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Applicant Name:	Covad Communications Company
Proceeding Name:	98-147 — Author Name: Thomas M. Koutsky — 5000600770
Lawfirm Name:	
Contact Name:	applicant_name — Contact Email: tkoutsky@covad.com
Address Line 1:	6849 Old Dominion Drive, Suite 220
Address Line 2:	
City:	McLean — State: VA
Zip Code:	22101 — Postal Code:
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Deployment of Wireline Services Offering	)	CC Docket No. 98-147
Advanced Telecommunications Capability	)	
	)	

COMMENTS OF COVAD COMMUNICATIONS COMPANY

Thomas M. Koutsky
James D. Earl
Covad Communications Company
6849 Old Dominion Drive, Suite 220
McLean, VA 22101
(703) 734-1924

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SUMMARY

Section 706 requires that the Commission encourage the deployment of high-speed, switched, broadband telecommunications capability. In the last few years, the capabilities of high speed packet switched networks have shown unprecedented exponential growth. To understand why this capability has yet to reach individual consumers and small businesses, one should appreciate the differing world views of (1) the established, legacy, circuit-switched companies with a public switched telecommunications network focus (the "Bellheads"), and (2) the emerging packet-switched companies that are Internet oriented and focused on computer-related communications (the "Netheads").

In Section I, Covad describes the difficulties it has experienced entering the market as a packet-switched CLEC. ILECs have sought to delay Covad's market entry and raise its costs through their anti-competitive collocation and local loop practices.

Section II discusses Covad's proposals that would remedy these abuses. Covad proposes national minimum standards for collocation and for digital-capable local loops. These requirements will limit the ability of incumbent LECs to use their control of essential elements to stifle competition for advanced telecommunication services. Covad articulates the importance that CLECs be provided "parity of opportunity" in providing advanced services. Covad also provides comments on the Commission's "separate affiliate" proposal and cautions against premature granting of "limited" interLATA relief to RBOCs that may be resisting or delaying implementation of new collocation and DSL-loop unbundling rules. Covad encapsulates its policy recommendations into a set of draft rules (Attachment 4).

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
Deployment of Wireline Services Offering Advanced Telecommunications Capability	)	CC Docket No. 98-187
	)	

COMMENTS OF COVAD COMMUNICATIONS COMPANY

The bold steps taken and proposed by the Federal Communications Commission in this proceeding are landmark in nature. Throughout the *Advanced Services NPRM*,[1] the Commission emphatically recognized that the unbundling and collocation principles of Section 251 are evolutionary and therefore well-suited to the advanced telecommunications network of the future. The Commission has ratified Congress's dynamic vision of this industry, characterized by rapid technological change and potential innovation. The Commission has forged ahead to ensure that *all* Americans receive the benefits of a *competitive* market for advanced telecommunications services. To paraphrase Winston Churchill, the Commission's initial unbundling and collocation rules[2] were only the end of the beginning, not the beginning of the end.

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1 *Deployment of Wireline Services Offering Advanced Telecommunications Capability,* CC Docket No. 98-147 *et al.*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, FCC 98-188 (rel. Aug. 7, 1998) ("*Advanced Services NPRM*" or "*NPRM*").

2 47 C.F.R. Part 51; *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, First Report and Order, 11 FCC Rcd 15499 (1996) ("*First Local Competition Order*"), *aff'd in part and vacated in part sub nom. Competitive Telecommunications Ass'n v. FCC*, 117 F.3d 1068 (8th Cir. 1997), *aff'd in part and vacated in part sub nom. Iowa Utils. Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), *cert. granted*, 66 U.S.L.W. 3484 (U.S. Jan. 26, 1998).

Covad Communications Company ("Covad") strongly supports these initiatives. As a start-up telecommunications company focused *entirely* upon deployment of competitive xDSL services nationwide, Covad urges the Commission to issue final rules in this proceeding with dispatch, because the incumbent LEC practices at issue in this docket are currently slowing Covad's (and similar CLECs') deployment of these advanced services to American households and businesses. The Commission *can* achieve the goals of Section 706 by taking appropriate market-opening and incentive-based steps suggested by the *Advanced Services NPRM*.

Covad is encouraged that the Commission and the Administration have both recognized that the purpose of Section 706 is to promote the provision of advanced services to all Americans on a *competitive* basis. Therefore, before embarking on a discussion of the Commission's specific proposals and questions, these Comments begin with a short discussion of the specific problems that Covad has experienced to date in obtaining physical collocation and unbundled DSL-capable loops with different ILECs across the country. The clear conclusion is that national requirements and prompt, forceful Commission action are necessary if competitive advanced services are to become available to all Americans in a reasonable and timely fashion.

