceeding it had already determined that all enhanced services were incorporated under the definition of information services, and only asked whether basic services should be incorporated under the definition of telecommunications services.<sup>5</sup> The Commission did not propose reconsidering either the definition of enhanced service, information service, or the incorporation of enhanced service into the definition of information service. Therefore concluding that IP-Relay is an enhanced service would not constrain the Commission with regard to whether basic services should be incorporated into the definition of telecommunications service. Conversely, whatever decision the Commission might make regarding the relation of basic services to telecommunications would not impact the decision to incorporate enhanced services into information services.

A second reason IP-Relay should be considered an interstate service is that the Commission has determined that relay services are not telecommunications.<sup>6</sup> This makes IP-Relay an information service, since non-telecommunications services that utilize telecommunications are information services,<sup>7</sup> which in turn makes IP-Relay an interstate service.<sup>8</sup>

A third reason for the Commission to determine that WorldCom's IP-Relay service is eligible for reimbursement solely out of the Interstate TRS Fund is because the service's use of IP

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<sup>3</sup> In the Matter of Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, First Report and Order and Further Notice of Proposed Rulemaking ("Non-Accounting Safeguards Order"), CC Docket No. 96-149, (rel. December 24, 1996), ¶ 55.

<sup>4</sup> Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review -- Review of Computer III and ONA Safeguards and Requirements, Further Notice Of Proposed Rulemaking, CC Docket No. 95-20; CC Docket No. 98-10, 13 FCC Rcd 6040; 1998, (rel. January 30, 1998).

<sup>5</sup> Id., at ¶ 41.

<sup>6</sup> Telecommunications Relay Services and Speech-to-Speech services for Individuals with Hearing and Speech Disabilities, Report and Order and Further Notice of Proposed Rulemaking, ("Improved TRS Services Order"), CC Docket 98-67, (rel. March 6, 2000), at ¶ 81.

<sup>7</sup> In the Matter of Federal-State Joint Board on Universal Service, Report to Congress, CC Docket No. 96-45, Released April 10, 1998, at ¶12.

<sup>8</sup> Non-Accounting Safeguards Order at ¶ 102.

makes the originating caller's geographical location impossible to determine. Just as Section 225(d)(3)(B) authorizes the Commission to reimburse intrastate calls from the Interstate TRS Fund where a state does not have a certified state TRS program, so may the Commission reimburse calls from the Interstate TRS Fund when the state is unable to determine if a call is intrastate.

Any one of these three reasons should provide sufficient justification to reimburse IP-Relay solely from the Interstate TRS Fund. Taken together, there is more than sufficient justification.

*The Cost Of Providing IP-Relay Is Approximately The Same As Traditional Relay*

A comparison of traditional relay and IP-Relay shows that they have the same basic costs. In the WorldCom IP-Relay model, a user establishes a local connection to an internet service provider (ISP) using a computer or another IP-capable device. Once the call arrives at our relay center, it is handled by the same CAs and relay facilities that handle a traditional relay call. These CAs would be providing access to relay without regard to whether the caller used a TTY or a computer to access our relay platform.

The only basis for reimbursable cost difference with traditional relay therefore resides on the originating side of the call, between our internet gateway and our relay center. These costs would include the cost of the internet gateway, web servers, and firewalls, a negligible share of WorldCom's annualized relay costs. Another possible cost of IP-Relay would be foregone toll revenue, due to an IP-originated call's lack of a billing ANI. While this does constitute a cost to WorldCom, we will not be seeking reimbursement for these lost toll revenues from the Interstate TRS Fund.<sup>9</sup>

The negligible additional costs of the internet gateway, servers, and firewalls should be compared to the reduction in costs associated with not having to pay originating access charges on the IP leg of an IP-relay call in order to determine whether IP-Relay costs more, less, or about the same as traditional relay. We estimate originating access charges to be approximately .2% of annualized relay costs.<sup>10</sup>

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<sup>9</sup> We do not expect persons without speech or hearing impairments to use IP-Relay to avoid toll calls. They may do so already by making pc-pc internet calls, without having to deal with the slower conversation necessitated by the intervention of a CA.

