1986 WL 291966 (F.C.C.)

FCC 86–253

***1** In the Matter of
Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry); and
Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Authorizations Thereof
Communications Protocols under Section 64.702 of the Commission's Rules and Regulations

CC Docket No. 85–229, Phase II

SUPPLEMENTAL NOTICE OF PROPOSED RULEMAKING

Adopted: May 15, 1986

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By the Commission:

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I. INTRODUCTION

1. In the Computer III Order,[FN1] we established a new regulatory framework to govern the participation of the American Telephone and Telegraph Company (AT & T) and the Bell Operating Companies (BOCs) in the enhanced services marketplace. This new framework replaced the structural separation requirements that we established in the Computer II proceeding [FN2] and have applied to the enhanced services operations of AT & T and the BOCs with a set of less intrusive, nonstructural safeguards. Such safeguards, which include Com-

parably Efficient Interconnection (CEI) requirements and a general plan for implementing Open Network Architecture, will permit all enhanced services providers to obtain access to the public switched network equivalent to the access provided by carriers to their own enhanced services operations.[FN3] The nonstructural safeguards also address carrier disclosure of network information, accounting practices, and use of customer proprietary network information (CPNI).[FN4] We also adopted interim regulatory procedures for the treatment of protocol processing functions based on the conditions of our *Asynchronous/X.25 Waiver Order*[FN5] and our *X.25/X.75 Waiver Order*.[FN6] *Finally, we affirmed our previous regulatory treatment of Voice Message Storage (VMS) services as enhanced services and of Network Channel Terminating Equipment (NCTE) as customer premises equipment (CPE).*[FN7] *We anticipate that this new regulatory scheme will increase the level of competition in enhanced services markets and stimulate both carriers and competitive enhanced services providers to offer new and innovative services to the public.*

***2** 2. We are issuing this Supplemental Notice to solicit further comment on five topics that were addressed in the original Notice or in the comments filed in this proceeding.[FN8] First, we present three alternative regulatory treatments of protocol processing, which under the Computer II rules is included in the "enhanced service" category. Under Alternative A, protocol processing would be treated as an "adjunct" service, which can be offered as part of an underlying basic service or an enhanced service, without changing the regulatory status of either service. If we were to adopt this approach, carriers would be permitted to offer protocol processing as a regulated service subject to Title II of the Communications Act of 1934.[FN9] Under Alternative B, we would, in the first instance, classify all protocol processing services as enhanced services, but preserve our discretion to identify selectively those that should be classified as adjuncts to basic service. We would implement this approach initially by classifying as "adjunct" the following protocol processing services: X.25/X.75 conversion; asynchronous/X.25 conversion; protocol processing involved in the initiation, routing, and termination of calls; and protocol processing in connection with the introduction of new technology to implement existing network services. Alternative C would continue to treat all protocol processing functions as enhanced services that could be offered by AT & T and the BOCs subject to the CEI, Open Network Architecture, and other nonstructural safeguards adopted in the Computer III Order for enhanced services generally. While generally maintaining the status quo for treating protocol processing as an enhanced service, this approach would permit integration and joint marketing of protocol processing and basic services subject to such nonstructural safeguards. We request comment on these alternatives, as well as on the possible effects at both the federal and state levels that each alternative could have on the regulatory status of service providers whose offerings may be currently treated as enhanced solely because they incorporate protocol processing.

3. Second, while we concluded in the Computer III Order that nonstructural safeguards should be applied to the enhanced service operations of AT & T and the BOCs, we also decided to defer to this phase of the proceeding a final decision on certain of these safeguards. We adopted this approach, in part, to permit parties to comment on some key safeguards to be applied to the BOCs in light of our proposals in the BOC Structural Relief Notice[FN10] for nonstructural safeguards for the BOCs' provision of CPE. We also determined that certain aspects of the nonstructural safeguards we were adopting for AT & T would benefit from further comment. In this Supplemental Notice, we seek comment on the following proposed nonstructural safeguards: nondiscriminatory access to BOC network services, disclosure of network information by AT & T and the BOCs, and treatment of CPNI possessed by AT & T and the BOCs, as well as our existing capitalization plan requirements.

***3** 4. Third, in the Computer III Order, we deferred resolution of the application of nonstructural safeguards to the provision of enhanced services by the independent local exchange carriers (the Independents).[FN11] In order to gain a more focused record on these issues, we seek comment on whether the differences between the Computer II structural separation requirements, which we declined to apply to the Independents, and our Computer III nonstructural requirements support application of the new rules to some of all of these dominant carriers.

5. Fourth, while we affirmed in the Computer III Order that NCTE will continue to be treated as CPE for regulatory purposes and that provision of NCTE by AT & T and the BOCs will be subject to the same regulatory scheme that is applicable to their provision of all other CPE, we referred two related issues to this proceeding for further comment and consideration. These two issues are: (A) whether we should permit certain NCTE functions to be offered in the network as well as in CPE; and (B) whether we should amend or clarify the carrier "multiplexer" exception to our CPE rules in light of certain developments in the provision of digital services.[FN12]

6. Fifth, we request comment on the application of Computer III to international communications. This issue was not raised in the Notice, but was addressed by some commenters. We tentatively conclude that the Computer III rules should apply to international communications, and we propose an amendment to our rules to this effect.

II. CHANGES IN THE TREATMENT OF PROTOCOL PROCESSING SERVICES

A. Introduction

7. In the Notice, we proposed three alternatives for the treatment of protocol processing. In the Computer III Order, we observed that none of these alternatives appears to offer a completely satisfactory solution to the treatment of protocol processing, but that the public interest may be better served by adopting regulatory policies that reflect an evaluation of the relative costs and benefits of two disparate analyses of the role of protocol processing in telecommunications. An analysis of the functional aspects of protocol processing indicates that its technical role is to facilitate communications without changing the information content of a subscriber's message or data. Because this analysis indicates that protocol processing may be viewed as a neutral function that supports underlying basic or enhanced services, an appropriate regulatory policy might be to treat protocol processing as a tariffed basic service if offered in conjunction with basic services and as unregulated if offered in conjunction with enhanced services or as part of CPE. However, an analysis of the enhanced services industry and the markets for products and services utilizing protocol processing indicates that such functions are important components of offerings, such as packet switching, that are provided in highly competitive markets by unregulated firms. This suggests that the best mechanism for permitting AT & T and the BOCs to offer protocol processing on an unseparated basis, without undermining the competition that has developed since we deregulated these services in Computer II, may be to continue to treat protocol processing as an enhanced service, for which AT & T and the BOCs would be subject to the nonstructural safeguards adopted in the Computer III Order. This approach would also retain the regulatory boundaries established in Computer II, eliminating the potential for extending common carrier status to enhanced service providers that presently are unregulated by virtue of providing protocol processing functions that are now considered to be enhanced services. In order to build a more complete record that reflects our decision to replace structural separation with nonstructural safeguards for the enhanced services operations of AT & T and the BOCs, we decided to defer to this Supplemental Notice the question of whether we need to revise our treatment of protocol processing functions.[FN13] We present for comment three alternative regulatory treatments for protocol processing.[FN14]

***4** B. Background

1. Computer II Final Decision

8. In the Final Decision in Computer II, we characterized basic service as "a pure transmission capability over a communications path that is virtually transparent in terms of its interaction with customer supplied information." [FN15] We held that code and protocol conversion are enhanced services [FN16] even though we conceded that these services perform functions similar to those performed by basic services in that they permit disparate terminals to communicate with each other. We further noted that since "the universe of terminals that can communicate with one another is larger where such capabilities are offered, arguments can be made that these functions should be allowed as part of a communications service." [FN17]

9. However, we rejected such arguments on two grounds. First, we noted that no compelling evidence had been submitted to indicate that the carriers providing such services subject to structural separation would suffer serious losses in efficiency. Second, we stated that there "is the likelihood of distorting the regulatory distinction between basic and enhanced services if protocol conversion is performed as a part of a basic service." [FN18] We noted, however, that the issue of protocol conversion was not addressed in particular detail by the commenters, and that it might be desirable to examine more closely the possibility of permitting the integrated provision of some forms of protocol conversion by basic service providers subject to structural separation. We stated:

> It may be that certain low level protocol conversions should be allowed as part of a basic service. In the near future we will consider a Notice of Inquiry to examine in detail the implications of forbidding all protocol translation....[FN19]

2. Protocols Order

10. In the subsequent Protocol Notice,[FN20] we asked for comments on a number of issues raised by the treatment of protocol conversion under the Computer II rules. In particular, we noted that the burgeoning of packet-switched networks and asynchronous terminals (which are incompatible with packet-network protocols) might have created a situation in which it might be desirable to permit carriers subject to structural separation to offer such conversions on a collocated basis.[FN21] In the Protocols Order,[FN22] while reaffirming the classification of protocol conversion as an enhanced service, we found that it would be in the public interest to permit the collocated offering by the BOCs and AT & T of certain protocol conversions (such as asynchonous/X.25 and the internetworking conversion X.25/X.75) on a case-by-case basis subject to a set of four waiver principles that were adopted in that Order.

3. X.25/X.75 and Asynchronous/X.25 Waivers

11. Several BOCs subsequently filed petitions seeking waiver of structural separation for the provision of X.25/X.75 and asynchronous/X.25 conversions. In the X.25/X.75 Waiver Order,[FN23] we found that the X.25/X.75 conversion can be offered on an integrated basis with basic services, subject to our Title II regulation but not the Computer II constraints.

***5** 12. In our Asynchronous/X.25 Order,[FN24] we found that this conversion should remain classified as an enhanced service, but that the BOCs could offer such services using facilities collocated with their basic service facilities subject to certain nonstructural safeguards. In addressing the issue of whether the offering of asynchronous/X.25 protocol conversion on a collocated basis would result in greater efficiencies and lower costs, we stated that "BOCs have adequately demonstrated that the public interest would be served by allowing them to provide asynchronous/X.25 conversion in facilities collocated with their central offices."