I. PROLOGUE: WINNING THE WAR OF ATTRITION

A. Netheads and Bellheads

The Commission and Section 706 of the 1996 Act must bridge the gaping rift present in communications network design today—epitomized by the debate between

"Netheads" and "Bellheads."[3] In the last several years, it has become clear the Netheads are winning technologically. Computing performance doubles every 18 months, and data communications networks increase their efficiency in an arithmetic manner, while the efficiency of traditional, landline circuit-switched networks increase only marginally.[4] However, the Bellheads are waging a war of regulatory attrition that thwarts implementation of Section 706. Indeed, Bellhead bureaucracy, attitudes and policies retain control over the essential facilities that stand in the way of advanced broadband services to all Americans—the "last mile" local loop and central office facilities.[5]

CLEC-ILEC battles over unbundling and collocation as they relate to deployment of xDSL services *must* be seen in the light of the ongoing Nethead-Bellhead schism, in all its dimensions—psychological, technological, and regulatory. ILEC resistance to the unbundling of DSL-capable loops[6] and to alternative physical collocation options share a common lineage with the Bellhead mental construct of centralized command and control, implemented by an inflexible bureaucracy. Indeed, the Bellhead "one network" mentality (clearly evident in the RBOC 706 Petitions) descends directly from the

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3 *See* Steve G. Steinberg, "Netheads vs. Bellheads," *Wired 4.10*, October 1996, http://www.wired.com/wired/4.10/features/atm.html.

4 Paul Johnson, "The Telecom Revolt: Adopt the Internet or Die!", *Forbes ASAP*, Oct. 5, 1998 at 132 ("Users are demanding bandwidth and bandwidth-intensive services. They want to do new things and are pushing carriers to support new services. Do carriers have a choice? No. The revolution has begun. . . . It is not about the convergence of voice and data on the traditional network, it is about building new, broadband, packet-based networks. It's about survival.").

5 *Advanced Services NPRM* at ¶ 8 ("If all Americans are to have meaningful access to these advanced services, however, there must be a solution to the problem of the 'last mile.'").

6 Recently made abundantly clear in SBC and Bell Atlantic's petitions for reconsideration of the August 7, 1998 Memorandum Opinion and Order in this docket.

imperial, pre-divestiture Bell System.[7] That mentality is evidenced by a stubborn aversion to change and to the cannibalization of existing, cross-subsidized revenue streams. Nethead entrants like Covad—whose only goal is to get into business and deploy advanced data communications services as soon as possible—are continually hindered by Bellhead bureaucracy, anti-competitive attitudes and perverse incentives.[8]

It is this context that the Commission must keep in mind when examining both market-opening and incentive-based forms of regulation in this proceeding. In the *Advanced Services NPRM*, the Commission has rightly focused upon several market-opening (strengthened collocation and DSL loop unbundling rules) and incentive-based (structural separation for ILEC DSL) initiatives that could strike at the core of the counter-productive and retrograde Bellhead world view. The Commission must articulate policies that directly address the structural problems inherent in Bellhead control of essential "last mile" assets while ensuring that its final rules do not present opportunities for Bellheads to exploit in their unrelenting war of attrition.

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[7] Paul Baran, one of the inventors of packet-switching, once described AT&T's initial reaction after hearing his 1960s-era proposal for a nationwide, packet-switched network: "Their attitude was that they knew everything and nobody outside the Bell System knew anything. . . . And somebody from the outside couldn't possibly understand or appreciate the complexity of the system . . . It took ninety-four separate [AT&T] speakers to describe the entire system [to me], since no single individual seemed to know more than part of the system. Probably their greatest disappointment was that after all this, they said, 'Now do you see why [a packet-switched network] can't work?' And I said, 'No.'" *quoted in* Katie Hafner and Matthew Lyon, *Where Wizards Stay Up Late: The Origins of the Internet* 62-63 (1996).

[8] *See, e.g.*, Nick Wingfield, "No Mercy: Covad Communications needs the Bells' cooperation to thrive. It says it isn't getting much," *Wall Street Journal*, Sept. 21, 1998 at R10 (stating that the "uneasy" relationship between Covad and ILECs stems is not "just fallout from competition" but is also "a matter of chemistry").

B. Being a DSL CLEC Today: The Need for National Standards

1. A Collocation in Every Neighborhood

Fundamental (indeed, axiomatic) to the provision of competitive, broadband xDSL services "to all Americans" is the ability for entrants to obtain physical collocation arrangements in *every* incumbent LEC central office. Let there be no mistake—if ILEC gouging artificially raises the cost of obtaining space for xDSL equipment in a central office to over $100,000 (which is often the case) and if ILECs continue to create artificial space scarcities in other central offices, CLECs have no choice but to provide their services only in some densely-populated areas. The promise of competitive xDSL deployment to all Americans—rich and poor, urban and rural, business and household—depends upon the availability of swift, inexpensive and space-efficient physical collocation in central offices that serve every neighborhood.

