BEFORE THE
WASHINGTON UTILITIES AND TRANSPORATION COMMISSION

In the Matter of the Review of:	**)**	
Unbundled Loop and Switching Rates;	**)**	
the Deaveraged Zone Rate Structure; and	**)**	
Unbundled Network Elements,	**)**	**DOCKET NO. UT–023003**
Transport, and Termination	**)**	
	)	
	)	

JOINT REBUTTAL TESTIMONY OF

JOSEPH GILLAN

AND

RICHARD CHANDLER

ON BEHALF OF

AT&T COMMUNICATIONS OF THE PACIFIC NORTHWEST, INC., AND WORLDCOM, INC.

April 20, 2004

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Q. Please state your names, business addresses and occupations.

A. Our names are Joseph Gillan and Richard Chandler. Mr. Gillan's business address is P.O. Box 541038, Orlando, Florida 32854. Mr. Gillan is an economist with a consulting practice specializing in telecommunications. Mr. Chandler is a Senior Vice President of HAI Consulting, Inc., with a business address of 1355 S. Boulder Road, #184, Louisville, Colorado 80027.

Q. On whose behalf are you testifying?

A. We are testifying on behalf of AT&T Communications of the Pacific Northwest, Inc. ("AT&T") and WorldCom, Inc ("MCI"). We previously filed direct testimony on behalf of these companies in this proceeding.

Q. What is the purpose of your testimony?

A. The purpose of our testimony is to respond to the testimony filed by Verizon Northwest Inc. ("Verizon") on unbundled local switching and to recommend that the Commission establish a flat-rate rate for unbundled switching of $2.81 per analog switch port for Verizon. In support of our recommended rate, in the testimony below we explain that:

* Verizon's cost models are neither open nor transparent and, therefore, can neither be *validated* as to the level of investment they produce, nor can they be *corrected* to remove the usage-bias inherent in the models used;

* Because of these (and other) deficiencies in the Verizon cost models, the Commission should adopt a flat-rate charge for unbundled local switching produced by the HAI model; and

* The rate that we propose compares favorably to rates established by other state commissions and by the Federal Communications Commission ("FCC"), thereby providing additional support as to the reasonableness of our proposed rate and the superiority of a flat-rate structure.

As we explained in our direct testimony, the principal reform needed in the pricing of unbundled local switching is to eliminate the anachronistic usage rate that represents legacy pricing and engineering considerations that are no longer relevant. In the time since we filed our direct testimony (June 2003), the FCC adopted a flat-rate charge in the arbitration between Verizon and AT&T and other parties for the state of Virginia ("Virginia Arbitration"), adding its national

endorsement to the pricing reform of a number of state commissions.[1] The Washington Commission should join these states and the FCC in reforming the pricing of unbundled local switching.

Q. Please describe the basic model components used in the VzCost switching analysis.

A. VzCost uses Telcordia's SCIS (Switching Cost Information System) to produce investments in Lucent 5ESS and Nortel DMS-family switching equipment. Verizon also uses its COSTMOD to calculate GTD-5 host and remote investment. Outputs of these tools, along with ancillary files defining demand and other parameters, then feed Verizon's Switching Container program, which in turn produces "Investment Elements" for use by VzCost. VzCost yields the final switching cost results.

Q. Is it possible to obtain verifiable forward-looking switching costs from the switching components of VzCost?

A. No, it is not. First, the calculations in the various model components used to produce switching cost are not readily visible, essentially making it impossible to verify either the methods used to compute investment and cost or the correctness

[1] As we explained in our direct testimony, the states of Illinois, Wisconsin, Indiana, Minnesota and Utah have adopted a flat-rate structure for unbundled local switching.

of the formulas that constitute these methods. Second, the switching sections of VzCost itself are designed to produce a nonzero end office switching usage cost, which is demonstrably not a forward-looking result. Third, the final usage result includes not only switching-related costs, but transport and signaling costs as well.

Q. Has Verizon provided complete documentation, including source code, for the VzCost switching components?

A. No. AT&T requested complete documentation from Verizon on all programs used in connection with VzCost, including the source code for the SCIS modules, to allow us to verify the internal calculations and algorithms. Although asked for this information in a data request transmitted in December, 2003, Verizon has not provided any documentation on SCIS and has ignored subsequent inquiries from counsel requesting a full response to this data request. Accordingly, we have been unable to review, much less verify, any of the internal calculations or algorithms on which Verizon bases its switching cost estimates.