<sup>10</sup> Average originating access charges of \$.0023 were grossed up by a factor of 1.4 to account for session minutes, and then divided by the 2001 interstate relay reimbursement rate of 1.303 to determine the share of originating access charges in the cost of providing relay service. Sources: interstate Telecommunications Relay Services Fund Payment Formula and Fund Size Estimate, CC Docket No. 90-571, NECA, May 1, 2001, Exhibit 1A; Universal Service Monitoring Report, September 2000, FCC, CC Docket No. 98-202, Table 7.15.

The cost of providing IP-Relay therefore involves negligible cost savings and negligible additional costs compared to traditional relay. Therefore, the Commission should reimburse IP-Relay at the rate established for a traditional interstate relay call.<sup>11</sup>

### *IP-Relay Calls Have Identical Usage Characteristics As Traditional Relay*

The demand characteristics of IP-Relay are identical to traditional relay. An IP-Relay call lasts an average of 5 minutes, and takes an average of 2 minutes to set up. These are the same demand characteristics as traditional relay. WorldCom envisions substantial competition for interstate relay minutes once the Commission approves interstate reimbursement for this service. As discussed below, this should have two effects on demand: 1) there will be a substitution of WorldCom's IP-Relay service for traditional relay; and 2) there will be a modest growth in total relay minutes as new users begin using relay for the first time.

### *WorldCom's IP-Relay Service Will Comply With Most Mandatory Minimum Standards*

Because most aspects of WorldCom's IP-Relay service are provided by the same staff and facilities as traditional relay, nearly all aspects of the service will be identical to traditional relay. Thus, WorldCom's IP-Relay service will comply with the Commission's mandatory minimum standards governing communications assistants (CAs), confidentiality and conversation content, in-call replacement of CAs, CA gender preferences, TRS facilities, technology, voice mail and interactive menus, consumer complaint logs, contact persons, public access to information, rates, jurisdictional separation of costs, and complaints. There are a few requirements for which IP-Relay requires either additional time or minor accommodation.

### *Speed of Answer*

Once WorldCom's IP-Relay service has an historic traffic projection we can fully comply with the Commission's average speed of answer (ASA) requirement.<sup>12</sup> In its Improved Services Order the Commission determined that the "clock" measuring ASA begins the moment "...when the relay center's equipment accepts the call from the LEC and the public switched network actually delivers the call to the TRS center."<sup>13</sup> The path of an IP-Relay call is as follows: a caller initiates an internet session by dialing up their internet provider, which then transports the call over the internet via WorldCom's internet gateway, which then hands the call off to WorldCom's

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<sup>11</sup> Even if IP-Relay were significantly less expensive than a traditional text relay call, the Commission should still reimburse at the traditional interstate text relay rate. Doing so would reward relay providers who provide IP-Relay, which in turn would promote a more rapid expansion of this valuable method of accessing relay. This would be akin to the Commission's decision to reimburse new entrants who provide universal services according to the costs associated with incumbent local exchange companies.

<sup>12</sup> 47 C.F.R. §64.604(b)(2).

<sup>13</sup> Improved Services Order at ¶62.

relay center. The ASA requirement would begin at the same time as traditional relay and is measured from the time the call reaches the relay center network not the website. WorldCom's IP-Relay service would technically comply with the Commission's existing ASA requirement.

IP-Relay service has been offered up till now on a trial basis and we do not have minute-to-minute demand information that would permit us to make a rational investment in server and circuit capacity to fully comply with the spirit of the ASA requirement. As our IP-Relay service ramps up to meet increasing demand, WorldCom will be adding more circuits to accommodate the growth in demand. WorldCom commits to anticipate demand and add circuits flowing out of its internet gateway to meet the Commission's ASA as soon as IP-Relay demand growth stabilizes, but no later than one year after it receives approval to be reimbursed from the Interstate TRS Fund.

### Emergency Calls

Another minimum mandatory requirement possibly implicated by IP-Relay is the requirement to use a system that "... automatically and immediately transfers the caller to the nearest Public Service Answering Point (PSAP)."<sup>14</sup> Neither IP-Relay nor cellular calls necessarily transmit accurate originating location information. Consequently, relay providers must query the caller about his or her calling location. WorldCom has developed a national data base that permits a CA to immediately transfer an emergency call to the nearest PSAP, or orally transmit the caller's number once the CA learns the caller's number. WorldCom believes this satisfies the Commission's emergency requirements, given the technical state of cellular and IP technology.