13. In reaching this conclusion, we noted that substituting intra-office wiring for local loops, which is necessary to interconnect the separated protocol conversion facility with those of the basic service provider, would result in cost savings due to re-

duced investment in transmission facilities and reduced maintenance and operation costs. We further noted that widely available protocol conversion services would stimulate the use of BOC-operated, local area, basic packet-switched networks. Since in many cases packet networks can support the unique traffic patterns generated by data communications users more efficiently than local, circuit-switched, analog telephone facilities, new construction demands for the circuit-switched facilities were expected to decrease, resulting in cost benefits to the large majority of subscribers who are telephone subscribers and not data communications users.

4. Computer III Notice and Order

14. In the Computer III Order, we determined that enhanced services in general can be offered on an integrated basis subject to the nonstructural safeguards set forth therein. We did not, however, resolve the issue of the regulatory treatment of protocol processing. In commenting on the three alternative treatments for protocol processing that were proposed in the original Computer III Notice, the majority of the parties agreed that protocol processing, including protocol conversion, should be offered on a collocated basis. The parties, however, were divided upon the issue of appropriate regulatory treatment.[FN25] In the Computer III Order, we declined to adopt any of the alternatives described in the original Notice, and instead decided to develop a more complete record, in light of our general conclusions in that Order, on whether changes are needed in the regulatory treatment of protocol processing. This Supplemental Notice is the vehicle for developing such a record.

C. Nature of Protocol Processing

1. Terminology

15. In order to consider the issues surrounding the proper regulatory treatment of protocol processing, we first clarify the meaning of terms such as "protocol," "protocol processing," and "protocol conversion" and then examine the functions represented by such terms in the context of their specific interaction with the communications process. "Protocol" does not have a unique, universally accepted definition.[FN26] It essentially is a term of art used by data communications engineers to denote the standardized, system-operating disciplines and technical parameters that subscribers and carriers must utilize and observe in order to permit the exchange of information among terminals connected to a specific communications network. Such networks may range from extensive common carrier facilities to local area networks (LANs), where terminals interconnect over a limited area using private communications facilities.

***6** 16. "Protocol processing" [FN27] is a generic term that denotes the use of a computer or computer-like device to process the protocol-related symbols appearing either in a subscriber's transmission or generated within the network for the purpose of intra-network data transport.[FN28] Protocol processing takes place throughout the process of setting up and maintaining end-to-end communications. We consider "protocol conversion" to be a subset of "protocol processing". Protocol conversion is the specific type of protocol processing that is employed to permit communications between terminals or networks that observe disparate protocols. In both analog and digital networks, protocols must be established and protocol processing must take place.

17. In the analog telephone network, "protocol" may include such parameters as: (a) the required number of digits in a dial code; (b) the permissible signal levels and input impedances for CPE; (c) the bandwidth and phase characteristics of a communications channel; and (d) various analog supervisory signaling methods. An elementary form of protocol processing takes place when, in response to an off-hook signal from a subscriber's telephone, a dial tone sent from the end office informs the subscriber that the network is ready to accept address digits. Specifications for analog telephone protocols reside in the tariffs and in the technical literature of the various local exchange carriers and interexchange carriers, in Part 68 of our Rules for the interconnec-

tion of CPE, and in the “Red Book” series of the International Telegraph and Telephone Consultative Committee (CCITT).

18. The ensemble of parameters that comprises the protocol of a typical digital network would include, but not be limited to, the following: (a) the specific code to be used for the information-bearing characters or symbols and the location of parity bits (if any); (b) (for packet switching) the format of a data packet, including packet length and the location and format of the addressing characters; (c) (for circuit switching) the format for data blocks, the specification of block length and the order of the start-of-block and end-of-block symbols; (d) the parameters associated with transmission line specifications, including symbol format (e.g., bipolar or NRZ), transmission speed, the location and nature of clock pulses or other synchronizing symbols, and procedures for error detection and control, including the identification and function of the various control symbols.

19. Because of the maturity of analog telephone technology and its relatively simple protocols, analog protocol processing has not been a controversial issue before the Commission. However, digital protocol processing and digital protocol conversion have been the subject of ongoing proceedings before us because of certain features of digital transmission. Computers, or computer-like devices, are uniquely suited to perform the various switching and protocol processing functions associated with digital transmissions. The digital symbols that carry a subscriber's information are usually interleaved, even during end-to-end transmission, with symbols associated with transactions related to the system protocol, such as specific procedures for routing, error control, and packet assembly and disassembly. In a packet switched network, for example, protocol processing takes place continuously during the end-to-end transmission, while in an analog circuit-switched system, protocol processing does not occur after a connection has been established.

***7** 20. Digital protocols are quite diverse, due to the variety of the technologies associated with switching and terminal components, transmission media, and various network architectures. Existing CPE and network switching equipment operate under a variety of data rates, transmission codes (such as ASCII and EBCDIC),[FN29] transmission formats (such as asynchronous and bisynchronous), and error detection and correction procedures. Numerous transmission speeds and formats are available in the local loop (e.g., 4KHz analog, 9.6 Kb/s DDS, 1.544 Mb/s T–1 Carrier). Finally, consumers may choose among various packet-switched, circuit-switched, and private line networks—all of which may be operating under different protocols.

2. Functional Aspects

(a) Discussion

21. In considering the various aspects of protocol processing, we note that even without end-to-end protocol conversion, carriers must employ computer processing applications that act on the symbols denoting the format, content, and code of a subscriber's transmission, in order to effect and maintain end-to-end communications. We also note that, in performing these operations, no change in the information content of the message will take place—absent the presence of errors inadvertently introduced by disturbances or malfunctions in the communications system.

22. For example, protocol processing applications (including conversions) that act on codes and formats are necessary in order to provide a virtually transparent information path. These applications do not affect the information content of a transmission. Computer processing applications that act upon the information symbols of a subscriber's message must be performed, in accordance with system protocol, in order to provide the pulse regeneration and error detection and correction necessary to maintain transmission quality with the express purpose of not changing information content. Protocol conversion necessary to permit a terminal to be compatible with network protocol, or a disparate terminal, is specifically implemented in such a manner that no

change in information content takes place.[FN30]

23. It is evident that the performance of the first-clause services that we have discussed (i.e., code conversion, formatting, pulse regeneration, error detection and correction, and protocol conversion) is for the sole purpose of replicating the information content of the calling party's transmission at the premises of the called party. Such services do not provide any additional, different, or restructured information, nor any interaction with the content of stored information. In performing these functions, the carrier is maintaining a pure transmission capability over a communications path that is virtually transparent in terms of its interaction with customer-supplied information, as the Final Decision defined basic services.[FN31]

(b) Regulatory Treatment Based on Functional Aspects.

24. We not consider whether we need to revise the regulatory treatment of protocol processing. The record compiled to date in this proceeding shows that protocol processing, and protocol conversion in particular, can be performed within a carrier's network by equipment that may in some cases be integrated into, or collocated with, switching equipment. A carrier may perform this function as a complement to its basic services or to implement second and third clause services that it may offer. Similarly, value added networks (VANs) and other enhanced service providers generally have such capabilities resident in their networks.

***8** 25. The current record further indicates that protocol processing may also be implemented in non-carrier-provided CPE, which can perform both the relatively straightforward asynchronous/X.25-type conversions and a variety of other more sophisticated terminal-to-network and terminal-to-terminal conversions.[FN32] This CPE can be used in conjunction with the basic network services of carriers, the services of enhanced service providers, or on-site or LAN communications.

26. In all of these applications, we note a common characteristic. The purpose of protocol processing in these applications is to permit inter-device communications without changing the content of the information being transferred. In acting upon a transmission's protocol symbols and information symbols, protocol conversion neither intentionally creates new information, nor deletes or modifies existing information. It has utility whether or not a common carrier network is interposed between the devices. Therefore, we wish to consider whether an appropriate regulatory policy for protocol processing would be to treat it as essentially a neutral function (i.e., a function that, by itself, is neither an enhanced nor a basic service), which can be employed by: (a) regulated common carriers—as an adjunct to basic communications service; (b) enhanced services providers such as VANs—as an adjunct to enhanced communications service; or (c) users of data processing equipment or CPE in conjunction with on-site, inter-device communications or, alternatively, with a common carrier interconnection.[FN33]

27. This regulatory treatment is consistent with our NATA Centrex Order,[FN34] in which we noted that the enhanced service definition in our Rules and the associated discussion in the Final Decision do not completely describe the permissible ways in which computer processing may be used in the offering of basic services. Within the context of Centrex service, we discussed the concept of computer-implemented services that are adjunct to basic service rather than services with a stand-alone value.[FN35] For example, we found that certain such “adjunct” services may properly be offered under the Centrex tariffs because they serve no purpose other than facilitating use of basic telephone services.[FN36] This analysis leads us to present two regulatory approaches—Alternatives A and B—discussed below.

(1) Alternative A.

28. Given the analysis that protocol processing has neutral functional characteristics, we propose as one alternative to permit common carriers to offer

protocol processing, and protocol conversion in particular, as part of their basic service offerings. We are aware that in the Final Decision we concluded that protocol conversion should be an enhanced service because of the possibility of blurring the boundary between enhanced and basic services.[FN37] However, a definition of protocol processing that is based on a test of whether the information content of a subscriber's transmission is changed might provide an effective basis for allowing a carrier to offer protocol processing services as an adjunct to basic service, rather than as an enhanced service. Accordingly, we turn to the issue of what criterion should be used for determining whether a change in information content has taken place.