Q. Why do you state that a nonzero end office switching usage cost is not forward-looking?

A. As we explained in our direct testimony, forward-looking switches (such as recent models of the 5ESS and DMS families) do not exhaust either processor or switching capacity and are effectively limited by the number of physical port connections that they serve. This basic characteristic is not reflected in the costing approach of either SCIS or VzCost, which are explicitly designed to produce usage-sensitive rates, despite the fact that Verizon *itself* has testified to these same characteristics (as we noted in our direct testimony):

> Modern digital switches are designed to be port-limited. That is, enough switch fabric and processor capability is provided so that the normal peak call usage from the anticipated number of working ports, of all types on the switch, can be served within acceptable blocking criteria.... Put another way, there are enough usage-sensitive switch resources (but no more than are necessary) to handle all the minutes of use that the ports are forecasted to deliver in the normal peak period.[2]

Q. What is the basis for your statement that VzCost is designed to produce a usage-sensitive end office switching charge?

A. VzCost is clearly designed under the assumption that end office switching must have a nonzero usage cost. The model builds from the usage-bias in SCIS (and COSTMOD) that was created with the express purpose of producing a usage sensitive charge,[3] and adds to them host/remote umbilical investments and certain

[2] Testimony of J. Gansert, NYNEX, New York Case 95-C-0657, 94-C-0095 and 91-C-1174 consolidated, page 24.

[3] See Gillan-Chandler Joint Direct Testimony, Section II, pages 5 through 8, for an explanation of the usage-bias programmed into the SCIS model.

signaling-related investments to obtain a usage cost expressed per minute of use. Moreover, even if the traffic-sensitive switching investments are removed, VzCost produces a nonzero end office switching usage cost because of the contributions from the umbilical and signaling investments.

Q. What is an "umbilical?"

A. An umbilical connection is a transmission facility that connects a remote switch to its host. The umbilical capacity includes channels for control information used by the host/remote system for aspects of call processing, and it also includes traffic-engineered trunks used to connect users served by the remote to the rest of the switched network, including the host itself.

Q. Does the host machine "switch" all calls placed by subscribers served by its remotes?

A. No. All calls between subscribers served by a remote are normally switched locally by the remote. The host may be involved in some of the call processing, but line-to-line calls between subscribers served by the same remote are not switched by the host. Calls between lines served by the remote and lines served by other switches, including the host, are switched by the remote to an umbilical trunk, transported to the host over an umbilical trunk, and switched by the host either to a line served by the host or to a trunk connection to another switch.

Q. Why shouldn't the entire umbilical costs be explicitly considered switching costs?

A. Umbilical costs represent transport as well as switching-related costs. Only the portion of the umbilical investment that is associated with the control connection between the remote and its host is properly associated with switching. This capacity typically is equivalent to one or two DS-0s out of possibly many DS-1s. The remaining umbilical investment, which is associated with the trunks carrying subscriber traffic between the host and the remote, should be classified as shared transport. This assignment of investment should be made by VzCost, but it clearly is not.

Q. Is it possible to manipulate VzCost and its associated tools to correct for its usage-bias and produce a cost-based flat rate?

A. No, not without a heroic effort to eliminate the umbilical and signaling components used in VzCost's overall calculation of end office usage. Without access to the underlying calculations, it is impossible to tell whether just "zeroing out" the offending components would affect the calculation of shared and other costs that might affect other UNEs.

Moreover, what review is possible of VzCost's treatment of umbilical costs makes clear that the model dramatically overstates those costs by failing to consistently scale umbilical capacity using the correct measure of capacity. According to the Excel workbook "WA Specific Study Data.xls" as supplied by Verizon, the host/remote configurations model by VzCost require 1,175 umbilical DS-1s. The umbilical investment used by VzCost, however, assumes 28,200 umbilical DS-1s. This value is exactly the product of 24 and 1175, suggesting that VzCost has converted its umbilical DS-1s to DS-0s, but without reducing the cost per circuit from a cost per DS-1 to a cost per DS-0. The overall umbilical investment this error produces is over $101 million. This is nearly as much as the total VzCost end office switching investment, about $121 million.

Q. Do the VzCost switching components produce reasonable quantities of trunks?

A. No. The SCIS input assumptions for trunk occupancy, for example, lead to a severely over-engineered network. The 5ESS and DMS trunk inputs as populated by Verizon are set at 18 CCS per trunk. This is unrealistically low. Even for trunk groups containing as few as twenty trunks, this assumption leads to blocking levels of about 0.2%. For larger trunk groups, the blocking level will be even lower. The effect of this over-engineering is an increase in both switching and transport cost.

Q. Is the overall end office investment total used in VzCost a reasonable total?

A. No. The end office investment used in VzCost is effectively about **BEGIN PROPRIETARY** << >> **END PROPRIETARY**. This is considerably more than the $110 per line produced by HM5.3 for Verizon-NW, which itself is a conservative value, and it is far more than anecdotal evidence obtained from Verizon's document production regarding its own switching investments.

