

Before the
Federal Communications Commission
Washington, D.C. 20554

In Matter of)	CC Docket No. 96-98
Implementation of the Local Competition)	
Provisions in the Telecommunications Act)	
of 1996 Services)	

**COMMENTS OF
MICHAEL WEINGARTEN**

Michael Weingarten is a telecommunications consultant at Monitor Company, Cambridge, Massachusetts. The attached article relating to the UNE remand issue was published in the InternetTelephony web site on May 10, 1999 (www.internettelephony.com). The opinions expressed are the personal views of the author, not those of Monitor Company or its clients.

UNE 'Necessary + Impair' Tests:

A Microeconomic Approach

By Michael Weingarten

1. On January 25, 1999, the Supreme Court overturned FCC Rule 319, which established the now famous set of seven unbundled network elements (UNEs) that were to be made available to CLECs on a TELRIC basis. The basis for the Court decision was a finding that the FCC failed to demonstrate that these UNEs meet the Telecom Act's 'necessary' and 'impair' tests (i.e., that the UNEs are

necessary for fostering new entry competition, and that new entrants will be impaired if they don't get access to these UNEs). Accordingly, the Court remanded the issue to the FCC, which on April 8, 1999 adopted a Notice of Proposed Rule Making asking for comments on how to define UNEs consistent with the N+I test.

2. From past history, we anticipate that the remand comments will be predictably sectarian. IXCs and CLECs will argue that all UNEs are needed everywhere, ignoring the fact that a number of CLECs have built local facilities in numerous places. Arguably, for these CLECs, at least some of the FCC's UNEs were not needed for market entry; nor did UNE unavailability impair CLEC ability to compete. Indeed, some major CLECs such as MFS or TCG began their networks years before the Telecom Act was passed. So IXCs and CLECs will be overstating their cases if they say that UNEs are needed everywhere.

3. Unfortunately, we anticipate equal overstatement by ILECs. They undoubtedly will point to the existence of CLECs with high growth rates and extremely high market valuations as evidence that UNEs are not necessary for CLEC success. In doing this, they will conveniently ignore the fact that CLEC market penetration generally is limited to urban business accounts.

4. We come away with a belief that the FCC needs a rational and balanced N+I test methodology that will pass judicial review. In his majority opinion, Justice Scalia found that a 1% reduction in CLEC profitability was insufficient to pass the N+I test, and that there needed to be some 'rational' and 'limiting standard.' Unfortunately, Scalia was blissfully nonspecific on details. [Parenthetically, his 1% test is reminiscent of the Biblical dialogue between Abraham and God about how many good men Abraham needed to find in Sodom and Gomorrah to prevent the destruction of these cities. If 1% impairment is not enough, is 5% OK? Or 10%? Or 25%?]

5. In sum, the FCC needs new metrics. Since the parties at interest can be counted on to overstate their cases, we attempt to fill in the gap with a (hopefully) objective and balanced approach. Our suggested approach is based on microeconomic theory and considers the following issues:

- [Given the Telecom Act's pro-competition goal], how many players are needed to establish 'real' competition in an industry?
- For these players, which metrics constitute meaningful impairment (thus passing the N+I test)?
- To what extent does the answer differ by market segment?

Issue One: Number of Required Players In A Competitive Market

6. Microeconomic theory is fairly clear here. A single competitor is a monopoly, two players are a duopoly, and three players represent a potential oligopoly. For free market competition, there must be multiple competitors. Accordingly, *the FCC arguably needs to set its N+I tests in such a way that the requisite number of competitors can justify economic market entry.*

7. How many competitors are needed in a market? Arguably, the FCC already dealt with this issue in mobile wireless. It initially established two cellular licenses in each market, only to find that the result was high prices inhibiting consumer usage. To foster competition, it therefore established six PCS licenses in each market, and allowed ESMR to be redeployed as an additional player. In total, therefore, the FCC believed that nine different players in each market was the appropriate number.

8. Given the history of the C block licensees, nine players would appear too high. Arguably, therefore, in any telecom market, we need more than three and less than nine players. Splitting the difference, we advocate that the FCC establish a 'Rule of 6' test for market competition – in other words, that the N+I test *must facilitate economic entry by at least 6 players in a market.*

9. What would a 'Rule of 6' test mean in practice? Looking at Figure 1, we considered two share scenarios in which 6 players share a particular market. In the 'Level Share Case,' each player has a 16.7% market share. In a more realistic 'Graduated Share Case,' in which each player has one-half the share of the next largest player (consistent with an ILEC's retaining 50% local share and AT&T/MCI WorldCom each taking substantial double digit shares), *the marginal 4, 5 and 6 players each would have single digit market shares.*

10. If so, this has the following important implication for public policy: *the FCC needs to set N+I tests in such a way that the marginal 4-6 players have economic incentives to enter the market.* If the N+I tests are set too high (i.e., permitting economic entry by players 2-3 but not 4-6, the result arguably will be a duopoly or a three player oligopoly. This arguably was not what Congress intended. Indeed, in Sections 257 and 714 of the Telecom Act, Congress required that the

FCC reduce entry barriers for small businesses, and mandated the establishment of a Telecommunications Development Fund to “promote access to capital for small businesses in order to enhance competition in the telecommunications industry.” Accordingly, N+I standards that shut players 4-6 out of the market are inconsistent with establishing vibrant telecom competition.