***9** 29. The majority of the computer processing applications employed by carriers are intended to transport a subscriber's information symbols to a destination without changing the information content. For example, when not performing protocol processing, a basic service provider may be employing computer processing to operate upon the information component of a transmission to perform: (a) multiplexing (the interleaving of several information streams over one transmission path); or (b) signal conditioning (the regeneration of information code groups that have become degraded during the transmission process). With regard to protocol processing, many of the applications do not involve any interaction with information symbols at all (as in the reaction of a switch to a "start-of-message" character). Those protocol processing operations that do interact with information symbols, such as error detection and correction (the checking of the parity bits in an information character and requesting retransmissions) or code conversion (e.g., conversion from Baudot to ASCII), are intended to maintain the integrity of a subscriber's information—not to change it.

30. In those very few borderline cases involving some unconventional manipulation of subscriber information symbols, we propose that a simple test to determine that information has not been changed would be if, during end-to-end communications, the output character string is identical to the input character string. For example, if the character sequence, ABCD, is transmitted and it arrives at the destination as, ABCD, information content has not changed—even if the message originated in EBCDIC and was delivered in ASCII. If the character sequence 1, 2, 3, 4 is transmitted and arrives as 10, information content has been changed by the enhanced service, arithmetic processing.

31. In accordance with the concepts developed above, we offer for comment the proposed revision of section 64.702(a) of our Rules set forth in Appendix A. We have assumed that if we were treating protocol conversion as a neutral service, that it need not be included within the definition of enhanced services. Appendix A also presents further revisions to the enhanced service definition. The proposed new paragraph (a) defines three categories of enhanced service that may provide better descriptions of the types of service currently available in the marketplace. Under this definition a service would be treated as enhanced if it:

> employ[s] computer processing applications that act on a subscriber's transmission to [1] change its information content; [2] provide the subscriber additional information; or [3] permit the subscriber to interact with stored information.

32. The new first clause language "change its information content" encompasses those enhanced services that are commonly thought of as being conventional data processing. The services under this clause would subsume, among other things, arithmetic processing (commercial and scientific applications), word processing (text editing), and image processing (enhancement of X-ray or nuclear magnetic resonance imaging processes). The new first clause may also eliminate the ambiguity in the first and second clauses of the current definition.[FN38]

***10** 33. The proposed second clause language

"provide the subscriber additional information" would subsume services related to process control functions—such as fire and intrusion detection and alarm systems. Finally, we retain the third clause language "permit subscriber interaction with stored information". This clause would subsume such services as voice message services and proprietary information retrieval services which provide access to data banks consisting of such information as newspaper files, legal opinions, medical data, vendor product files, and bibliographies.

(2) Alternative B.

34. Alternative A would remove from the ambit of enhanced services any protocol processing application that does not change the information content of a subscriber's transmission. This approach is based largely on our observation of the nature of some of the specific protocol processing applications that are operational today—in particular, the asynchronous/X.25 and X.25/X.75 conversions, which have been the subjects of extensive proceedings before this Commission. We note, however, that for other protocol processing applications, there may be countervailing considerations that would support a different approach under which they would continue to be treated as unregulated enhanced services. We accordingly request comment on an alternative proposal that would prevent such enhanced services from being offered as part of basic service operations.

35. Under this alternative, we would define "protocol processing" in accordance with the concepts discussed above; but, rather than classify the universe of these applications as being adjuncts to basic service, we would select only those with which we have direct experience.[FN39] We would, therefore, initially consider all protocol processing services to be enhanced, but preserve our discretion selectively to identify those that can be classified with certainty as adjuncts to basic service. At present, we propose to remove the following applications from the enhanced service category: (a) "protocol processing involved in the initiation, routing and termination of calls (or subelements of calls, e.g., packets)" [FN40]; (b) X.25/X.75 conversion; (c) asynchronous/X.25 conversion; and (d) "protocol conversion in connection with the introduction of new technology to implement existing services." [FN41] Any other specific protocol conversions that a carrier intends to offer on an unseparated basis will be examined by us under the procedures outlined in the Computer III Order, which include the filing of CEI and other plans.[FN42] The restrictions embodied in this proposal are contained in the proposed new language for section 64.702(a) of the Rules set out in Appendix B.

3. Competitive Aspects.

(a) Discussion

36. Although Alternatives A and B seek to tailor our regulatory treatment of protocol processing to its technical functions, we recognize that certain pragmatic and jurisdictional issues concerning the effects of potential re-regulation of the markets in which protocol processing are offered may call for a different regulatory approach. Even though protocol processing is a technically neutral function, it is an important component of products and services offered in highly competitive markets.[FN43] Various types of protocol conversions are features of packet-switched communications services provided in unregulated competitive markets. In such markets, it may be more appropriate to retain generally the current treatment of protocol processing as "enhanced" and to impose nonstructural safeguards, such as those adopted in the Computer III Order, on the unseparated provision by AT & T and the BOCs of these functions, rather than bring them within the ambit of tariff regulation as components of basic services. Under Alternatives A and B above, all or some protocol processing functions, when offered by dominant carriers in conjunction with a basic service, would be subject to Title II and state regulation, which does not ordinarily include all aspects of the nonstructural safeguards adopted in the Computer III Order. Although such safeguards possibly could be imposed as special rules for services such

as packet switching, or included in tariffs filed with the Commission as mandatory terms and conditions, it may be of greater benefit to the public simply to treat protocol processing as an enhanced service to which the Computer III safeguards apply. We request comment on this approach. We encourage interested parties to propose special rules, regulatory requirements, or other means of imposing nonstructural safeguards in the context of Title II and state regulation.

***11** 37. In addition, we wish to avoid the unnecessary extension of regulation in markets where competition can maximize public benefits. As we discuss below,[FN44] Alternative A would and Alternative B could result in the extension of both our Title II authority and state regulatory authority to some enhanced service providers (the "value added networks" or VANs) that presently are not regulated because they offer protocol processing. One constant policy theme of all the Computer Inquiries, which has been borne out by experience in implementing these various regulatory regimes, is that where competition in telecommunications goods and services is feasible, it provides much greater benefits to the American public in terms of efficiency, innovation, and reduced prices than does regulation. Accordingly, we wish to consider whether a regulatory treatment of protocol processing other than that of Alternatives A and B may be in the public interest.

(b) Alternative C—Regulatory Treatment based on Competitive Aspects.

38. A third approach to resolving the issues stemming from the provision of protocol processing functions in competitive markets would be to continue treating protocol processing as enhanced services by retaining the existing first clause of Section 64.702(a) of our Rules. Under this approach, protocol processing would continue to be unregulated, and existing unregulated providers of protocol processing would not be subject to potential Title II or state regulation. In addition, the CEI, Open Network Architecture, and other nonstructural safeguards adopted in the Computer III Order would apply to the unseparated provision of protocol processing by AT & T and the BOCs. Thus the VANs would not be subject to any new regulation, and AT & T and the BOCs would be able to provide protocol processing on an integrated basis, subject to nonstructural safeguards.[FN45]

39. We request comment on this alternative and the issues that it raises. We specifically ask for comment on the application of our CEI and Open Network Architecture requirements to protocol processing functions. We also request comment on whether any specific safeguards similar to those of the Asynchronous/X.25 Waiver Order, such as the Network Utilization Rate Element (NURE), should be required for the provision of protocol processing in addition to the Computer III safeguards. The proposed language for Section 64.702(a) of our Rules that implements this Alternative appears in Appendix C.[FN46]

4. Costs and Benefits Associated With the Alternatives.

40. Because Alternatives A, B, and C reflect substantially different approaches to the regulatory treatment of protocol processing functions, we seek to establish a record that clearly addresses the costs and benefits to the public in efficiency, development of innovative enhanced and basic services, consumer choice, fair and open competition, and regulatory certainty and predictability that are posed by the Alternatives. We encourage commenters to focus on these concerns, and we specifically request comment and data, if available, on the impact of the regulatory approaches contemplated by the Alternatives on the technical and administrative efficiencies of developing, operating, and marketing protocol processing functions by AT & T and the BOCs. We also request comment on the state and federal regulatory burdens, and impact on competition, of the Alternatives.

***12** D. Refinements Proposed in the Notice.

41. In the Notice, we proposed several refinements to the existing section 64.702(a) of our Rules. First,

we proposed that the language "during any end-to-end communications" be added after "offered over common carrier facilities used in interstate communications." [FN47] The purpose of this language was to remove from the enhanced services definition such protocol processing operations as call set-up and termination that involve communications only between the subscriber and the network. Second, we proposed that the following applications be excluded from the enhanced services definition: (a) "protocol conversion in connection with the introduction of new technology to implement existing services," and (b) "conversion to create internetworking protocols...." [FN48] The record in this proceeding supports the implementation of these refinements.[FN49]

42. If we were to adopt Alternative A, these refinements would become unnecessary, since none of the applications covered by the refinements would result in a change in the subscriber's transmitted information. If we were to adopt Alternative B we would remove the protocol conversions cited above from the enhanced service category, in accordance with the provision that establishes our authority to "remove specific protocol processing services from the 'enhanced service' category." [FN50] If we were to adopt Alternative C, we may include these refinements in the revised section 64.702(a) of our rules as set forth in Appendix C. We specifically request comment on whether, if we were to adopt an Alternative C approach, we should modify the enhanced services definition to incorporate these refinements or simply retain the definition in its current form.