Q. Can you give an example of Verizon's end office investments?

A. Yes. Based on third party proprietary contracts provided by Verizon through discovery, Bell Atlantic paid **BEGIN PROPRIETARY** << >> **END PROPRIETARY**. The prices that Bell Atlantic paid are typical of what we have seen for end office switching elsewhere, and, if anything, are higher than what one would expect current prices to be, given that circuit switching prices generally are declining. Indeed, five years ago, Verizon testified to the New York Commission that switching prices were declining radically because vendors did not expect it to actually purchase additional switching:

> Because the suppliers know that BA-NY has no need to purchase new digital switches now or in the future, the supplier has every

> incentive to provide unrealistically high discounts to create goodwill with the buyer.[4]

Q. VzCost also produces usage-based feature costs. Is this a correct forward-looking result?

A. No. Because current switches do not exhaust processor real-time capacity, there should be no usage-based feature cost. Any such cost should be recovered through a per-line monthly flat rate. Verizon has admitted as much in testimony in New York where, in removing feature costs from the reciprocal compensation rate, the company acknowledged such costs are not usage-sensitive:

> The removal of feature costs from reciprocal compensation rates is not based on whether different costs are incurred in routing one call vs. another [i.e., a standard call or reciprocal compensation call]; rather, it is based on how the fixed costs of providing a feature should be allocated. The issue is not whether terminating a reciprocal compensation minute has a greater or lesser effect on total feature costs than terminating a UNE minute. *In fact, neither [local switching] termination function has any marginal effect on feature cost, that, generally speaking, are fixed with respect to usage*.[5]

Q. What rate do you recommend?

A. We recommend that the Commission adopt the $2.81 charge per analog switch port developed by the HM 5.3 model as sponsored by Robert Mercer.

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[4] Verizon Panel DirectTestimony, Case No. 98-C-1357, page 225.

Q. How does this rate compare to flat-rate charges established by other Commission's?

A. The table below compares the flat-rate we recommend here to the rates established by the other commissions in similar proceedings. As we indicated earlier, since we filed our direct testimony, the FCC has also addressed whether the appropriate rate structure for unbundled local switching should be a flat-rate and concluded that such a structure is appropriate. The relevant pages of the Virginia Arbitration addressing the rate structure issue are attached and address many of the same issues that we have addressed in our direct and rebuttal testimonies.

Table 1: Comparison of Flat Local Switching Rates

State	Flat-Rate	Docket	Date
Illinois	$2.18	No. 00-0700	July 10, 2002
Indiana	$2.98	No. 40611-S1	March 28, 2002
Wisconsin	$2.83	No. 6720-TI-161	March 22, 2002
Utah	$3.55	No. 01-049-85	November 17, 2003
Minnesota	$3.12	P-421/CI-01-1375	March 24, 2003
Virginia (FCC)	$2.83	CC Dockets 00-218 & 00-251	August 29, 2003

As Table 1 above shows, the proposed rate of $2.81 compares favorably with the rates established by other state commissions and by the FCC. In contrast, we estimate an average charge of $13.34 per month assuming the average usage suggested by the Verizon cost analysis,[6] or $17.28 based on the average usage that

[5] BA-NY Response to ATT-BA-253, Case No. 98-C-1357 (emphasis added).

[6] This estimate adopts the unreasonable assumption that no features are purchased with the

Verizon reports in ARMIS (see below). These comparisons provide additional confidence that the results produced by HAI are reasonable and should be adopted, while the Verizon proposal is excessive on its face.

Q. Does a flat-rate local switching charge also provide greater revenue stability?

A. Yes. One of the many problems with adopting an artificial usage rate is that as usage varies, so too will the incumbent's revenue. We estimate that the average use per line used by Verizon in its cost study is approximately 2,000 minutes per line. Verizon-Washington's ARMIS filing for 2003, however, suggests that the average usage per line is closer to 2,900 minutes per line[7] – which, in combination with its unreasonable usage rate, would produce an *over*-recovery of local switching costs by approximately 45% (even accepting, solely for the purpose of this calculation, Verizon's switching investment claim as accurate). Of course, if there were a sudden decline in average usage, Verizon's reliance on a usage-rate would produce a similarly inappropriate loss in revenues.[8] The best way to match cost incurrence with cost recovery is through a flat-rate per line.

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port. Because competitive products generally offer customers reduced prices for features, or include features as a part of the product, this assumption means that the estimate monthly charge is lower than would actually occur (but only if the Commission were to adopt Verizon's inflated proposed rates).

[7] Source: Dial Equipment Minutes (ARMIS 43-04) divided by Total Switched Access Lines (ARMIS 43-08).

[8] We note, however, that ARMIS indicates that usage per line has increased steadily for the past eight years in the territory of Verizon-Washington.

Q. Does this conclude your testimony?

A. Yes.