### Voice Carry Over (VCO), Hearing Carry Over (HCO), Speech-to-Speech (STS), and Video Relay Service (VRS)

VCO, HCO, STS, and VRS are all possible if one leg of the call is carried over the internet. WorldCom's IP-Relay service could support all these types of calls. However, internet voice, used by VCO, HCO, and STS do not have the same quality as a traditional VCO, HCO, or STS call. The IP version of these services depends on the quality of voice over the internet. Since voice over IP is still new to the internet, and outside the control of relay providers, it requires some special considerations in the context of relay. The device used to connect to IP-Relay would have to be sound-equipped. The link to the internet would need to be fast and clear. Even with these items in place, the internet can still loose or delay packets and thereby reduce the quality of the voice portion of a relay call. As quality of service (QoS) standards are implemented throughout the internet, improvements will occur in Voice over IP. WorldCom's IP-Relay will be ready to provide these capabilities as voice over IP improves.

VRS is a voluntary service, and WorldCom has provided this service to its relay customers. Video over IP is an exciting advancement in deaf and hard of hearing communication and promises to be the best and cheapest way to provide VRS. Video over the internet suffers from the same things that impact Voice over IP until changes are made in QoS standards

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<sup>14</sup> 47 C.F.R. §64.604(a)(4).

throughout the internet. In the meantime, IP-Relay is working to incorporate VRS according to existing QoS standards, quality of the user's video equipment and the bandwidth of their internet connection.

*WorldCom's IP-Relay Service Will Enhance Consumers' Competitive Choices*

The Commission has recognized that TRS consumers would benefit greatly if TRS providers were to compete directly to carry their calls.<sup>15</sup> With the exception of California, where multiple vendors provide relay services, competition only occurs for the state contract to provide TRS service, and not for each call. The Commission's policy is to promote competition for each TRS call, but the Commission has expressed concern that it may lack the statutory authority to require states to award contracts to multiple vendors.<sup>16</sup> By approving interstate reimbursement for WorldCom's IP-Relay service, the Commission will bring the benefits of competition to deaf and hard of hearing persons, and allow the Commission to fulfill its obligations under the Telecommunications Act of 1996 to promote competition in all communications markets, without imposing new requirements on states.<sup>17</sup> WorldCom's IP-Relay service will provide an immediate, competitive, alternative for any TRS consumer that owns an IP-capable device, such as a computer or personal digital assistant.

Because relay service is price-regulated, competition will primarily take the form of service enhancements. IP-Relay is already a superior form of relay in many cases. A user may hold a relay conversation, surf the web at the same, and discuss web content with a caller. A user may engage in multiple relay conversations or utilize the service in a call-waiting fashion. A user receives a log of his or her conversation, which may facilitate their ability to participate on work-related conference calls. Users will be able to make relay calls from work without them or their employers having to invest in a TTY. In addition, because IP-Relay utilizes personal computer software capabilities, and because the computer industry has already developed many assistive devices, such as large fonts, screen keyboards, word completion programs, augmented communication programs, mouse emulators, mouth sticks, and head pointers, to name a few, IP-Relay will make relay available to persons who are currently unable to read TTY output, or type on a TTY keyboard.

In the future, relay providers will be driven to work with software developers and information service providers to enhance the capability of IP-Relay, and bundle additional services in order to win the users' loyalty. Some relay providers may choose to specialize in certain types of bundled services and capabilities, and customers will be able to choose one relay provider who

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<sup>15</sup>Telecommunications Relay Services and Speech-to-Speech services for Individuals with Hearing and Speech Disabilities, Notice of Proposed Rulemaking, CC Docket 98-67, (rel. May 20, 1998), at ¶65.

<sup>16</sup>Id., at ¶ 66.

<sup>17</sup>See Joint Explanatory Statement of the Committee of Conference, H. Conf. Rep. No. 104-458, 104th Cong., 2d Sess. 1 (1996).

has a comparative advantage for certain services, and then on subsequent calls choose a different provider who has a comparative advantage for other services and capabilities.