In Covad's experience, the initial costs of physical collocation should not be more than a few thousand dollars per central office and should not take more than 45 days.[9] Covad developed "cageless physical collocation" to balance the various interests at play in central offices. Covad was the first CLEC to enter into a cageless physical collocation arrangement with an incumbent LEC (U S WEST Communications, Inc. in the State of Washington), but even that breakthrough has been stalled by incumbent recalcitrance and litigiousness.[10] As a result, Covad strongly supports the Commission's proposals for national rules that would require ILECs to reform their physical collocation practices.

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[9] *See* Attachment 1, Affidavit of Thomas J. Regan, Covad Communications Company.

[10] Subsequent to agreeing with U S WEST regarding cageless collocation—an achievement lauded by U S WEST representatives before Congress and the FCC earlier this year—Covad has ordered several cageless arrangements in the State of Washington. However, U S WEST—despite clear contract language and its clear statements to the FCC that it had reformed its collocation practices to accommodate Covad's

2. The ILEC No-Space and Collocation Construction Scam

As the Commission recognized in the *Advanced Services NPRM*, ILECs routinely claim that particular central offices have "no space" for physical collocation. The numbers of such rejections are reaching startling proportions. In Illinois, for example, Ameritech has rejected no fewer than 33% of Covad's several dozen physical collocation applications for "no space" reasons. Covad's experience with Ameritech is similar to its experience with other ILECs that insist upon cage-based collocation.[11]

What is shocking about these "no space" rejections is that they are usually factually incorrect. For instance, in its Comments to the Commission regarding SBC's 706 Petition, Covad documented that Pacific Bell had initially rejected nearly a third of Covad's applications in California for "no space" reasons.[12] After "re-surveys" of these offices, and after Covad filed an antitrust lawsuit and preliminary injunction motion against Pacific with regard to many of these offices, Pacific—surprise, surprise—magically found space in *all* of the San Francisco Bay Area offices that Covad brought to the Court's attention.[13] It seems that where Covad or other CLECs cast light upon

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interests—has unilaterally reneged on its interconnection agreement and *pre-emptively sued* Covad with regard to the rates, terms and charges for cageless physical collocation in those offices. Covad can only view U S WEST's purpose in that litigation as a last-ditch effort to reassert anti-competitive Bellhead control over its central offices.

[11] Central office collocation "cages" are the most expensive chain link fences in the world, and, judging from ILEC delivery schedules, the most difficult and demanding to construct.

[12] Comments of Covad Communications Company in CC Docket No. 98-91, filed June 24, 1998. Space clearly existed in those spaces for xDSL equipment because subsequent to filing its 706 Petition, Pacific filed a tariff with the FCC offering ADSL service from 20 of these ostensibly "no space" offices. Pacific Bell Telephone Company, Pacific Tariff F.C.C. No. 128, Transmittal No. 1986, June 15, 1998, Section 17.5.4. Thus, while Pacific found space in those twenty offices for its own DSL equipment, it was simultaneously claiming that there was no space to collocate Covad's DSL equipment.

[13] Aug. 19, 1998 Order Denying Motion for Preliminary Injunction, *Covad Communications Co. v. Pacific Bell*, No. C98-1887 SI (N.D. Cal.) (noting that SBC had found space in 16 of 20 disputed offices). Subsequent to the Court's Aug. 19, 1998 decision, SBC found space in the remaining four offices.

anticompetitive practices, ILEC's change their behavior, *but only where it has been illuminated.*[14]

Rarely do ILECs change their policies company-wide. For instance, although Covad has negotiated cageless physical collocation from U S WEST in the State of Washington, U S WEST now insists on re-negotiating those terms in other U S WEST states.

Covad's experience with Bell Atlantic is also illustrative. It is widely known that Bell Atlantic is pressing forward to obtain interLATA authority in the State of New York. Not surprisingly, in NYPSC Case No. 98-C-0690, Bell Atlantic has endeavored to "showcase" its physical collocation practices in New York. Bell Atlantic has proudly proclaimed in that docket that space for some form of physical collocation is available in approximately 90% of New York offices, that it has the capability to provide 15-20 collocation arrangements per month in New York, and that its costs for collocation are "economical."[15] However, Covad's experience with Bell Atlantic's actual provision of collocation cages in New York leaves much to be desired—cages are routinely turned over incomplete and functionally unsuited for use.[16]

Even so, Bell Atlantic's collocation policies in other states do not even measure up to low threshold Bell Atlantic has established in New York. In the

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[14] In Massachusetts, within days of the deadline for the state commission's ruling on Covad's arguments for cageless physical collocation in that state, Bell Atlantic miraculously discovered space for cages in several important and ostensible "no-space" central offices, such as the important location of Cambridge, MA.