Figure 1: 'Rule of 6' Market Scenarios

Player #	Level Share Case	Graduated Share Case
1	16.7%	50.0%
2	16.7%	25.0%
3	16.7%	12.0%
4	16.7%	6.0%
5	16.7%	4.0%
6	16.7%	3.0%
Total	100%	100%

Issue Two: Measuring 'Meaningful' Impairment

11. Given the need to make player 4-6 CLECs economically viable, we need a methodology for determining when the absence of UNEs would represent a meaningful impairment.

12. Our approach is relatively straightforward. We would consider the following question – *in the absence of a UNE, can a marginal player 4-6 generate future operating cashflows that at least recover investments and the cost of capital?* If the answer is yes, there is meaningful impairment (and the UNE in question must be provided). If the answer is no, there is no meaningful impairment (and the UNE is unnecessary).

13. Accordingly, for a prototypical marginal player 4-6 with single digit market share after ramp-up, we would:

- Consider that player's cost of capital (arguably higher than for an ILEC, due to lower share and substantially greater risk). There are well-established techniques for establishing market-based CLEC costs of capital.
- Develop a facilities-based investment cashflow scenario in which the player must build its own UNEs (in the absence of an ILEC UNE). To facilitate this, we would use the FCC's Hybrid Cost Proxy Model, adjusted for single-digital CLEC shares and a time-based ramp-up period.
- Discount the result at the cost of capital and see if NPV is zero or greater.

14. In advocating the above approach, we do not recommend an easier but intellectually flawed approach (which the Supreme Court explicitly rejected); i.e., compare the marginal player's facilities-based costs against an ILEC's UNE at TELRIC; wherever CLEC cost is greater than ILEC cost, find that the N+I test is met. We assume that in virtually every case, the ILEC's superior economies of scale/scope combined with lower cost of capital will result in lower ILEC UNE prices. Per Justice Scalia's 1% dictum, however, we think that the higher cost only becomes 'meaningful' if/when it results in negative DCFs at the CLEC's cost of capital.

15. We also considered but rejected a related approach; i.e., compare CLEC to ILEC UNE costs, and find that the N+I test is met if the CLEC's cost is more than x% higher. The problem with this is the Sodom and Gomorrah issue. How do we set the number rationally, unless we first consider the impact on marginal player 6's DCF at its cost of capital? Accordingly, we believe that the FCC must take prospective revenues as well as costs into account, and perform a full DCF on free cashflow. However, having done this, we agree that the conclusions can be encapsulated into 'percentage difference' tests for each UNE.

16. Our focus on discounted cashflow discounted at the cost of capital avoids the pitfall of over-emphasizing short term CLEC unprofitability. Arguably, for startup CLECs with zero day-one share and substantial upfront fixed investment costs, substantial multi-year losses are part of the territory. However, these arguably do not represent 'meaningful' impairment if they are offset by long term profitable growth. This is why the CLEC sector commands high valuation multiples despite continued lack of profitability.

17. Our approach on time-discounted cashflow arguably deals with one of the major arguments made by CLECs and IXCs; namely, that UNEs are needed because of substantial time-denominated barriers to entry. To the extent that these exist, they can be considered by adopting a multi-year ramp-up period with negative initial profitability.

18. Practically speaking, the effect of looking at the DCF for marginal players as opposed to an AT&T or MCI WorldCom will be to increase the likelihood that a particular UNE will pass the N+I test. Many of the UNEs have substantial economies of scale or scope. As a result, the unit costs for deploying these UNEs by a marginal player 4-6 will be high, due to amortizing a high fixed cost structure against a relatively low market share. This, however, arguably is the point. If we want real competition and not an oligopoly, we need more than three competitors in a market. If making a UNE available is required to make players 4-6 economically viable, so be it.

19. In this context, we disagree with ILECs who argue that the presence of CLEC network element buildouts is evidence that the N+I test fails. Anyone reading the papers about AT&T's TCI and Time Warner deals will acknowledge that there may be numerous instances in which AT&T will be building network facilities. However, we think this is irrelevant if the appropriate test is the extent to which there are significant barriers to entry for players 4-6.