E. Effect of Alternatives on VANs

1. Alternatives A and B.

43. Under Alternatives A and B, protocol processing would be treated as a neutral function for purposes of regulation. Thus, protocol processing has not been included in the Alternative A definition of enhanced services, and certain types of protocol conversion have been excluded from enhanced services under our Alternative B proposal. As a consequence of these proposals, VANs that presently have the status of totally unregulated enhanced services providers could become subject to our Title II authority as well as state regulation. We refer in particular to VANs whose services are now treated as "enhanced" solely because they offer protocol processing in conjunction with an underlying, interstate, packet-switched transmission service. We have classified a packet-switched service offered by a carrier as basic service,[FN51] and we see no reason to change that classification. While we have relied on the so-called "contamination theory" [FN52] to remove all operations of some VANs from our Title II authority, such a theory is not justified technically or logically under the analysis that protocol processing functions, such as asynchronous/X.25 conversion, are merely adjunct services that should be regulated according to the treatment of the underlying services. If we adopted either Alternative A or B, we would examine the underlying transmission services offered by the VANs to determine whether they are basic services for purposes of Title II of the Act. We note that even if such VANs became subject to our Title II jurisdiction, the policies of our Competitive Carrier proceedings [FN53] would apply, and we would forebear from subjecting the VANs' interstate basic service operations to full-scale rate regulation on the grounds that they are not dominant carriers as defined in the course of those proceedings. However, a finding that such services are basic could also potentially subject the VANs to state regulation of their intrastate basic services, absent preemption in this area. We request comment on these issues, their potential effects on the VANs and users and on possible regulatory responses.

***13** 44. We also request comment on whether, even under Alternative A or B, the "contamination theory" would or should continue to apply to the VANs. For example, under Alternative A, a VAN could offer an enhanced service, such as a data base information service, in conjunction with a basic transmission service and a neutral protocol processing function. Should the offering of such an en-

hanced service cause the basic and adjunct services specifically associated with it to be treated as unregulated enhanced services for regulatory purposes? Should the enhanced service cause all of a VAN's services to be unregulated, even if some of a VAN's services appear to be basic and are offered separately from any enhanced service?

45. Furthermore, under Alternatives A and B, it appears that as nondominant carriers, such VANs also would be subject to the payment of interstate access charges to local exchange carriers, which they now avoid on the basis of their status as non-carriers under the "contamination theory." [FN54] Such VANs appear to use local exchange facilities in originating and terminating their interstate services in the same manner as resellers that will soon be paying essentially the same charges as other providers of interstate servicers that now pay access charges. [FN55] Thus, Alternatives A and B, by treating protocol processing as an adjunct service, would appear to have the effect of transforming a VAN into a carrier for some offerings and thus making the VAN subject to interstate access charges for those offerings.

46. We recognize, however, the potential for the severe economic impact that might result from the sudden imposition of access charges upon the VANs. If we adopt Alternative A or Alternative B, we would be generally receptive to a transition plan to mitigate such impacts, under which affected VANs would be exempt from access charge payments for a period of time, perhaps one year, from the date that these policies are adopted. During that time, these entities would be permitted to restructure their operations in order to make whatever adjustments they deem necessary in light of the changes we propose today. [FN56]

2. Alternative C

47. While we have noted that, under Alternative C, currently unregulated enhanced service providers such as the VANs would remain unregulated, we recognize that their current status depends in part on our continued application of the "contamination" theory. This Commission has found that such status results in significant benefits to the public. We request comment on whether the "contamination" theory should continue to be applied or whether VANs should be subject to our Title II authority for their service offerings that can be determined to be basic, even if Alternative C is adopted. If a commenter supports the imposition of Title II authority on some VAN services through the elimination or narrowing of our contamination theory, we request comment on how this Commission can efficiently determine which services offered by the VANs and other enhanced services providers should be included within such authority.

III. NONSTRUCTURAL SAFEGUARDS FOR THE BOCS' PROVISION OF ENHANCED SERVICES

***14** 48. We concluded in the Computer III Order that nonstructural safeguards capable of effectively limiting the potential for anticompetitive activity by the BOCs and AT & T in the enhanced services markets were an integral part of the relief we were granting. Accordingly, in that Order we established a number of such safeguards to govern the provision of enhanced services by AT & T and the BOCs in the absence of structural separation. However, we deferred a final decision on certain aspects of these safeguards to this Supplemental Notice in order to permit further consideration of, and additional public comment on, several issues. [FN57] In this supplemental phase of the proceeding, we will examine potential safeguards for the BOCs in three areas: enforcement of the nondiscrimination provisions of our CEI requirements; disclosure of network technical and marketing information; and access of all enhanced services vendors to BOC controlled CPNI. [FN58] We will also address in this Supplemental Notice certain aspects of the network disclosure requirement we established for AT & T in the Computer III Order and a CPNI requirement applicable to both the BOCs and AT & T dealing with the provision of aggregated CPNI to enhanced services vendors. Finally, we ask whether the capit-

alization plan filing requirements of Computer II should be removed during the period that structural separation continues to apply to the enhanced services operations of AT & T and the BOCs.

A. Nondiscrimination in Access to Network Services.

49. One purpose of the CEI requirements we established in the Computer III Order is to ensure that all enhanced service providers, whether affiliated with a carrier or not, are able to obtain basic services on a nondiscriminatory, "equal access' basis.[FN59] In that Order and the BOC Structural Relief Notice, we tentatively concluded that because the BOCs are subject to relatively less competition in their provision of basic services than is AT & T, their potential for discrimination is correspondingly greater.[FN60] We also found that the BOCs have in place a structural mechanism, centralized operations groups (COGs), that appears to be well designed to reduce the potential for discrimination in the provision of basic services.[FN61] Therefore, while we have tentatively decided that the BOCs should be required to retain their existing COGs once the structural separation requirements are removed, we are concerned that requiring the BOCs to retain these mechanisms could impose unwarranted costs on their provision of basic services.[FN62] We have also tentatively concluded that the BOCs should be required to file reports, similar to those we have established for their interim provision of enhanced services in the Computer III Order,[FN63] to ensure that the COGs are properly performing their designated functions. We invite parties to comment on any costs imposed on the BOCs by the retention of COGs and on the benefits COGs may provide to consumers, competitors, and ratepayers. We also ask parties to comment on how COGs, if we decide to retain them, could best be employed to address the potential for discrimination in the BOCs' provision of basic services.

***15** B. Network Disclosure.

50. The Computer III Order requires AT & T and the BOCs to disclose information about network changes or new basic services that affect the interconnection of enhanced services with the network at the "make/buy" point—the time they decide to make themselves, or to procure from an unaffiliated entity, any product (including software) the design of which affects or relies on the network interface.[FN64] We permitted AT & T, as an interim measure, to make such disclosure only to those enhanced services vendors willing to sign a "nondisclosure agreement" in which those vendors would agree to refrain from disclosing any information they received from AT & T to third parties.[FN65] We allowed the use of nondisclosure agreements in making information disclosures to vendors because of our finding that disclosure of such information to the public would provide AT & T's network services competitors with an unfair competitive advantage.[FN66] For the BOCs, we tentatively concluded, consistent with our tentative conclusion in the BOC Structural Relief Notice for their provision of CPE,[FN67] that since they were subject to substantially less competition in their provision of network services, they would not be harmed by the disclosure of network technical and marketing information to the public. Thus, we tentatively determined that nondisclosure agreements for the BOCs would be unnecessary.

51. In the Computer III Order, we found that nondisclosure agreements offered substantial benefits by providing enhanced service providers with timely access to AT & T network information, while at the same time preventing the premature disclosure of such information to AT & T's network services competitors. We also noted a potential problem with the use of such agreements for AT & T's network services competitors that are also enhanced service providers.[FN68] Entities that provide both basic and enhanced services might obtain information from AT & T for their provision of enhanced services, but would have to agree not to disclose this information to their network services personnel. Such a requirement could force these entities to impose upon themselves restrictions on the free flow of information similar to those the struc-

tural separation requirements imposed on AT & T, or to forego the opportunity to obtain timely access to information about changes in the AT & T network and new AT & T network services. Neither one of these outcomes would be desirable. On the other hand, prohibiting the use of nondisclosure agreements by AT & T for information about new or altered network services that affect enhanced services interconnection would eliminate the benefits we have found such agreements can provide, notonly for AT & T's provision of enhanced services, but for its provision of CPE as well. Some new network services or changes that affect the interconnection of CPE, and would be subject to nondisclosure agreements, would also affect enhanced services and would be disclosed to the public. Thus, eliminating nondisclosure agreements for enhanced services could substantially erode their usefulness in the CPE context.

***16** 52. We indicated in the Computer III Order that we would examine this problem in this Supplemental Notice. We invite parties to comment on these issues. To aid this process, we suggest a number of alternative approaches, none of which, we acknowledge, appears to provide an ideal solution. First, we could retain the current disclosure requirement, which permits AT & T to insist on a nondisclosure agreement from each recipient of network information. This would provide protection for AT & T, although it would result in its network services competitors that also provide enhanced services being faced with the dilemma we have just noted. However, this may not be as substantial a problem as it first appears. These network services competitors are, after all, free to develop new basic services using their own network facilities without any obligation to disclose information about these developments to AT & T or any other enhanced service provider. Furthermore, under this approach, enhanced service providers that are not basic service competitors of AT & T would continue to receive timely disclosure of relevant changes in AT & T's network services. Second, we could modify the disclosure obligation to eliminate the use of nondisclosure agreements, but require AT & T to disclose information only when it decides to develop an enhanced service based on a new or changed network service, and not when it decides to develop the network service itself. This would, in theory, reduce the number of times AT & T must disclose information, postpone the timing of the disclosures it does make to somewhat later in its development process, retain the efficacy of nondisclosure agreements for disclosure to the CPE industry, and still require AT & T to provide access to network services information whenever it was using such information for its own provision of enhanced services. However, this alternative would also delay the availability of network information that would be provided to enhanced services vendors prior to public announcements by AT & T. As a variation on this approach to address this last problem, we could continue to require disclosure at the make/buy point for network services for those enhanced service providers willing to sign a nondisclosure agreement, with public disclosure required at the make/buy point for the enhanced services. Finally, we could retain the existing rules for AT & T's disclosure of information at the make/buy point, but change the public disclosure point from six to twelve months prior to the introduction of a new service or network change that affects the interconnection of any enhanced service to the network. We request comment on whether this modification could better balance the benefits of timely disclosure to enhanced service competitors against the premature disclosure of AT & T's network information. We ask parties to comment on the relative costs and benefits of these approaches and provide further alternatives for our consideration. We also invite parties to comment on whether the disclosure methods we have proposed for the BOCs, not permitting the use of nondisclosure agreements, should be implemented as a final rule, apart from the considerations we have already expressed about the use of those agreements for AT & T.

