**COMMONWEALTH OF MASSACHUSETTS**
**DEPARTMENT OF TELECOMMUNICATIONS AND CABLE**

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|---|---|---|
| **PETITION OF CHOICE ONE COMMUNICATIONS** | **)** | |
| **OF MASSACHUSETTS INC., CONVERSENT** | **)** | |
| **COMMUNICATIONS OF MASSACHUSETTS INC.,** | **)** | |
| **CTC COMMUNICATIONS CORP. AND LIGHTSHIP** | **)** | **D.T.C. 10-2** |
| **TELECOM LLC FOR EXEMPTION FROM PRICE CAP** | **)** | |
| **ON INTRASTATE SWITCHED ACCESS RATES** | **)** | |
| **AS ESTABLISHED IN D.T.C. 07-9** | **)** | |

**PRE-FILED**

**REPLY PANEL TESTIMONY OF**

**E. CHRISTOPHER NURSE**

**AND**

**DR. OLA A. OYEFUSI**

**ON BEHALF OF**

**AT&T COMMUNICATIONS, INC.**

***** PUBLIC VERSION *****

**January 10, 2011**

**Q: ARE YOU THE SAME DR. OLA OYEFUSI AND MR. E. CHRISTOPHER NURSE WHO PREVIOUSLY SUBMITTED WRITTEN REBUTTAL TESTIMONY IN THIS PROCEEDING?**

A: Yes.

**Q: WHAT IS THE PURPOSE OF YOUR REPLY TESTIMONY?**

A: To reply to new arguments raised by OneComm's witnesses for the first time in its rebuttal testimony submitted on December 15, 2010. This testimony is filed pursuant to the Hearing Officer's order. Specifically, we will address:

(1) OneComm's new argument about the alleged ability of interexchange carriers ("IXCs") to bypass OneComm's switched access service by using special access service instead;

(2) OneComm's new argument that its non-switched, collocation/loop concentration to switch network architecture is somehow analogous to Verizon's host switch to remote switch network architecture; and

(3) Certain of OneComm's revisions to its cost study.

## A. <u>If the Availability of Special Access Service Disciplined OneComm's Intrastate Switched Access Rates, This Case, and Likely All Access Cases, Would Have Been Completely Unnecessary</u>

**Q: DR. ANKUM CLAIMS THAT INTEREXCHANGE CARRIERS (IXCS) HAVE THE ABILITY TO EASILY BYPASS ONECOMM'S SWITCHED ACCESS NETWORK USING SPECIAL ACCESS IF ONECOMM RAISES ITS SWITCHED ACCESS RATES TOO HIGH.[1] WERE YOU SURPRISED TO SEE THIS CLAIM IN THE REBUTTAL ROUND?**

A: Yes. Dr. Ankum previously made this argument in other states such as in Illinois and New Jersey,[2] and certainly he had it on the shelf ready for Massachusetts. When he did

[1] Ankum Rebuttal Testimony at 26-30.

[2] *See, e.g.*, Rebuttal Testimony of Dr. August H. Ankum on Behalf of McLeodUSA Telecommunications Services, Inc. d/b/a PAETEC Business Services, *In the Matter of Illinois Commerce Commission On its Own Motion vs. McLeodUSA Telecommunications Services, Inc. d/b/a PAETEC Business Services; Investigation into whether*

not raise it in direct testimony we assumed he had dropped it. The special access bypass theory is not a new one, but it has yet to convince the FCC or any other state to remove limitations on CLEC's switched access rates. Instead over half the states have undertaken some substantial, prescriptive access reform, whether regulatory or legislative.

**Q: DO YOU AGREE WITH DR. ANKUM'S BYPASS ARGUMENT?**

A: Absolutely not, for several straightforward reasons.

First, the proposal is absurd. If special access effectively disciplined switched access, then this case, similar cases, and legislation across the country to lower or cap switched access rates would have been completely unnecessary. Likewise, under Dr. Ankum's theory the decades-long work of the FCC to lower interstate switched access rates apparently was a needless waste of time.