[15] Bell Atlantic – New York's Brief on Exceptions, *Proceeding on Motion of the Commission to Examine Methods by which Competitive Local Exchange Carriers Can Obtain and Combine Unbundled Network Elements*, NYPSC Case 98-C-0690, filed Aug. 19, 1998 at 3-6.

[16] *See* Attachment 2, Affidavit of John Fogarty, Covad Communications Company.

Baltimore/Washington corridor, nearly 25% of Covad's collocation applications have been rejected with unilateral "no space" assertions. For offices in which there is space, Covad has been asked to pay an average of $62,450 for each office. For many offices, the cost is even higher, up to $127,500.[17] Bell Atlantic has refused to provide any detailed contractor quotes or post-construction invoices that would permit Covad to determine whether Bell Atlantic's "estimated" non-recurring collocation construction charges bear any relation to actual construction costs. Finally, intervals between Bell Atlantic "North" and "South" vary dramatically. From the actual date of application, Bell Atlantic promises to provide physical collocation in New York (a Bell Atlantic "North" state) within 76 business days. The comparable interval (between data of application to cage turnover) in Virginia and other Bell Atlantic "South" states is 180 business days—roughly *two and one-half times as long*![18]

There is considerable disparity in collocation costs nationwide. The following table provides the average, high, and low costs associated with physical collocation in several selected regions, based on actual collocation applications or collocation tariffs.

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[17] Although federal rules require that ILECs like Bell Atlantic permit CLECs to sub-contract "the construction of physical collocation arrangements" (47 CFR 51.323(j)), Bell Atlantic's interpretation is that this requirement only applies to the cage construction (*i.e.*, actually putting up the wire mesh) and does *not* apply to space conditioning and the construction of the segregated collocation room, where the most expensive work such as HVAC and asbestos removal ostensibly take place. In essence, Bell Atlantic expects CLECs to pay for construction projects ostensibly costing equivalent to building a mid-sized home without providing a pre-inspection of the site by the purchaser, blueprints, detailed quotes, complete prior review of work to be done, and a final accounting. No one in their right mind would hire a contractor to build their house in this manner.

[18] *See* Attachment 2, Fogarty Aff. ¶¶ 7-11 ("I do not believe that there is any movement afoot to make these practices uniform for the entire [Bell Atlantic] region.")

ILEC	Region	Average Cost	High	Low
Bell Atlantic	NY-New Jersey	$90,500	$252,300	$27,700
	New York City	$32,100	$38,000	$25,000
	Virginia	$75,500	$119,500	$39,500
	New Hampshire*	$16,700	$16,700	$16,700
Ameritech	Illinois*	$30,600	$30,600	$30,600
	Michigan*	$12,200	$12,200	$12,200
GTE	Washington State	$73,000	$94,300	$43,800
	No. California	$33,700	$36,000	$29,200
SBC	No. California	$28,700	$50,000	$14,400

* State has implemented flat rates for physical collocation.

ILEC collocation practices severely limit the number of people who will receive competitive service. For instance, Covad originally applied for collocation in Bell Atlantic's 1700 14th Street, N.W. central office in the District of Columbia—the central office that serves Howard University, the Whitman-Walker Clinic, and Children's Hospital. To Covad's knowledge, it would have been the *first* collocating CLEC to offer competitive service to those institutions and the citizens that live in the surrounding neighborhoods. However, Bell Atlantic asked Covad to pay $98,750 to construct a segregated collocation room to accommodate Covad's application for only 100 square feet of space. After considering this expense, Covad reluctantly declined to pursue collocation in that office at this time.[19] The net result is not only a lost business opportunity for Covad, but a significant potential loss to those institutions and lost

[19] Covad has also declined to pursue its collocation application for Bell Atlantic's Georgia Avenue central office in DC, where Bell Atlantic has sought to require Covad to build a *2100 square foot room* (at an expense of over $100,000) to accommodate Covad's application for 100 square feet of space.

economic development opportunities for the District of Columbia and its citizens[20]—all because of Bell Atlantic's retrograde, anti-competitive, and usurious physical collocation policies.