***17** 53. We also noted in the Computer III Order that enhanced services competitors that would enter

into nondisclosure agreements with AT & T may rely on other firms to supply them with hardware and software components for their enhanced service offerings. Such firms might need access to that network information to design such components, but disclosure of that information could be restricted by the nondisclosure agreement between AT & T and the enhanced services competitors.

54. In the Computer III Order, we require all nondisclosure agreements for enhanced services to include provisions permitting an enhanced service competitor that enters such an agreement to disclose the subject network information to other firms for purposes of providing them information necessary for the manufacture of hardware or software for that competitor, with the same nondisclosure terms and conditions to apply to those firms. We request comment on whether this is the most appropriate way to balance the need of enhanced service competitors to disseminate this information to their supplying firm against AT & T's competitive concerns regarding this dissemination. We request comment on alternatives such as requiring the supplying firms to enter separate nondisclosure agreements with AT & T or requiring nondisclosure agreements to be multiparty contracts among AT & T, the enhanced services competitor, and its supplying firms.

C. Customer Proprietary Network Information

55. We expressed concern, both in the BOC Structural Relief Notice and the Computer III Order, that the problems implicated by the BOCs' use of CPNI to promote sales of nonregulated goods and services might be greater than those we had identified for AT & T.[FN69] We found that BOC data bases contain some type of useful CPNI on the network services of virtually all end-users in their operating areas and that this information could help the BOCs identify potential customers for their CPE and enhanced services offerings and formulate proposals to those customers. Thus, we decided that, in light of these considerations, additional restrictions on the BOCs' use of CPNI might be appropriate. We believe that one approach to this issue is the alternative we suggested in the BOC Structural Relief Notice for the BOCs' provision of CPE, which would permit the BOCs to engage in joint marketing of enhanced and basic services only to those customers that had provided prior written permission and only if, in soliciting such permission, they also give customers the opportunity to indicate that their CPNI should also be provided to other enhanced services competitors.[FN70] We invite interested parties to comment on this proposal and to suggest alternative requirements that might address our concerns about the BOCs' ability to use CPNI.

56. We also indicated in the Computer III Order that we believe that it would be in the public interest to require the BOCs and AT & T to provide all enhanced services vendors with certain information on traffic and usage patterns aggregated from carriers' CPNI.[FN71] We tentatively agreed with commenters in the Computer III proceeding that such information would be useful in helping competitive vendors design and market enhanced services. We invite parties to comment on whether there would be any benefit from requiring AT & T and the BOCs to provide aggregate information on traffic and usage patterns of their basic services to other parties on a fully compensated basis. We also ask parties to identify, in detail, the types of information that might be useful.

***18** 57. Finally, we request comment on the means by which we should require AT & T and the BOCs to notify customers of their options under the CPNI requirements we ultimately adopt. We ask whether a one-time mailing to business or multiline customers, describing the CPNI requirements, would provide adequate notice.

D. Capitalization Plans

58. In the Computer III Order, we declined to adopt capitalization plan filing requirements or other nonstructural safeguards designed to control transfers of assets from the regulated operations of carriers to their unregulated activities. Based on our experience with such requirements under Computer II,

[FN72] we concluded that conventional tariff and facilities regulation at the state and federal levels provides adequate protection against potential degradation of regulated services. As commenters in this proceeding have emphasized, a more cogent concern is the improper attribution to regulated operations of investment and expenses that should be allocated to unregulated activities.

59. We also considered the capitalization plan filing requirements that would remain in effect as part of the structural separation requirements pending compliance by AT & T and the BOCs with the nonstructural safeguards adopted in the Computer III Order. We tentatively concluded that those requirements should be eliminated from the structural separation requirements because the concerns that they address for improper capital transfers can be controlled through less burdensome tariff and facilities regulation. We request comment on this tentative conclusion.

IV. APPLICATION OF COMPUTER III TO THE PROVISION OF ENHANCED SERVICES BY THE INDEPENDENT TELEPHONE COMPANIES

60. An issue left unresolved in the Computer III Order is the application of the nonstructural safeguards adopted in that Order, including CEI and Open Network Architecture, to the provision of enhanced services by the Independents.[FN73] We did not subject the Independents to our Computer II structural separation requirements for their offerings of CPE and enhanced services based on a finding that even the largest of them, GTE, posed a substantially smaller risk to competition than did AT & T and was less able than AT & T to bear the costs of those requirements.[FN74] However, now that we have replaced the structural separation requirements with a set of nonstructural safeguards, we will reassess the conclusions of Computer II and examine whether any of the Independents are sufficiently similar to the BOCs to warrant the imposition of these effective, yet significantly less intrusive, safeguards.

61. We tentatively conclude, as we did in the BOC Structural Relief Notice for the Independents' provision of CPE,[FN75] that some of the Independents could have the incentive and the ability to engage in improper cost shifting and anticompetitive discrimination in connection with their enhanced services offerings. Therefore, we propose to require such Independents to be subject, in general, to the same nonstructural safeguards that we are proposing for the BOCs, including CEI and Open Network Architecture. However, to the extent that there are meaningful differences between various Independents and the BOCs, less stringent safeguards may be appropriate.[FN76]

***19** 62. In reaching this tentative conclusion, we are influenced by the same considerations that guided our analysis of this issue in the BOC Structural Relief Notice for the Independents' provision of CPE.[FN77] On the one hand, in many respects the Independents, and most especially the larger holding companies with regional or national affiliations, appear to present competitive and other problems similar to those that require the continued application of nonstructural safeguards to the BOCs. They possess government-sanctioned local monopolies and are capable of improperly shifting costs from unregulated to regulated operations and providing discriminatory access to their networks for the benefit of their enhanced services operations. In addition, at least some of the larger Independents may have sufficient resources that the costs imposed by the nonstructural safeguards discussed in the Computer III Order and in this Supplemental Notice would not create a major financial burden. On the other hand, the Independents have for a number of years been subject solely to the "All Carrier Rule" for network disclosure,[FN78] the requirements of the Fifth Report and Order in CC Docket No. 81–893 for accounting,[FN79] and the general nondiscrimination requirements of the Communications Act for provision of regulated services.[FN80] If these requirements are fully adequate, imposing the somewhat more intrusive set of safeguards proposed herein may be unnecessary.

In addition, the vast majority of the Independents are much smaller than the BOCs and have less financial and other resources. Thus, it is probable that for many of these Independents complying with the types of nonstructural safeguards we propose for the BOCs would be unduly burdensome.

63. In considering application of the CEI and other nonstructural safeguards to the Independents, we must also keep in mind that the fundamental purpose of replacing the structural separation requirements of Computer II with the nonstructural safeguards of Computer III is to encourage innovation in the provision of enhanced services and ensure that those innovative services are widely available. In order for us to make a reasoned decision on application to the Independents of these new safeguards, we ask interested parties to address the following questions on the current status of the Independents' enhanced services operations. What enhanced services are now being offered, and by which carriers? What specific costs and benefits would there be to the public and the Independents if we applied our CEI and nonstructural safeguards to the Independents? What, if any, changes to the Computer III safeguards would be desirable if they were to be applied to the Independents, and why? Furthermore, we seek comment on whether there exist incentives to maximize use of local networks and prevent bypass that might result in many Independents voluntarily providing CEI to attract competitive enhanced services to their networks, which might make unnecessary the application of our Computer III requirements to the Independents as a class.

***20** 64. Furthermore, before we reach a final decision on the appropriate regulatory framework for the Independents' provision of enhanced services, not only must we address the question whether different regulatory treatment should be accorded the BOCs and the Independents, but we also must determine whether different treatment should apply to different groups of Independents. As we have frequently noted (most recently in the BOC Structural Relief Notice) the Independents are a very heterogeneous group,[FN81] ranging from major, integrated telecommunications firms, such as GTE, to very small companies serving isolated rural areas with several hundred or fewer access lines. Thus, while some Independents may resemble the BOCs in the potential competitive problems they present and resources they command, the vast majority of the Independents are very small and do not closely resemble either the BOCs or the major Independents in their operations or resources.[FN82] For these latter firms it may be inappropriate to apply the nonstructural safeguards we propose for the larger Independents.

65. We tentatively conclude, consistent with our tentative conclusion in the BOC Structural Relief Notice, that GTE, as the Independent most closely resembling the BOCs, should be subject to essentially the same types of restraints we will impose on the BOCs. In the aggregate, GTE's telecommunications operations, with nearly 12 million access lines (more than 10% of the U.S. total) are as large as those of any BOC.[FN83] Moreover, four of GTE's individual operating companies are among the top 25 in the U.S. in total revenue.[FN84] We further tentatively conclude that similar treatment should be accorded other large Independents; however, we ask parties to comment on our proposal and to suggest principles for differentiating among the various groups of Independents for the purposes of applying nonstructural safeguards.