Second, special access service has been around for decades. Consequently, any end-users for whom special access actually provided a viable economic means to bypass switched access have presumably *already* switched to special access. This case is about all the rest of the end users in Massachusetts who use switched access. This is still the vast bulk of all end users, for whom special access is not a viable option.

Third, if special access actually were an effective market disciplining force over switched access, then OneComm's prior above cost in-state access rates would have been unsustainable, yet they were not. By its own admission, OneComm's prior switched access average composite rate was 4.83¢ per minute yet OneComm only claims a purported cost of **[BEGIN CONFIDENTIAL INFORMATION] **** [END**

**CONFIDENTIAL INFORMATION]** per minute.[3] If OneComm's prior above-cost rates had been disciplined by special access, OneComm could not have sustainably charged such supra-competitive, above-cost rates. Likewise, if Dr. Ankum's theory had any merit, it would have been unnecessary for the Department to reform Verizon's switched access rates years ago (or for the FCC to cap interstate switched access rates), since special access rates purportedly would have meaningfully disciplined switched access rates.

**Q: HOW DOES DR. ANKUM SEEK TO USE THE SPECIAL ACCESS BYPASS ARGUMENT TO CLOUD THE RECORD IN THIS CASE?**

A: It is well understood that special access bypass is a *possibility* for only a portion of the access traffic to/from large concentrated customers with high volumes of traffic and special premises equipment, *i.e.*, it is only viable for customers with sufficient long-distance traffic to justify the cost of a T-1 special access circuit and who already have a PBX or similar premise equipment capable of terminating a T-1 circuit. That possibility exists only in limited circumstances and only for certain types of customers, typically larger business customers. Moreover, if special access bypass were economic for those large customers, the competitive market would have driven them to do it already.

It is also important to remember that even an end user that buys some special access may not use it for all of its traffic, or even all of the long-distance traffic to that customer. For example, a typical high-capacity application that would already be provisioned with special access might be a larger bank or brokerage that buys local lines from OneComm and routes its local service to OneComm, and buys a special access T-1 circuit from OneComm and connects it to its PBX premises equipment so as to route the

[3] Webber Direct at 53.

customer's long-distance traffic to, say, Sprint. When an AT&T long-distance customer calls the bank or brokerage firm, those calls are not going to route over Sprint's T-1 special access circuit, but rather are going to trigger switched access charges from OneComm. In order for all carriers to avoid overpriced switched access, all carriers would have to buy special access circuits to all customers in the state—an impossible proposition.

**Q: WHAT OTHER FACTORS SHOW THAT SPECIAL ACCESS BYPASS OF ONECOMM'S NETWORK DOES NOT EFFECTIVELY CONSTRAIN ONECOMM'S SWITCHED ACCESS RATES, ESPECIALLY FOR CONSUMERS?**

A: Several additional factors prevent special access bypass from allegedly constraining OneComm's market power with respect to switched access. For example:

- It is the end user, not AT&T or any IXC, that decides whether to use special access or switched access, so no IXC can force any end user to use special access bypass, even if it would benefit that end user. In other words, the IXCs have no power to decide whether, when, and by whom special access bypass might be used, and thus have very limited power of their own to avoid excessive OneComm switched access rates.

- If one IXC employs special access bypass to a customer, that only benefits that single IXC, presumably the customer that selected the IXC for outbound (*e.g.*, telemarketing) or inbound (800 toll-free) long distance service, but it is not available for terminating access for other toll carriers terminating traffic to that customer.

- Special access service arrangements involve lead time, significant installation charges, and stranded investment risks not applicable to switched access. Switched access is *inherently* provisioned *concurrently* with the installation of the underlying local exchange service. Switched access can be efficiently, seamlessly reassigned from one IXC to another IXC, typically overnight, for a nominal $5 fee. In contrast, special access service must be ordered on a customer-specific basis, is subject to the availability of spare capacity, and is subject to "held for [availability of outside plant] facilities" when such capacity is not available. Because there are upfront installation and other non-recurring expenses associated with special access, its use is typically associated with term contracts sufficient to amortize the non-recurring charges. Month-to-month long-

distance consumers would not be compelled to enter term contracts or face substantial termination fees.

