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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Deployment of Wireline Services)
Offering Advanced Telecommunications)
Capacity)

CC Docket No. 98-147

Reply Comments Of New World Paradigm, Ltd.

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NEW WORLD PARADIGM, LTD.

REPLY COMMENTS

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DISCUSSION

New World Paradigm, Ltd. is a research firm specializing in the development of communications and video technologies. NWP's reply-comments draw on certain statements of AT&T, the Ad Hoc Telecommunications Users Committee (AHTUC), the Association for Local Telephone Services (ALTS), Paradyne Corporation and Northern Telecom. Taken as a whole the statements reinforce NWP's opinion that:

- loop spectrum management is an extremely difficult matter in an xDSL environment;
- there is no *a priori* way to determine a loop's xDSL compatibility, it is affected by many interrelated issues and such a determination has to be made in the field or upon the failure of service;
- there are no fixed boundaries separating these two issues -- they are two sides of the same unfinished and incomplete picture known as xDSL technology.

For example, Paradyne comments at page 3:

The physical constraints of the loop plant can never preclude the interference of one xDSL technology upon itself or other xDSL technologies... the key is to minimize interference... too often spectral compatibility concerns are raised as a means to thwart competition... The commission should recognize the value of generic, power spectral density masks as proposed by Bellcore...

Paradyne is correct, but minimizing interference is just one key to make xDSL work.

However, ALTS's comments at pages 61 show there is no consensus about how minimization should be conceived and achieved:

Concerning spectrum management standards [--] this is not a solution where existing standards bodies are likely to be effective... any loop... interference "solution" can only be determined in the field, not on the laboratory bench... there is little experience with field deployment of DSL... most DSL technologies are proprietary... these issues are in the hands of... vendors, not standards bodies.

Assuming that ALTS is correct, NWP urges the Commission to be cautious in how it approaches any proposal for waivers of Part 68 rules. For example, Nortel comments at pages 5 and 6:

With respect to loop spectrum management, Nortel believes... there is already in place a regulatory mechanism to address the relevant Customer Premise Equipment issues on a national basis – Part 68 of the commission's Rules... Through a notice and comment proceeding, the Commission should modify Part 68 to accommodate new technologies such as xDSL. Nortel understands that the industry, through the TIA is undertaking efforts to assist the commission in such a proceeding."

Before the Commission embarks on waiver proceedings recommended by Nortel and the TIA, the Agency should consider how it will bring the public interest to bear in

such a proceeding, where “most DSL technologies are proprietary [and]... in the hands of... vendors,” according to ALTS. NWP believes this is important because consumers are the “payers of last resort” for those vendors who move up the xDSL learning curve by stranding consumer’s investments in xDSL technology, as suggested by ALTS comments at page 62 footnote 38:

Currently an end user purchasing an xDSL modem has no assurance it can be reused if the end user were to move to a new location.

AT&T concurs in its comments at page 58 footnote 105:

[xDSL] vendors do not design their equipment so that it will work with or even in the presence of, any other’s equipment.

These sentiments suggest a need for deliberate, methodical assessment of the relationship between the consumer side of xDSL technology and its loop side. This should occur in an NOI or other appropriate proceeding before the Commission takes up proposals to modify Part 68 of its rules. Just as important, the Commission should develop a strategy and plan of action to assess and act on the “antenna effects” we pointed out in our initial filing at pages 8-9. Thus NWP believes Nortel’s concern for “impeding” xDSL deployment is misplaced when the company, at page 5, advises the Commission that:

The deployment of xDSL should not be impeded by requiring excess conditioning and quantification of loops... the rules should allow for costs to be in proportion to the physical characteristics of the loop and the conditioning required by the selected technology.

Apparently other parties do not share Nortel's preference for relaxed "conditioning" and "quantification." For example, AT&T comments at page 61:

Pending the development of industry standards, the commission should not allow ILECs to exercise unfettered control over spectrum management decisions... The Commission should require ILECs to disclose periodically, with respect to each binder, every rejection of, or condition imposed on an entrant's provision of data services, together with the reason for the rejection or condition, the number of loops in that binder that the incumbent or its affiliate use to provide data services, and the service initiation date for each such loop... After industry standards governing spectrum management have been adopted and implemented lifting these requirements can be considered.

Managing loop spectrum is a central issue in making xDSL work in a multiple provider scenario, particularly where new entrants worry about the incumbent manipulating technical constraints to achieve a commercial purpose. The comments also make clear that the xDSL market is a disordered one, full of uncertainty, incompatibilities and conflicting interests. Thus, there is a high likelihood that xDSL will never be a universally available product the way POTs is and the way analog TV is. The Commission should be certain it is being realistic about xDSL's limitations and be judicious in its final rules so they do not take on the appearance of a systematic effort to help a technology that cannot help itself.

Perhaps the most crucial economic and genuinely disturbing finding about xDSL technology was made by AHTUC at page 14 of its comments:

- **“There is little reason to expect that significant economies of scale exist for DSL deployment.”**

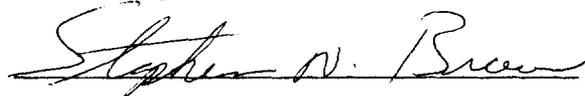
Assuming the AHTUC meant what it implied, that there really are no economies of scale in DSL deployment, then xDSL should be abandoned as a strategy for national economic growth. Scale economies means the more a product is produced, the less economic resources it takes to produce the product. The product gets more inexpensive the more it is used. It's the secret of modern economic growth and it works today in the computer industry and communications, it used to work in the electric power and natural gas industries, and it still works today in agriculture: fewer tillable acres feeding more and more people. It's also what makes Moore's law work. If DSL does not follow this principle, then DSL costs are not going to decline the more DSL is deployed. Perhaps this is why the incumbents are slow to deploy it, perhaps using it as a tool to protect market share and stave off competitors as needed rather than counting on it to supplant the core business.

Nonetheless, AHTUC's finding means that economic growth founded on xDSL communications will quickly stagnate, hardly a recipe for economic growth in the 21st century. This finding should give all parties ample reason to pause and consider whether xDSL is a path to economic growth or economic stagnation.

Respectfully Submitted,

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