66. One potential means of differentiating among the Independents is to apply nonstructural safeguards only to those companies with a certain minimum number of access lines (for instance, 50,000). Other criteria might also be useful in distinguishing among the Independents for these purposes. For example, in their Computer III comments, CSEPA/NBFAA, which are associations of central alarm service providers,[FN85] and Dobson/Fort Bend [FN86] proposed that small Independents, and perhaps other Independents, should be required to provide CEI only if there is a request for such inter-

connection from a competitive enhanced service provider and the Independent has the stored-program-controlled switches necessary to provide it. Such a CEI requirement would be similar to the requirements we have established for interexchange equal access by the Independents.[FN87]

67. We further tentatively conclude that state authorities should not be permitted to impose structural separation, or nonstructural safeguards, that conflict with any such safeguards that we ultimately impose, on the Independents. In the Computer III Order, we preempted the states in this regard with respect to AT & T and the BOCs. Similarly, in the BOC Structural Relief Order, we tentatively concluded that states should be preempted from imposing structural separation on the CPE operations of the Independents.[FN88] In the Reconsideration Order in Computer II, we determined that no carrier other than AT & T would be subject to federally imposed structural separation requirements. However, in the Further Reconsideration Order, we allowed state regulatory authorities to impose structural separation requirements on the Independents if they perceived a potential for abuse, so long as any state imposed regulation did not conflict with our policies. In the Second Further Reconsideration Order, we upheld our earlier decision finding that there was "no inconsistency between our decision to impose structural separation on AT & T and allowing states the discretion to impose structural separation on other carriers." [FN89] We found that, even though we had concluded that the costs of structural separation exceeded the benefits for the purposes of our own policy, we did not wish to preclude the states from taking "a fresh look at the costs and benefits to be derived from structural separation...." [FN90] We tentatively conclude now, however, that as result of our decision in the Computer III Order and our proposals in the BOC Structural Relief Notice to remove most remaining structural separation requirements, the states should not be permitted to impose those requirements on carriers we have consistently indicated raised less significant competitive concerns than the carriers formerly subject to structural separation.

***21** 68. It is a fundamental precept of American law that similarly situated parties should receive similar treatment under the law. While in many cases it is impossible for administrative agencies to treat all similarly situated parties the same, agencies should strive to achieve consistency in their decisionmaking. In this instance we believe that as a group the Independents are no more likely, and in many cases substantially less likely, to engage in anticompetitive conduct with respect to their enhanced services activities than are the BOCs. Therefore, we conclude that the Independents should be subject to no more onerous forms of regulation than we have, or will, impose on the BOCs. Since we have already preempted state authority to impose structural regulation on the enhanced services activities of the BOCs, we make a similar proposal to preempt the states' ability to impose such regulation on the Independents.

V. NETWORK CHANNEL TERMINATING EQUIPMENT

A. Regulated Offering of NCTE Functions.

69. In the Computer III Order, we continued our general treatment of NCTE as CPE, regardless of whether it is provided by carriers or by other suppliers.[FN91] The record in the Order focused on NCTE as a type of equipment that typically is located on customer premises. In this Supplemental Notice we specifically consider the proper treatment of NCTE functions that can be provided in the network as well as on customer premises. We originally raised this issue in the Notice,[FN92] suggesting that subsets of NCTE functions, such as circuit termination, signal conditioning, certain types of testing, and multiplexing, might be accorded special treatment. We tentatively find that there are technical and efficiency reasons to permit carriers to provide some or all of these functions on a regulated basis so long as they locate the equipment to support such functions on the network side of the network/customer premises demarcation point established in Part 68 of our Rules.[FN93] For ex-

ample, providing forms of loopback testing on the network side of the block [FN94] could enable the carrier to distinguish, from a remote location, between loop transmission problems in its plant and in the inside wiring owned by others. In such a case, we see no reason to require the carrier to provide as CPE the equipment for performing such tests. We request specific comment on the extent to which the performance of such functions on the network side of the demarcation point is technically feasible and desirable.[FN95] We also seek comment as to what unbundling requirements, if any, we should adopt if we take this approach.

B. Carrier Provision of Regulated Multiplexing.

70. We decided in the Computer III Order to seek additional comment regarding the "multiplexer exception" to our general rules governing carrier provision of NCTE. Under limited circumstances, this exception permits carriers to supply multiplexers on the customer premises as part of tariffed basic offerings, in order to make more efficient use of the local loop network by providing multiple channels through the existing plant.[FN96]

***22** 71. We sought to clarify the multiplexer exception in the LADT Order,[FN97] in which a BOC sought to provide on customer premises a device known as a data subscriber line carrier (DSLC) as part of a tariffed basic service. A DSLC connects the local loop to a customer's data terminal and telephone and performs multiplexing as well as typical CPE functions such as modulation and demodulation, loopback, and equalizing functions, in order to permit simultaneous transmission of data and voice to the local exchange. We determined that the DSLC is CPE rather than equipment within the multiplexer exception, because it performs traditional CPE functions that should not be permitted to be bundled into a tariffed offering. We stated that the multiplexer exception applies if a carrier uses customer-premises multiplexing equipment to provide (a) a customer with two or more communications channels, or (b) two or more customers with individual communications channels. In each case, the customer has ordered basic channels or services, and is indifferent as to how the carrier supplies them. The multiplexer exception permits the carrier to provide such channels or services in an efficient manner.

72. In the Notice we asked whether the multiplexer exception should apply to a third case in which a customer subscribes to multiplexed data and voice channels from a carrier. The channels are multiplexed at the customer's premises onto a single loop or transmission link from the customer to the central office, where they are demultiplexed so that the data channel is delivered to a data service vendor and the voice channel is delivered to the public switched network. In the Notice, we recognized that the equipment performing demultiplexing at the central office would constitute basic facilities, and we sought comment on whether the multiplexer on the customer's premises should be treated as CPE or as part of the basic regulated network. We noted that not invoking the multiplexer exception in this instance could have unforeseen impacts upon the development of new digital technologies, such as integrated services digital network (ISDN), by limiting carrier flexibility in devising new network-based transmission schemes.

73. We received limited comment on this issue. For example, AT & T proposed the following definition for multiplexing equipment, which it claimed would clarify the scope of the multiplexer exception: "[a]ny equipment, regardless of its location, which provides (i) multiple, individually tariffed and purchased interfaces on the customer side of the equipment and (ii) a multiplexed or concentrated interface on the central office side of the equipment." [FN98] This definition would enable certain multiplexing equipment located on customer premises to be provided on a tariffed basis. However, IDCMA objected to this definition, claiming that it would sweep into tariffed service certain multiplexing functions now provided through NCTE that is available in the competitive CPE market.[FN99] IDCMA argued that instead,

we should codify the two circumstances in which the multiplexer exception applies as stated in the LADT Order. PacTel stated that adoption of any technical definition would be "unworkable" because any attempt to determine whether a customer is receiving a single tariffed service, or more, is doomed to failure in the changing telecommunications world. PacTel suggests that if we adopt any new multiplexer definition, it should be that of the IEEE: "[a] device that allows the interleaving of two or more signals to a single line or terminius." [FN100]

***23** 74. We request further comment on whether for regulatory purposes we should distinguish between (a) customer premise multiplexing functions that the BOCs should be permitted to offer as part of their tariffed service to make the most efficient use of the existing network, and (b) those that should be offered without regulation in the CPE marketplace, and, if so, how to draw such distinctions. We tentatively conclude that to maximize the ability of the BOCs to provide efficient multi-channel basic services, BOC provision of customer premises multiplexers as basic equipment should be permitted if the carrier supplies separate channels and services to the same or different customers. This would permit a carrier that offers a basic service consisting of multiplexed voice and data channels to locate multiplexing equipment on a customer's premises as part of that service. We request comment on this tentative conclusion in light of the possibility, evidenced by the BOC Structural Relief Notice, that in the future the BOCs may be able to offer CPE on an unseparated basis. We also request comment on the individual functions that a multiplexer supplied by a carrier as part of a basic service should be permitted or prohibited from performing, and on the impact of our tentative conclusions in this area on the evolution of emerging digital technologies such as ISDN.

VI. INTERNATIONAL APPLICABILITY OF THE COMPUTER III ORDER

75. In the Computer III Order, we tentatively concluded that the regulatory treatment of basic and enhanced services we adopted there applies internationally as well as domestically, as a continuation of our Computer II policy that the basic/enhanced dichotomy is applicable to both domestic and international services provided over common carrier facilities.[FN101] We developed this policy in proceedings culminating in the Telenet Order and the Telenet Reconsideration,[FN102] and we tentatively conclude that the analysis we employed in those proceedings continues to apply to the policies of the Computer III Order. We request comment on these tentative conclusions as more fully developed below.

76. In the Telenet Order, we found that our determination in Computer II that all enhanced services are outside the scope of Title II regulation also includes the limited class of international enhanced services. We emphasized that Title II does not establish separate regulatory schemes for domestic and international services, and we noted that in the Reconsideration Order, we explicitly stated that Computer II did not contemplate different regulatory schemes for international and domestic enhanced services. In the Telenet Reconsideration, affirming the Telenet Order, we further concluded that the international application of the deregulation of enhanced services was not an improper unilateral action on our part, since we acted pursuant to our statutory authority. We found that imposition of the basic/enhanced regulatory framework did not prejudge our ongoing International Resale proceeding [FN103] or violate international standards regarding the resale of private line facilities. We concluded that the Computer II framework did not authorize International Record Carriers (IRCs) to resell their facilities on an unlimited basis.[FN104] We emphasized that we did not abandon jurisdiction over international enhanced services by applying Computer II internationally, and we reaffirmed our commitment to notify foreign administrations of the limited effect of these policies.