- Special access service could only be economic for an end user above certain high traffic volumes, such that the savings from special access rates would justify the additional costs of establishing special access. No additional degree of market discipline can reasonably be expected from special access.

- Because special access service avoids OneComm's switch, it requires the end user to purchase a PBX switch or some other customer premises equipment (CPE) that has dial tone, ringing voltage and other functionality that the customer currently gets from OneComm's network. Residential and most smaller business end users do not otherwise have a need for this type of termination equipment.

- Special access also requires the end user to purchase a DS1 special access circuit to connect the end user's CPE to the switch at the IXC point of presence (or else pay a fee for a customized service).[4] A DS1 circuit obviously is different from and many times more expensive than a DS0 or voice grade circuit like what Dr. Ankum used in his "breakeven" analysis. In fact, the same Verizon access tariff that Dr. Ankum referenced indicates a DS-1 channel termination rate of $100 per month, which is five times more expensive than a DS-0 channel termination, *i.e.*, it precludes its applicability to the residential and small business market.[5]

- Dr. Ankum's proposal is textbook "uneconomic bypass." The special access bypass Dr. Ankum calls for would cause the switched access service facilities to be stranded and of no productive economic value. This represents inefficiency and a loss to society. The incremental cost of switched access usage is less than a half penny per minute of use. So a customer with 200 in-state minutes of toll usage would cause an underlying intrastate access bill of about one dollar under the Department's cap. Clearly, low usage customers cannot overcome the non-recurring and high monthly recurring charges associated with special access. High usage business customers who can deploy special access under this scenario do so in response to the distorted retail prices, rather than in response to the underlying economic costs.

[4] In most cases, the interface at the 4ESS switch in the IXC's POP must be compatible with the CPE at the end user's location. For example, there cannot be a connection lower than the T1 grade at the IXC POP, therefore the voice grade channel termination that Dr. Ankum incorrectly assumes will require additional facilities and configuration, which makes bypass even more difficult than he suggests. *See* Newton's Telecom Dictionary, 24th Expanded and Upgraded Edition, at 234.

[5] For example, consider a small business customer, like a small real estate office, with 5 business exchange lines, with a simple "key" or push button phone system. Today all 5 of the lines could simultaneously make or receive a long distance call. Under Dr. Ankum's proposal unless the real estate office buys a DS1 special access circuit simultaneous long-distance calling using special access would not be possible.

**Q: DR. ANKUM PRESENTS A "BREAKEVEN" ANALYSIS WHICH PROJECTS THAT THE RELEVANT BREAKEVEN THRESHOLD TO SUBSTITUTE SPECIAL ACCESS BYPASS IS AT "A 27 MINUTES A DAY."[6] IS HIS ANALYSIS ACCURATE?**

A: No. Dr. Ankum's breakeven "analysis" grossly understates the relevant threshold call volumes at which any end user may be able to bypass OneComm's switched access facilities. His analysis suggests, erroneously, that the crossover point from switched access to special access (*i.e.* where bypass could occur) would cost as little as $18.23 per month (*i.e.*, the cost of a DS-0 local channel termination), and that all AT&T must do is buy this local channel termination and it can easily bypass OneComm's network, even at allegedly low traffic volumes. Dr. Ankum is wrong. He suggests that AT&T could use the DS-0 "channel termination to connect an IXC point of presence directly to an end user, thus avoiding One Communications's access charges."[7] The Department can dismiss this analysis based on Dr. Ankum's own statement in footnote 3 of Exhibit AA3, which states that:

> *there may be costs in addition to the channel termination*, but the point is that One Communications proposed access rate is very reasonable when compared to the IXC's alternative. For larger business customers the IXC can purchase DS1 or DS3 channel terminations which are more likely to be economical for high volume users.[8]

Dr. Ankum thus admits that his "breakeven" analysis does not include all the relevant costs, and in fact his suggestion that a customer can connect directly to an IXC switch with a DS-0 channel termination is wrong.[9] Dr. Ankum failed to identify these additional costs and he did not investigate whether those costs are material to the analysis such that his conclusion can be significantly altered. In addition, Dr. Ankum does not

[6] Ankum Rebuttal, Exhibit AA3.
[7] *Id*.
[8] *Id*. (emphasis added).
[9] Such direct connection generally is only technically feasible at DS-1 or higher.

identify what portion of the market is addressed above his purported breakeven point. Moreover, nearly 14 hours of in-state long distance calling per line per month is a high usage level, particularly for residential consumers.

**Q: DR. ANKUM CLAIMS ACADEMIC RESEARCH PURPORTEDLY SUPPORTS HIS CONCLUSION THAT SPECIAL ACCESS BYPASS IS VIABLE AT ALLEGEDLY LOW CALL VOLUMES.[10] HAS HE REASONABLY CHARACTERIZED THE REFERENCED ARTICLE?**

A: No. The article actually contradicts Dr. Ankum's new theory. Any claim that the Parsons and Ward article proves empirically the traffic threshold at which a bypass will occur is wrong. The purpose of the study was clearly defined by the authors as an attempt to empirically measure the amount of elasticity to support a concept, which had been established in other studies before their own, "that switched and special access are reasonably close substitutes in factor demand for long distance companies …."[11]

Although the Parsons and Ward article supports the concept of switched-special substitutability at some sufficiently high traffic volume (which is not in dispute in the case), it does not provide any empirical support for Dr. Ankum's claim that bypass is viable at allegedly low call volumes or any other level in particular. In fact, the authors' academic position is in contrast with Dr. Ankum regarding the level at which bypass will occur. They seem to believe substitutability is possible "particularly for the provision of service to *large and geographically concentrated end users*,"[12] not small, dispersed end users. The Parsons and Ward article stands for the opposite of what Dr. Ankum suggests. Instead, the Parsons and Ward article stands for the proposition that customers for whom

[10] Ankum Rebuttal at 27.
[11] Steve Parsons and Michael R. Ward, "Factor Substitution In Long-Distance Telecommunications," 62 Southern Economic Journal 406, 1995. Specifically, they stated that: "despite the "conventional wisdom" in the telecommunications industry about the substitutability of switched and special access and a relatively large literature on "bypass," the literature contains no estimates of either the cross-price elasticity or the elasticity of substitution between switched and special access/bypass. ***This article attempts to fill this gap.***" (emphasis added).
[12] *Id.* (emphasis added).

substitution is economically rational have thereby already become special access customers, *i.e.*, those customers are not affected by this case and their traffic is outside the scope of this case, because they do not use switched access.

### B. OneComm's Network Does Not and Cannot Include Any Host-Remote Switching Configuration OneComm's Collocation Sites.

**Q: DR. ANKUM CLAIMS THAT ONECOMM'S NETWORK CONFIGURATION IS ANALOGOUS TO VERIZON'S HOST-REMOTE CONFIGURATION.[13] DO YOU AGREE?**

A: No. In Verizon central offices where OneComm is collocated, Verizon has a switch, but OneComm does not have a switch because it is barred from collocating switching.

**Q: PLEASE EXPLAIN.**

A: Verizon uses host-remote switching arrangements.[14] A host/remote switching arrangement has a host switch in one central office and associated remote switch(es) in another central office in the LEC's territory.[15] For example, Verizon has about 273 host or remote switches in 273 central offices in Massachusetts. In contrast, OneComm only has **[BEGIN CONFIDENTIAL INFORMATION] ******** [END CONFIDENTIAL INFORMATION]** switches, ***none*** of which is in a Verizon central office. OneComm's cost study indicates it only has **[BEGIN CONFIDENTIAL INFORMATION] **********[16] [END CONFIDENTIAL**

[13] Ankum Rebuttal at 75-77; Webber Rebuttal at 14-21.