When a family moves to a new state or even across town, its communications options should not vary because of different ILEC collocation policies. Achieving the goals of Section 706 requires that the FCC not permit these geographically disparate practices to stand—what is technically feasible in one part of the country is technically feasible in all parts of the country. National collocation rules promulgated under Section 251(c)(6) must make that abundantly clear.[21]

3. ILEC Failure to Comply with Existing Requirements and to Deliver Collocation in a Timely Manner.

Many ILECs shirk existing federal collocation rules, especially the requirement of Section 251(c)(6) that the ILEC "demonstrate" to the state commission support for any "no-space claim," and Section 51.323(f) of the Commission's rules, which requires all ILEC to file "detailed floor plans or diagrams" with the relevant state commission in the event that the ILEC rejects a physical collocation application on account of "no space". In California, Pacific Bell did even attempt to comply with that rule for several months and the CPUC has still not received sufficient demonstrations. In other states, these "no space" filings are completely without substantive content. Regrettably, some state regulatory authorities often do little more than accept the proffered paper without critical

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[20] As Assistant Secretary Larry Irving recently commented, "No issue is more important than ensuring that our communities, particularly our children, obtain access to new technologies and become technologically literate." NTIA, *Assistant Secretary Larry Irving Addresses the Impact of Technology in Urban Communities*, Jul. 6, 1998, http://www.ntia.doc.gov/ntiahome/press/urban2.html.

[21] Covad's specific proposals for reform of ILEC collocation practices are contained in Section II.A, below.

examination. As described below, Covad proposes many means of strengthening this process.

Covad has also concluded that as a group, ILECs are entirely incapable of providing cage-based physical collocation on a consistently timely basis. Failures are evident coast-to-coast. In the month of February, 1998, Covad was scheduled to receive 18 physical collocation cages from Pacific Bell, but only three cages were delivered complete and on time. In New York, Bell Atlantic "meets" its deadlines by "delivering" incomplete and unserviceable collocation cages—to date, *none* of the cages "received" by Covad have been ready to support service.[22] The attached affidavit of John Fogarty, a 25-year Bell Atlantic – New York veteran who worked for Bell Atlantic as a collocation project manager/technical specialist prior to joining Covad, describes in detail the serious defects of many of the collocation cages that Covad has been presented in New York. Nor are failures of this sort restricted to RBOCs. Four out of four of Covad's cages ordered from GTE in the outskirts of Silicon Valley were delivered without power and remained in that condition for many months.

ILEC physical collocation operations are often understaffed. For example, *all* physical collocation applications for the *entire* 14-state Bell Atlantic region are received primarily by *one* Bell Atlantic employee in New York City. According to Fogarty, this one person reviews applications for completeness and may "reject an application if there is a known lack of space in a particular central office. This space 'analysis' is usually

[22] Attachment 2, Fogarty Aff. ¶¶ 23-25. Fogarty describes in detail some of the problems with several of Covad's cages in New York. *Id.* at ¶ 24 and Attachment A. Fogarty also states: "When I was at BA, it was my job to troubleshoot on collocation problems on space issues, equipment deployment, or anything else that came up. . . . It's my understanding that my position wasn't replaced." *Id.* at ¶ 26.

done based on the manager's memory or through a quick phone call. . . ."[23] In addition, significant logistical issues complicate the initial review and processing as well as the actual engineering and construction of the collocation cage.[24]

4. ILEC Failure to Provide DSL-Capable Loops in a Competitively Neutral Manner

In addition to collocation, local loops as unbundled network elements are an essential input to the provision of DSL services. ILECs game the current process to their advantage in a number of ways: (1) developing separate, often inconsistent state-by-state pricing and availability procedures; (2) adamantly refusing in many states to ever provide loops certified to support DSL services, as required by current federal law; and (3) imposing unreasonable, unilateral and arbitrary "spectral interference" measures to maintain Bellhead control of their network as anti-competitive "DSL traffic cops."

Loops should not be priced differently depending upon whether they are suitable for "digital" or "analog" services.[25] The overwhelming majority of loops, approximately 75% on a national (but not regional) basis, are less than 18,000 feet in length, are simple,

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[23] Attachment 2, Fogarty Aff. ¶¶ 12-15.

[24] *Id.* at ¶ 16 ("The actual collocation work—engineering and construction—involves a multitude of groups within BA that work independently toward a caged collocation end product. There is little to no coordination of all the effort that is required to do collocation. Also, there is absolutely no way to obtain, at any given point in time, the status of a particular collocation request, unless a date is missed.")