***24** 77. We tentatively find that the analyses of the

Telenet Order and Telenet Reconsideration apply to the regulatory framework adopted in this proceeding. The modifications to the Computer II framework that we adopted in the Computer III Order and propose in this Supplemental Notice should not impact international issues in ways that substantially differ from those we considered in the Telenet proceedings. Accordingly, the basic and enhanced categories, as they may be modified pursuant to the proposals of this Supplemental Notice, should apply internationally as well as domestically, and the nonstructural safeguards, including CEI and Open Network Architecture, that apply to AT & T and the BOCs will apply to their international operations. [FN105] Furthermore, we find that the policies of the Computer III Order and the Supplemental Notice do not prejudge the outcome of the International Resale proceeding or affect international private line resale issues in any substantial way that we have not already considered in the Telenet proceedings.

78. Furthermore, we find no inconsistencies between our Computer III policies and those of the International Competitive Carrier Order,[FN106] concerning the classification of international common carriers as dominant and nondominant, and the RPOA Order,[FN107] concerning the voluntary designation of enhanced service providers as Recognized Private Operating Agencies (RPOAs) to aid their participation in international markets. However, we ask for comment on our analyses in these matters. In the International Competitive Carrier Order, we classified carriers in various geographic and product markets for international telecommunications services as dominant or nondominant based on their economic characteristics, and we streamlined tariff and facility regulations for nondominant carriers. Since the Computer III Order is directed to AT & T and the BOCs and simply modifies the Computer II framework, its treatment of enhanced services does not directly impact such classifications for international carriers. Our proposal in this Supplemental Notice that protocol processing functions be regulated in the same way as associated underlying basic services similarly does not complicate the policies of the International Competitive Carrier Order, since that order clearly defines the regulatory requirements for those basic services as they vary among dominant and nondominant carriers.

79. We also consider the RPOA Order to be consistent with the policies we adopt in this proceeding. The RPOA Order seeks to reassure foreign communications entities that neither our basic/enhanced service classification, nor our treatment of enhanced service providers as unregulated firms would prejudice foreign rights under the International Telecommunication Convention (ITC). [FN108] RPOA status, which is a formal designation by the Department of State, is a means of providing such assurances. By designating an enhanced service provider as an RPOA, the United States government formally imposes on the provider the obligations of the United States to obey the binding international regulations established under the ITC. In the RPOA Order, we concluded that the United States should implement a program to make RPOA status available to eligible enhanced service providers on a voluntary basis. Furthermore, we emphasized that RPOA designation does not impose common carrier status on such enhanced service providers or otherwise subject them to Title II regulation. Our policies in this proceeding do not alter those conclusions. We continue our policy of not regulating enhanced service providers under Title II. Our proposed treatment of protocol processing is independent of the RPOA classification process. Accordingly, designation of an eligible enhanced service provider as an RPOA will not by itself impose additional Title II or other nonstructural regulation on it, nor does any action we take in this proceeding alter the RPOA process specified in the RPOA Order.

VII. REGULATORY FLEXIBILITY ACT CERTIFICATION

***25** 80. Pursuant to Section 605(b) of the Regulatory Flexibility Act,[FN109] we hereby certify that

AT & T, the BOCs and Independents cannot be considered "small entit[ies]". The pertinent definition of "small entity" is "small business" which has the same meaning as "small business concern" under Section 3 of the Small Business Act. That section defines small business concern as "one which is independently owned and operated and which is not dominant in its field of operation." [FN110] AT & T, the BOCs and Independents are local exchange carriers, and are treated as dominant providers of service under our rules.[FN111] Two of the alternative regulatory treatments of protocol processing presented above (Alternatives A and B) could subject some value added networks (VANs), that are now treated as unregulated enhanced service providers, to federal and state regulatory jurisdiction. However, even if one of these alternatives is adopted, VANs are unlikely to be subjected to federal regulation because of the Commission's current policy to forbear from imposing Title II regulation on nondominant carriers. The Commission's forbearance policies are expressly designed to take into account the resources and ability of small entities.

VIII. EX PARTE CONTACT REQUIREMENTS

81. For purposes of this non-restricted notice and comment rulemaking proceeding, members of the public are advised that ex parte contacts are permitted from the time the Commission adopts a Notice of Proposed Rulemaking until the time a Public Notice is issued stating a substantive disposition of the matter is to be considered at a forthcoming meeting or until final order disposing of the matter is adopted by the Commission, whichever is earlier. In general, an ex parte presentation is any written or oral communication (other than formal written pleadings and formal oral arguments) between a person outside the Commission and a Commissioner or member of the Commission's staff that addresses the merits of the proceeding. Any person who submits an oral ex parte presentation addressing matters not fully covered in any previously filed written comments for the proceeding must prepare a written summary of the presentation. On the day of oral presentation, that written summary must be served on the Commission's Secretary for inclusion in the public file, and a copy must be provided to the Commission official receiving the oral presentation. Each ex parte presentation described above must state on its face that the Secretary has been served, and must also state by docket number the proceeding to which it relates.[FN112]

IX. ORDERING CLAUSES

82. Accordingly, IT IS ORDERED, that pursuant to the provisions of sections 1, 4(i), 4(j), 201–205, 218, 220. 303(g), 303(r), 403 and 404 of the Communications Act of 1934 as amended, 47 USC 151, 154(i)–(j), 201–205, 218, 220, 303(g), (r), 403, and 404, and Section 553 of the Administrative Procedure Act, 5 USC § 553, notice is hereby given of proposed amendments to section 64.702 of the Commission's Rules and Regulations, 47 CFR 64.702, in accordance with the proposals, discussion and statement of issues in this Supplemental Notice of Proposed Rulemaking. We hereby give notice that in reaching our decisions herein we will not necessarily be limited to comments, reply comments and responses that may be filed, and that we may utilize other information, analyses, and reports, provided that in each such case a copy of the material relied upon will be associated with the record of this proceeding.

***26** 83. IT IS FURTHER ORDERED, that comments, responses, and replies may be filed in accordance with section 1.48, 1.49 and 1.419 of the Commission's Rules and Regulations, 47 CFR 1.48, 1.49 and 1.419. Comments are due on or before August 8, 1986 and replies are due on or before September 8, 1986.

FEDERAL COMMUNICATIONS COMMISSION

William J. Tricarico

Secretary

FN1 Amendment of Sections 64.702 of the Com-

mission's Rules and Regulations (Third Computer Inquiry), Report and Order, CC Docket No. 85–229,FCC No. 86–252 (released June , 1986) (Computer III Order).

FN2 Second Computer Inquiry, Final Decision, 77 FCC2d 384 (Final Decision); modified on reconsideration, 84 FCC2d 50 (1980) (Reconsideration Order); further modified on reconsideration, 88 FCC2d 512 (1981) (Further Reconsideration Order); aff'd sub nom.Computer and Communications Indus. Ass'n v. FCC, 693 F.2d 198 (D.C.Cir.1982) (CCIA v. FCC), cert. denied, 461 U.S. 938 (1983), aff'd on second further reconsideration, FCC 84–190 (released May 4, 1984).

FN3 Computer III Order at paras. 111–265.

FN4 In the Computer III Order, we deferred to the pending Joint Cost proceeding accounting issues applicable to AT & T and BOC provision of enhanced services. See Computer III Order at para. 235.

FN5 Petition for Waiver of Section 64.702 of the Commission's Rules, Memorandum Opinion and Order, FCC 85–101, 100 FCC2d 1057 (1985) (Asynchronous/X.25 Waiver Order).

FN6 Petitions for Waiver of Section 64.702 of the Commission's Rules and Regulations to Provide Certain Types of Protocol Conversion with Their Basic Network, Memorandum Opinion and Order, FCC 84–561 (released Nov. 28, 1984) (X.25/X.75 Waiver Order)

FN7 Computer III Order at paras. 318–338.

FN8 Amendment of Sections 64.702 of the Commission's Rules and Regulations (Third Computer Inquiry), Notice of Proposed Rulemaking, CC Docket No. 85–229, 50 Fed.Reg. 33581 (Aug 20, 1985) (the Notice). Comments in response to this Supplemental Notice should refer to “CC Docket No. 85–229, Phase II.” If any person should choose to seek reconsideration of any aspect of the Computer III Order, such reconsideration pleadings should refer to “Phase I.”

FN9 47 USC § 201 et seq.

FN10 Provision of Customer Premises Equipment by the Bell Operating Telephone Companies and the Independent Telephone Companies, CC Docket No. 86–79, Notice of Proposed Rulemaking, FCC 86–113 (released March 28, 1986) (BOC Structural Relief Notice).

FN11 Computer III Order at note 257.

FN12 Id. at paras. 336–338.

FN13 In the Computer III Order, we established conditions under which the structural separation requirements of Computer II will be removed for enhanced services offered by AT & T and the BOCs. However, in light of the pendency of this Supplemental Notice, in which we are reviewing our regulatory treatment of protocol processing, we also clarified the requirements for the provision by these carriers of specific protocol conversions on an unseparated basis. In doing so, we decided to: (1) maintain the current definition of enhanced services in Section 64.702(a) of our Rules; (2) continue the conditions of the Asynchronous/X.25 Waiver Order for asynchronous/X.25 protocol conversions to be offered on an unseparated basis; and (3) continue to apply the conditions of the X.25/X.75 Waiver Order for X.25/X.75 protocol conversions to be offered on an unseparated basis.

FN14 We do not invite further comments in response to this Supplemental Notice on the use of structural separation with regard to protocol processing, because of our general conclusions in the Computer III Order that structural separation should be replaced by nonstructural safeguards.

FN15 Final Decision, 77 FCC2d at 420, para. 96.