20. Some other thoughts on implementing a DCF approach are as follows:

- Since market prices and TELRIC-based unit costs may drop over time, DCFs will need to be recalculated periodically. As a result, the UNE list may require periodic revision. Alternatively, the FCC might want to assume baseline price reductions over time in its DCF calculations.
- Our proposed time-discounted approach supports explicit time-denominated strategies. For example, the FCC could decide that certain UNEs or UNE-P (UNE Platform, in which all 7 UNEs are purchased as a bundled suite) are needed for a certain number of years, until players 4-6 are able to reach sufficient scale to justify facilities-based investment.
- The order in which UNEs are considered may affect the results. Arguably, the process should begin with 100% of the CLEC revenues and with a complete 100% UNE-P (platform) approach. Then, the analysis would eliminate the UNEs sequentially, starting with the UNE having the least marginal impact on DCF and ending with the UNE having the greatest marginal impact. Arguably, at the point at which a marginal UNE reduces the CLEC's DCF return to cost of capital, all additional UNEs would be required under the N+I test.
- To deal with concerns about the complexity of the required calculations, a possible simplifying option is to do the analysis on a national basis and then convert the results into percentage 'rules of thumb;' i.e., wherever the CLEC cost for UNE_x is greater than $y\%$ over ILEC TELRIC, the UNE must be made available (because differentials greater than this amount result in returns below the cost of capital.)
- An interesting issue is whether the DCF analysis should be limited to regulated ILEC services, or should be extended to include additional services such as LD, broadband Internet access, ISP service, etc. There is no clear answer here, but on balance we believe that the product set

should be limited to 'standard' ILEC services. This admittedly presents issues regarding the appropriate treatment of data-only CLECs such as COVAD.

- To what extent should cumulative capital requirement also be considered as an additional metric? In theory, a CLEC should be able to raise unlimited funds at its cost of capital. In practice, CLECs have limits. Accordingly, the FCC may want to consider cumulative capital requirements as a second factor, in those instances where DCF at the cost of capital is positive.

Issue Three: To What Extent Does The Answer Differ By Market Segment?

21. The answer is that *the result will differ substantially by market segment, defined either geographically or by customer type.*

22. Clearly, **geography** will have a strong impact on DCF and therefore on the N+I test. ILEC end-customer prices generally are geographically averaged, while costs for low density areas are higher than for urban zones by quantum multiples. Therefore it is easy to believe that marginal players 4-6 may be able to justify building network elements in midtown Manhattan, but not in North Dakota.

23. An additional geographic issue is the availability of CLEC UNE alternatives. In its decision, the Supreme Court mandated that the FCC consider UNE availability from CLEC as well as ILEC sources. In theory, as new network CLECs 2-3 look to load their networks, they will have the incentive to resell UNE components to CLECs 4-6 in order to decrease their average costs (and help cash flow). If and when this occurs, the N+I test will fail in some circumstances. However, it arguably will pass in other circumstances, for two reasons:

- CLECs typically will be building out in high-density geographies only. So any low-cost CLEC alternatives will not be available in rural areas.
- The Telecom Act does not require that CLECs make UNEs available on a resale basis, and it does not mandate TELRIC rates when UNEs are made available. This means that (a) CLEC availability will be on a geographically patchwork-quilt basis, and (b) the CLEC UNE rates even where available may or may not be sufficiently low priced to pass our proposed N+I metric.

24. So net-net, the N+I test will generate different answers in different geographies.

25. Looking next at **customer segmentation**, it is well known that business lines cost around the same as residential lines but generate much higher toll traffic as well as higher local rates. Accordingly, it is easy to believe that marginal players 4-6 may be able to justify building CLEC networks to large office buildings, but not to single family residences.

26. In this context, we differ with ILECs who argue that the existence of CLECs with high valuations is evidence that UNEs are unnecessary. There are approximately 25,000 Class 5 switches in the US. The fact that CLECs may be targeting business accounts in perhaps the top 100-500 of these (0.4%-2.0% of the total) does not mean that the N+I test has been met in the great majority of the US footprint.

27. So net-net, we anticipate that our proposed N+I test, fairly applied across different geographies and customer segments, will result in a patchwork quilt set of answers. In some instances, a particular UNE will be needed; in other instances, not. Because this outcome is close to being a certainty, we differ with the FCC's NPRM preliminary conclusion (supported by IXCs and CLECs) that there should be a nationwide minimum UNE set established on a national basis. If this were done on a convoy basis (to satisfy CLEC needs in low DCF zones), the practical effect would be to make all UNEs available everywhere. This does not seem consistent with the Court's mandate that CLEC availability be considered. Alternatively, the FCC could look at CLEC availability on average. However, reaching average conclusions will lead to the classic 'drowning in 2 inches of water problem' – UNEs will exist in places where they aren't needed, and won't exist in places where they are.

28. We instead advocate a different process. The FCC should establish a set of national N+I test metrics and standards, and allow the states to apply them to specific geographies and customers, reserving the right to review and supercede where necessary. This allows for the existence of valid N+I differences across the country, while establishing some basis for uniform national treatment of the issue.

* * * * *

29. In summary, we believe that to pass Court N+I scrutiny, the FCC needs to establish specific metrics for determining what constitutes meaningful impairment. If the goal is to establish multiple players in key segments, we

recommend the above approach as being consistent with microeconomic theory while being consistent with the 'rational' and 'limiting standard' tests mandated by the Court.