*The Benefits of IP-Relay Significantly Outweigh Its Costs*

The conclusion is easily reached that the benefits associated with approving interstate reimbursement for IP-Relay services far outweigh the costs. One possible cost of IP-Relay would result from the shift in demand from traditional relay providers seeking reimbursement from state TRS funds for intrastate calls and from the Interstate TRS Fund for interstate calls, to IP-Relay providers seeking reimbursement solely from the Interstate TRS Fund. This distribution shift would have no net cost impact on consumers. The increase in interstate reimbursement by IP-Relay providers for calls that would otherwise have been reimbursed from the Interstate TRS Fund, would function simply as a shift in competitive choice, and have no impact on the size of the Interstate TRS Fund. The increase in interstate reimbursement by IP-Relay providers for calls that would otherwise have been reimbursed from intrastate TRS funds would also have no net impact on consumers, since this shift would be offset over time by an equal reduction in the size of the various intrastate TRS funds.

Another possible cost resulting from IP-Relay would be a general increase in demand for relay due to the vigorous competition, new services and new communications capabilities IP-Relay will make available to persons with hearing, speech, and visual impairments. This general increase in relay demand will add new costs to relay, and not be offset by a reduction in state relay requirements. Between 1997 and 2000, both costs and demand for interstate relay increased by 9.3 percent per year.<sup>18</sup> Assuming IP-Relay's popularity were to increase the rate of growth in demand, and therefore in cost, by 20 percent above recent growth rates, it would cause an annual increase in cost of approximately 1.9 percent.<sup>19</sup> On a base of \$51 million in interstate relay payment obligations in 2001, a 1.9 percent increase would cost approximately \$1 million. In addition, as discussed immediately below, IP-Relay will make relay available to 2 million persons with hand, hearing, and vision impairments severe enough to prevent their use of TTY-devices, approximately 10 percent of the relay using population. This increase in demand would result in a 10 percent increase in relay costs, an additional \$5.1 million per year. Total estimated increased costs due to approval of IP-Relay is therefore approximately \$6.1 million.

It is admittedly difficult to estimate the benefits of approving IP-Relay. The discussion above identified many potential benefits. Broadly speaking, we can expect IP-Relay will make telecommunication available to severely disabled persons who were unable to use TTY devices, as well as hearing and sight impaired persons who have not learned how to use TTY devices. Persons with vision, hearing, or hand impairments account for approximately 10 percent of the

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<sup>18</sup> Interstate Telecommunications Relay Services Fund Payment Formula and Fund Size Estimate, National Exchange Carrier Association, Inc., CC Docket 90-571, filed May 1, 2001, Exhibit 2.

<sup>19</sup>  $1.2 \times 9.3 = 11.16$ .

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adult U.S. population, approximately 20 million persons.<sup>20</sup> Severely disabled persons account for approximately 47 percent of all disabled, meaning 9 million U.S. adults have severe enough vision, hearing or hand impairments that they might not have access to a TTY device.<sup>21</sup> Approximately 20 percent of persons with disabilities have internet access, so IP-Relay would make communication available to 20 percent of the 9 million U.S. adults with severe enough vision, hearing or hand impairments that they might not have access to a TTY device – nearly 2 million persons. This would put the cost of IP-Relay at \$3 per additional person served per year.<sup>22</sup>

The population in general places a value on long distance communication far in excess of \$3 per year. The average annual expenditure for residential long distance bill was approximately \$270 in 1998.<sup>23</sup> Assuming persons with hearing and speech disabilities currently unable to use TTY-devices value communications the same as the general population, they would be willing to pay \$270 a year, but it would only cost an additional \$3 to provide IP-Relay service to this population. This analysis shows that IP-Relay would be socially justified even if the social cost of providing IP-Relay is understated by a factor of 90. When one factors in the additional benefits to non-severely disabled persons also discussed in this letter, it is reasonable to conclude that the social benefits of funding IP-Relay through the Interstate TRS Fund far outweigh the costs.

I hope this letter has provided the answers that will permit you to quickly consider our Petition for Clarification. Please feel free to contact me for additional information at 202-736-6513.

Sincerely

Larry Fenster

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<sup>20</sup> Falling Through The Net: Towards Digital Inclusion, U.S. Department of Commerce, Economics and Statistics Administration, National Telecommunications and Information Administration, Table III-1.

<sup>21</sup> Chartbook on Work and Disability in the United States, InfoUse, Susan Stoddard et. al., Berkeley, Ca., 1998, Figure 1.

<sup>22</sup> \$6.1 million in incremental IP-Relay Cost ÷ 2 million severely hand, vision, and hearing impaired persons with internet access.

<sup>23</sup> Reference Book of Rates, Prices, Indices, and Expenditures for Telephone Service, Phil Chielik, FCC, June 1999, Table 3.6.