[14] Telephone switches are listed in the *Local Exchange Routing Guide* (LERG), so that carriers know how and where to route traffic to each other. Verizon's host and remote switches are listed in the LERG. OneComm has no collocated remote switches listed in the LERG. Simply put, a "CLEC collocated switch" does not exist.

[15] A host-remote switching system is a configuration where the end user subtends a remote switching end office that does not have its own processing capabilities. In this scenario, the remote switch provides switching capability while the host switch, which is located in another office away from the remote switch, provides the processing functions. *See* Newton's Telecom Dictionary, 24th Updated and Expanded Edition, pp. 466, 781, 782

[16] OneComm has more collocation arrangements than aggregation nodes **[BEGIN CONFIDENTIAL INFORMATION] ********** [END CONFIDENTIAL INFORMATION]** representing an embedded inefficiency, in part related to corporate mergers and acquisitions.

**INFORMATION]**, *none* of which contains switching equipment.[17] In fact, Dr. Ankum protests loudly that CLECs are legally precluded from installing switching equipment in such collocation arrangements.[18] It is incredible that Dr. Ankum can recognize that CLECs are legally precluded from collocating switching equipment, and then turn around in that same testimony and claim that CLECs should be treated as if they did actually collocate switching. Rather, the OneComm's collocation sites contain merely aggregation equipment, which perform loop functions, not switching functions. Whether loop concentration equipment is located outdoors or indoors does not change its purpose.[19]

**Q: HOW IS THE TRAFFIC FLOW DIFFERENT IN A TRUE HOST-REMOTE SWITCHING ARRANGEMENT THAN IN ONECOMM'S NETWORK?**

A: The engineering economics of a standalone, a host, or a remote switch is similar to a classic lease/buy analysis. Usually, a carrier would not build an entire network as host-remote, but would seek to optimize the switching investment, given the technology available at the time. When a host-remote switching configuration is installed it is often used in circumstances when it is not economical to deploy a full standalone switch for the few end users at a remote location, so a less expensive/more economical remote switch is deployed in the smaller remote central office. Therefore, only a fraction, not the entirety, of the carrier's traffic can reasonably be deemed to traverse the remote switches subtending the host-remote combination. Dr. Ankum, however, is suggesting that *100 percent* of OneComm's traffic should be treated as if it traverses a host-remote switching

[17] Since the loop runs from the customer premises to the first point of switching, it is convenient for Dr. Ankum to attempt to argue that the first point of switching takes place in the collocation, because then the network from the collocation forward to the real OneComm switch is purportedly transport instead of merely additional loop length. But CLECs do not have switches in their collocation arrangements.
[18] See Ankum Rebuttal at 59-60.
[19] See AT&T Panel Reply Exhibit 1 (OneComm's network diagram).

system, even though OneComm has not deployed any remote switch. This is a naked attempted to turn the exception into the rule, and misapply host-remote rates to OneComm's standalone switching architecture.

### C. OneComm's Cost Study Revisions Are Flawed

**Q: WHAT IS THE PURPOSE OF THIS PART OF YOUR REPLY TESTIMONY?**

A: In its rebuttal testimonies, OneComm filed substantial revisions to its cost model and substantially changed the methodology used to develop certain inputs. The new model contains the same errors that were in the initial model, and the selective changes made by OneComm have the effect of materially increasing the unit cost which OneComm purports is the incremental cost of its switched access service in Massachusetts. Rather than address all changes, we will only discuss those that have the largest impact on unit cost.

First, OneComm claims it "discovered" that the number of DS0s and DS1s in the aggregation module was excessive.[20] OneComm then changed the data for DS0 and DS1 counts in the Network Element Database and Aggregation modules.