[25] Certainly there should be no difference in recurring charges. For those loops that must be conditioned for digital service by removing excess bridged taps, at most, a small non-recurring charge could arguably be justified. However, the better cost analysis would have the ILEC bear the small costs associated with excess bridged tap removal. ILECs install bridged taps to allow themselves options regarding the geographic use of a particular twisted pair. The cost of having additional routing options is laying additional copper and making associated connections. The cost of removing a bridged tap (i.e. removing one of the connections installed to provide a geographic option) should also be viewed as a (relatively minor) cost associated with obtaining the benefit of having initial options regarding the location of the end user of a particular twisted copper pair emanating from a central office. The imputation of costs of removal of excess bridged taps appears consistent with the pricing regimes of some states such as Illinois and Michigan.

unaugmented ("nonloaded") twisted pairs of AWG 19, 22, 24, and/or 26 copper wire, and can carry analog transmissions as well as digital signals. A limited number of states (such as Illinois and Michigan) price loops in a manner consistent with this reality, but many states, such as Massachusetts and Texas, do not.[26]

The price to Covad for local loops (both recurring and non-recurring) varies considerably based on several following factors: state, population density (urban/suburban/rural), characterization as "analog" or "digital", and (in some states) the type of xDSL service to be provided over the loop. Putting aside issues of state and federal jurisdiction, appropriate pricing methodology, and whether any of the local loop prices are "fair", "appropriate", or "cost-based", policy makers at all levels must realize that the national variance of this essential input is, in and of itself, a deterrent to the speedy and ubiquitous competitive introduction of advanced services. It is as though Burger King could only buy beef and chicken for a particular restaurant within its state of location, pay various prices for different grades of meat (according to disparate state grading schemes), and, then, only purchase pre-formed patties from its competitor McDonald's pursuant to a multi-tiered process overseen by multiple regulators with whom McDonald's (but not Burger King) had a decades long relationship. In such circumstances, to ask simply, "Where's the service (xDSL)?" is to demonstrate unusual insularity with respect to the procurement conditions of an essential input element.

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[26] *See* Brief of Amicus Curiae Covad Communications Company in Support of Petitioners Federal Communications Commission and the United States of America, *AT&T Corp. et. al v. Iowa Utilitied Bd., et. at, and Related Cases*, Nos. 97-826, 97-829, 97-803, 97-831, 97-1075, 97-1087, 97-1099 and 97-1141, (S. Ct. filed Apr. 2, 1998) at 9-10 and Appendix 2 (describing DSL loop rate of $3.72 in Chicago, Illinois and $34.91 in Houston, Texas).

In addition to differential pricing, actual availability of DSL loops varies considerably nationwide. As Covad documented in the *706 Petitions* dockets, many ILECs do not generally make available loops certified to support DSL signals, despite current federal law requiring that availability. [27] And, as discussed in more detail below, there are significant competitive issues associated with providing DSL services over loops that are provisioned by ILECs through Digital Loop Carrier systems.

The end result is a significant impact on deployment of innovative technology. Assuming that Covad can obtain reasonable and timely collocation in a central office, Covad has the ability to deploy innovative technology over twisted copper pair of less than 18,000 feet in length since it can control the equipment at both ends of the copper pair—provided that rules and regulations do not permit the ILEC to unduly restrict its ability to deploy that innovative DSL technology.[28]

Indeed, ILECs—most notably, SBC—have recently asserted, on the shakiest of technical grounds, "spectrum interference" or "spectrum management" rationales to delay CLEC introduction of DSL service that would compete with the ILEC's own DSL offerings or to restrict CLEC innovation by limiting all CLECs to the DSL implementation of the ILEC.

Therefore, in order to encourage deployment of advanced services to all Americans, the Commission should fully account for the following conclusions that Covad has drawn from its experiences with local loop operations to date:

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[27] SBC and Bell Atlantic show no signs of budging on this issue, given their petitions for reconsideration of the Commission's *706 Order* in this docket.

[28] The provision of DSL service requires equipment be placed at both ends of the twisted copper pair. *See* Attachment 3, *Defining "Digital Loops" – Avoiding Re-monopolization in a Digital World,* a Covad working paper that discusses this and several DSL loop-related topics.

- Loops certified to support innovative DSL technologies must be immediately and readily available regardless of the underlying physical infrastructure and independent of ILEC DSL deployment plans.[29]
- Disparate DSL loop pricing regimes impede competitive introduction of advanced telecommunications services.
- ILECs should be expected to utilize network architecture to stall DSL deployment by CLECs. Unfortunately, in light of on-going ILEC conduct, the provision of competitive services, at least in the medium term, will entail regulatory oversight of certain network architectures.[30] Regulators will need to ensure that remote terminals and equipment support multiple DSL technologies and their implementation will require cross-connect functionality in the central offices to separate CLEC and ILEC digital traffic.
- Unilateral ILEC pronouncements regarding "spectral interference", if allowed to stand, will prevent the competitive deployment of innovative advanced services to all Americans.
- There still exists a tremendous bargaining power disparity between CLECs and ILECs. Without federal-state cooperation or federal preemption, ILECs will continue to exploit their anti-competitive advantage by engaging CLECs

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[29] Not only must digital ready loops be available, all competitors must have identical access to information relating to their physical and electronic characteristics as well as verification (testing) systems.