Second, OneComm adjusted the voice/data allocation percentages. This change has the effect of shifting more network costs to voice service (which includes switched access) and less to data services.[21] The new percentage purports to rely on a new special study, a new review of actual data on all of OneComm offices, while the old percentage relied on "a representative central office set up in Springfield."

**Q: PLEASE RESPOND TO THE CHANGES IN DS0 AND DS1 COUNTS.**

[20] See Webber Rebuttal at 10.
[21] See Webber Rebuttal at 6-10.

A: While it claims to have corrected the excessive DS0 and DS1 data in the aggregation module, OneComm failed to also update the DS3 counts, which must also be reduced along with the DS0 and DS1 counts. Lowering the modeled DS3 counts is necessary because OneComm's changes have reduced the aggregation equipment to which it will connect. A lower modeled DS3 count would lower the cost for switching equipment investment and thus lower the trunk-to-trunk module costs.

**Q: PLEASE RESPOND TO ONECOMM'S CHANGES TO THE VOICE/DATA ALLOCATION PERCENTAGES.**

**A:** As noted above, OneComm used new data from a new special analysis in its rebuttal testimony to compute new voice/data allocation percentages, which led to higher alleged costs. AT&T did not have access to these data because the analysis was not yet conducted when OneComm filed their direct case. Using the new circuit inventory data that OneComm relied on in its rebuttal testimony, AT&T has recalculated the voice/data percentages to be **[BEGIN CONFIDENTIAL INFORMATION] ********** [END CONFIDENTIAL INFORMATION]** respectively, using active DS0, DS1 and DS3 counts from the circuit inventory contained within NUCA's Aggregation module. Specifically, combined DS0 and DS1 (on a DS0 equivalent basis) counts were reasonably estimated to represent the voice portion of the allocation whereas DS3 (on a DS0 equivalent basis) the data portion. This new voice percentage figure is used in our updated adjustment of OneComm revised model which we discuss below.[22] The OneComm voice/data allocation process is flawed because it is wrong to treat voice and data ports the same as if the circuits carrying the traffic have the same capacity and costs.

[22] This is still a conservative estimate that assigns more cost to voice than necessary, because some of the DS-1 links are likely to be dedicated for data service. Since there is not enough information to determine the actual DS-1 split, however, we have assigned all the DS-1 counts to voice.

Since the purpose of the factors is to allocate network costs, it is more reasonable to use an allocation method that reflects the capacity of each type of service and assign costs according to the relative strain each service puts on the network to reflect cost causation.

**Q: PLEASE SUMMARIZE YOUR ADJUSTMENTS TO ONECOMM'S REVISED COST STUDY.**

A: OneComm's revised cost study contains the same flaws that we found in the originally filed model, and that we discussed in our direct testimony[23] plus the additional corrections to the two changes we discuss above. The effect of making these two additional changes[24] shows that the correctly calculated switched access cost for OneComm cannot be higher than **[BEGIN CONFIDENTIAL INFORMATION] ****** [END CONFIDENTIAL INFORMATION]** per minute. This is reflected in the attached AT&T Panel Reply Exhibit 2.[25] As in our original review, the corrected cost figure derived from our adjustments is even conservative (*i.e.*, too high) because we only made limited adjustments and have not attempted to make every correction in calculating OneComm's switched access cost. Such endeavor is not necessary to deny OneComm's Petition, since we have shown that OneComm's cost is comfortably below the Department's price cap applicable to CLECs, with significant margin available as contribution towards common overheads.

**Q: DOES THIS CONCLUDE YOUR REPLY TESTIMONY?**

A: Yes.

[23] It is not necessary to discuss the errors again here, even though we make the same adjustments to the revised model. Our explanation in the direct testimony is adequate, and nothing in OneComm's rebuttal testimonies sufficiently addresses the errors to require significant changes to our adjustments.
[24] Combined with the corrections to the previous errors.
[25] A step by step description of our adjustments is also attached as AT&T Panel Reply Exhibit 3.