[30] Subloop unbundling is a necessary ingredient of a competitive network typology. CLECs must be able to compel the construction of their own remote DSLAMs and to provision connectivity from remote terminals to their own facilities. While this may initially be less efficient than taking a full loop from an ILEC, it is an option necessary to ameliorate ILEC anticompetitive behavior relating to the technical provisioning of remote DSLAMs and the adequacy of transport facilities from the remote terminal to the central office.

in serial battles of attrition before state regulatory commissions on issues associated with the provision and pricing of DSL-capable loops.

C. Summary: Competitive DSL for "all Americans"

The above narrative is intended to paint a vivid picture of the many hurdles and pitfalls that CLECs like Covad face *every day* in their effort to provide competitive DSL services to as many Americans as possible. The purpose is not to embarrass any particular incumbent LEC but to demonstrate to the Commission that immediate action is needed to rectify this situation and to show that ILEC conduct is the *principal* reason why data-CLECs do not yet proliferate the competitive landscape with pervasive coverage. Given the chance, CLECs will provide the type of competitive entry envisioned by the 1996 Act. Many of the offices where Covad would like to collocate include those in residential communities like Lake Zurich, IL (pop. 16,786; "no space" for physical collocation, according to Ameritech) and Waldorf, MD (pop. 44,069; "no space" for physical collocation, according to Bell Atlantic). If CLECs are given the chance to compete, it is incorrect to assume that rural areas will not see the benefits of entry—from 1994-97, computer penetration in rural America grew faster than in urban areas.[31] Demand for high-bandwidth services is sure to follow.

[31] NTIA, *Falling through the Net II: New Data on the Digital Divide* (1998) at 3 ("After accounting for income, there is not a significant difference between rural, urban, and central city areas for computer penetration"), Chart 10.

II. COMMENTS ON THE COMMISSION'S NOTICE

In this section, Covad discusses with specificity the Commission's proposals in the *Advanced Services NPRM* and proposes detailed rules that would address the problems outlined above. In general, Covad strongly supports the balance struck by the Commission in the *NPRM* and urges the Commission to implement national collocation and DSL loop unbundling rules as soon as practicable. In order to assist the Commission in this process, Attachment 4 contains Covad's proposals for actual cageless collocation and DSL-loop unbundling rules, which Covad hopes will focus debate in this docket upon specific regulatory provisions.

A. National Minimum Standards for Collocation

Attachment 4 contains Covad's proposed modifications to the Commission's collocation rules (47 CFR §§ 51.5, 51.321 and 51.323). These proposals would, in Covad's opinion, address the principal problems faced by Covad and addressed by the Commission in the *NPRM*. However, Covad is certain that other representatives from the competitive community will have additional suggestions for Commission action. As a result, Covad does not present Attachment 4 as the "true solution" to these issues.

1. Proposed Modifications to the Commission's Collocation Rules

Covad's proposed rules would alter the Commission's existing rules in the following ways—

Alternative Forms of Collocation

- Codify the principle articulated by the Commission in the *First Local Competition Order* and the *NPRM* in this docket that multiple forms of physical collocation are available and that ILECs are required by the Act to

provide any "technically feasible" form of physical collocation, including cageless physical collocation. Attachment 4, Section 51.323(a).

- Promulgate detailed cageless physical collocation rules, defined as the ability of a requesting carrier to physically collocate a minimum of one bay of equipment (which takes up approximately two square feet of actual floor space) in already-conditioned or prepared space in an ILEC's premises. Attachment 4, Sections 51.323(a)(2), (f)(6). Delays and costs caused by cage construction, partitioning, floor conditioning or collocation room construction would be eliminated because ILECs would not be able to require CLECs to face delays and costs it would not incur if perfectly-good space is already available in the central office.
- Establish national principles for security arrangements for all forms of physical collocation, including cageless. Attachment 4, Section 51.323(i). In particular, ILECs would be permitted to place reasonable and nondiscriminatory security restrictions upon all forms of physical collocation at their own expense, provided that those restrictions are not more onerous than restrictions it places on its own employees or contractors. In addition, such restrictions shall not impair the ability of a collocating carrier to repair its equipment at any time to restore a service outage or impairment.

Resolution of Case-Specific "No Space" and Technical Disputes.

- Place a "clear and convincing" evidence burden of proof upon an ILEC when it contends that a particular application for any form of physical collocation is not technically feasible (Section 51.321(d)) or that no space exists within or

on a particular ILEC premises for physical collocation (Section 51.321(e)). Because an ILEC controls virtually all information with regard to the space conditions in its central offices, well-accepted legal principles support placing the burden of proof upon them in these disputes.

- When an ILEC rejects an application for any form of physical collocation for space reasons, it must permit the requesting carrier to inspect the premises within five days and make detailed floor plans or diagrams available to the requesting carrier. Attachment 4, Sections 51.321(f), (h).
- Time deadlines are established for any state commission proceeding related to specific technical or space disputes. Attachment 4, Sections 51.321(d), (e).

Repeal Unnecessary Restrictions on Collocated Equipment.

- Permit requesting telecommunications carriers to utilize the full features, functions and capabilities (including packet-switching and routing functions) of any rack-mountable equipment that is used for interconnection or access to unbundled network elements. Attachment 4, Section 51.323(b).
- Explicitly provide in Section 51.323(b) that DSLAMs, remote access management equipment, digital packet switching equipment, cross-connect equipment, and routers may be collocated.
- Adopt the Commission's proposal in the *NPRM* that ILECs may only impose nondiscriminatory safety requirements upon collocated equipment. Attachment 4, Section 51.323(b).
- Provide for a quick method of resolving collocation equipment disputes. Attachment 4, Section 51.323(b).

2. Comments on the Commission's Collocation Proposals

a. Adoption of National Standards (¶¶ 122-25).

Covad strongly supports the Commission's proposal in paragraph 124 of the *NPRM* that it adopt national minimum standards with regard to physical collocation rules. Adoption of national, minimum standards along the lines that Covad proposes in Attachment 4 would greatly encourage the deployment of advanced services by competitive carriers like Covad in residential and rural areas and also would vastly increase the amount of investment in the construction of new, advanced data communications networks nationwide.

In particular, the rules proposed by Covad—especially adoption of cageless physical collocation and removing artificial restrictions on uses of collocated equipment—would dramatically lower the cost of constructing networks like Covad's. Indeed, the current cost of physical collocation is the *single largest one-time, sole-source cost* Covad has. Indeed, it is not uncommon for a simple, 10'x10' collocation cage to cost *more* than the sophisticated and advanced equipment that Covad places in that cage. In addition, removal of restrictions upon use of collocated equipment would allow Covad to build more efficient and fault-tolerant networks capable of innovative evolution at much lower costs because distributing packet-switching functionality to the periphery of the network reduces the need to build and interconnect centralized (and expensive) routing facilities in each metropolitan area.

With the exception of resolving case-specific technical and space limitation disputes (which Section 251(c)(6) explicitly provides to the states), the Commission retains plenary rulemaking authority with regard to interpretation and application of the

provisions of Section 251(c)(6). Section 251(d)(1) explicitly grants the Commission the authority to promulgate rules implementing *all* of Section 251 of the Act including Section 251(c)(6). 47 U.S.C. § 251(d)(1). Therefore, with the exception of case-specific technical determinations and space availability disputes explicitly referred to in Section 251(c)(6), the Commission retains the authority to establish federal rules defining the term "physical collocation" and outline the obligations of ILECs pursuant regarding physical collocation.

The Commission has other sources of enforcement power regarding physical collocation than are currently in evidence, because of the historical relationship between the *Expanded Interconnection* proceeding and the ultimate passage of Section 251(c)(6).[32] Since some form of federally-required collocation practices existed prior to passage of Section 251(c)(6), many interconnection agreements explicitly refer to the ILEC's FCC Tariff No. 1 *in lieu* of placing detailed physical or virtual collocation terms and conditions in those agreements. As a result, the Commission has tremendous power over the actual physical collocation offerings that ILECs provide to CLECs solely by virtue of these incorporations-by-reference. In addition, the *Expanded Interconnection* physical collocation rules provide a powerful means of demonstrating "technical feasibility" of a particular form of physical collocation. Moreover, those rules can be of guidance in determining appropriate delivery deadlines and appropriate costing methodologies for all forms of collocation. Therefore, Covad urges that in addition to adopting national standards under Section 251(c)(6) in this proceeding, the Commission also should expeditiously revisit the *Expanded Interconnection* physical collocation rules

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[32] *See NPRM* at ¶¶ 118-121 (relationship between *Expanded Interconnection* and Section 251(c)(6)).