FN16 Enhanced services are defined in section 64.702(a) of our Rules as follows:

> For the purposes of this Subpart, the term “enhanced service” shall refer to services

> offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information [clause 1]; provide the subscriber additional, different, or restructured information [clause 2]; or involve subscriber interaction with stored information [clause 3]. ....47 CFR § 64.702(a)

The first clause encompasses protocol processing services. The second and third clauses subsume the more conventional data processing and information retrieval services.

FN17 Final Decision, 77 FCC2d at 422, para. 99.

FN18 Id. At that time, we were concerned that the scope of the protocol conversion function was not defined well enough to ensure that "protocol conversion" would not subsume certain enhanced services commonly referred to as "data processing."

FN19 Id. at n. 37.

FN20 Communications Protocols under Section 64.702 of the Commission's Rules and Regulations, Notice of Proposed Rulemaking, 83 FCC2d 319 (1980) (Protocol Notice).

FN21 Asynchronous terminals (such as personal computers) generate a data stream wherein the information bearing characters arrive at random intervals coinciding with the user's keystrokes. In packet networks, the transmitted characters are bundled into packets of several characters that are transmitted at a rigidly maintained, fixed rate. The protocol conversion process assembles the asynchronously generated information characters into packets of the size mandated by the system protocol (commonly the so-called X.25 protocol), which are then transmitted at the synchronous clock rate that is also specified by the packet system protocol. This particular protocol conversion is therefore denoted as "asynchronous/X.25."

FN22 Communications Protocols under Section 64.702 of the Commission's Rules and Regulations, Memorandum Opinion and Order and Statement of Principles, 95 FCC2d 584 (1983) (Protocols Order).

FN23 See supra note 6.

FN24 See supra note 5.

FN25 The majority of the commenters endorsed either the second or third alternative presented in the Notice. Alternative 2 in the Notice would treat protocol processing as an enhanced service, but would permit integrated operations subject to the conditions set forth in the Asynchronous/X.25 Order. Alternative 3 would redefine the protocol processing functions set forth in the first clause of section 64.702(a) of the Rules as "network processing" when provided by a carrier, and would allow these to be offered as part of basic services. The same services when offered by a non-carrier would continue to be classified as enhanced.

FN26 Indeed, none of the terms in the first clause of the enhanced service definition of the Final Decision has a universally accepted technical meaning.

FN27 In the Notice, we stated that all of the services contained in the first substantive clause of section 64.702(a) are encompassed in the category, " 'protocols-type' processing." Notice at para. 74. In this Supplemental Notice, as in the Computer III Order, we use the term "protocol processing" to refer to these first-clause services.

FN28 A digital transmission has two components: information-bearing symbols and protocol-related symbols. The information-bearing symbols comprise the content of a subscriber's message. These symbols, generally binary pulses (or bits), are usually ordered according to an agreed upon alphanumeric character code (such as ASCII) that then bears the message. The protocol-related symbols may also be ordered into characters that denote certain specific system events such as "EOT" (end of

transmission). Protocol-related symbols may also be ordered according to arbitrary sequences, such as the two start bits that denote the beginning of a character in an asynchronous ASCII transmission.

> We use the term “symbols,” rather than the commonly used “data” (which has an information related connotation), because “symbols” is more generic, and we wish to maintain the distinction between information-bearing symbols and protocol-related symbols.
>
> We also use the term “subscriber's transmission” rather than “subscriber's information” or “subscriber's message”. “Transmission” subsumes: (a) those transmitted symbols associated with maintaining system protocol, and (b) those transmitted symbols that comprise the information content of a subscriber's message.

FN29 ASCII and EBCDIC are codes commonly used by computers and by terminals that interconnect with communications facilities. ASCII is commonly used in personal computers and certain common carrier teleprinter services. EBCDIC is used in many IBM devices.

FN30 We note that some protocol conversions, although intended to allow communications that are transparent with regard to information content, might result in the partial loss of information—because of certain irremediable incompatibilities between the originating and terminating data formats. For example, documents generated on some word processors cannot be transmitted to another terminal without the loss of underlining or footnotes, because such information becomes deleted during the conversion from word processor format to the ASCII transmission line format. In such cases, the change in information content is generally both undesirable and unavoidable and is not intended to be a service rendered to a customer.

FN31 See supra note 2 and accompanying text.

FN32 Such conversion apparently can involve all layers of the Open Systems Interconnection model for data communications protocols (the OSI Model) established by the International Standards Organization. See IBM Comments at Att. A. The OSI Model seeks to describe the functions of electronic protocols in establishing and maintaining data communications by specifying seven “layers” of functionality. These layers are: (1) Physical; (2) Data Link; (3) Network; (4) Transport; (5) Session; (6) Presentation; and (7) Application. The first three layers are the most fundamental in terms of describing elementary transmission functions.

FN33 Switching may also be considered to be a neutral function. A switch has no stand-alone value. It can, however, be used to physically interconnect the local loops and interoffice trunks of a common carrier and, in so doing, implement a basic communications service. A functionally identical switch could also be used to implement an enhanced service. Finally, such a switch can be located on a customer premises and link together various terminals located at that premises. When so used, neither the switch, nor the functions it provides are deemed to be a part of either a “basic” service or an “enhanced service” offering. In none of these cases does the switch alter the information that it routes.

FN34 North American Telecommunications Association, Memorandum Opinion and Order, ENF No. 84–2, FCC 85–248 (released May 29, 1985) (NATA Centrex Order).

FN35 A computer installation that is used to process payroll data obtained over a communications link could be said to have a stand-alone value. It could still render a data processing service without being connected to a carrier facility—if, for example, the payroll data were hand-delivered to the computer site. By contrast, a switch or a protocol converter has no value other than as part of a communications service.

FN36 Such features include, inter alia: automatic route selection, facilities restriction level, deluxe queuing, and automatic overflow to DDD. See NATA Centrex Order at paras. 29–33.

FN37 See supra para. 9.

FN38 The language “act on the ... content of a subscriber's transmitted information” (first clause) and “provide the subscriber additional, different, or restructured information” (second clause) could be construed to mean the same or similar functions. Under the new paragraph (a) proposed above, if a transmission is “restructured” without altering its information content, such restructuring would be a protocol processing function, while if the information content of a transmission is “restructured,” such restructuring would be an enhanced service.

FN39 Several parties suggest that the first three layers of the OSI Model (Physical, Data Link, and Network) be used as a delineator. We reject this proposal and agree with those parties that argue that boundaries based upon these concepts would not be very useful since there is not sufficient agreement among the various standards bodies, or within the technology community, about the correspondance of these conceptual layers with actual, physical implementations. See Computer III Order at para. 289.

FN40 Protocols Order, 95 FCC2d at 596, para. 28.

FN41 Notice at para. 112.

FN42 Computer III Order at paras.

FN43 See, e.g., ADAPSO Comments at 61 and IBM Comments at 47–48.

FN44 See infra at paras. 43–46.

FN45 This Alternative does not involve the imposition of structural separation, even in a limited form, such as the prohibition on joint marketing of protocol processing and basic services, that was part of Alternative 2 of the Notice.

FN46 Appendix C includes language reflecting our proposals regarding refinements to the enhanced services definition, see infra at paras. 41–42, and the international applicability of Computer III, see infra at paras. 75–79. See infra, Appendix C.

FN47 Notice at para. 73.

FN48 Notice at para. 112, citing Protocols Order, 95 FCC2d 584.

FN49 See Computer III Order at paras. 304–305.

FN50 See supra para. 35.

FN51 Bell Packet Switched Service (BPSS), Memorandum Opinion, Order and Authorization, 94 FCC2d 48 (1983).

FN52 Under the “contamination theory” developed in the course of the Computer II regulatory regime, certain VANs are treated as unregulated enhanced service providers because they offer enhanced protocol processing services in conjunction with otherwise basic transmission services. The enhanced component of their offerings “contaminates” the basic component and the entire offering is treated as enhanced. See Notice at para. 32. In contrast, in the Asynchronous/X.25 Waiver Order, we require certain BOCs to file tariffs for the basic component of certain packet switched service offerings that feature enhanced protocol conversion as well. See Asynchronous/X.25 Waiver Order, 100 FCC2d at 1109, para. 129.

FN53 Policy and Rules Concerning Rates for Competitive Common Carrier Services and Facilities Therefor, Notice of Inquiry and Proposed Rulemaking, CC Docket No. 79–252, 77 FCC2d 308 (1979); First Report and Order, 85 FCC2d 1 (1980); Further Notice of Proposed Rulemaking, 84 FCC2d 445 (1981); Second Report and Order, 91 FCC2d 59 (1982), recon. denied, 93 FCC2d 54 (1983); Further Notice of Proposed Rulemaking, 47 Fed.Reg. 17308 (1982); Third Report and Order, 48 Fed.Reg. 46791 (1983); Third Further Notice of Proposed Rulemaking, 47 Fed.Reg. 28292 (1983); Fourth Report and Order, 95 FCC2d 554 (1983); Fourth Further Notice of Proposed Rulemaking, 49 Fed.Reg. 11856 (1984); Fifth Report and Order, 98 FCC2d 1191 (1984); Sixth Report and Order, 99 FCC2d 1020 (1985), rev'd and remanded sub nom., MCI

Telecomm'ns Corp. v. FCC, 765 F.2d 1186, (D.C.Cir.1985).

FN54 See Section 69.5 of our Rules, 47 CFR § 69.5 , which provides that "(c)arrier's carrier charges shall be computed and assessed upon all interexchange carriers that use local exchange switching facilities for the provision of interstate or foreign telecommunications services...."

FN55 In the Matter of WATS–Related and Other Amendments of Parts 69 of the Commission's Rules, Report and Order, CC Docket No. 86–1, FCC 86–115 (released March 21, 1986).

FN56 Although we request comments in this Supplemental Notice on the proper treatment of protocol processing, we recognize that an appropriate forum for further specifying and implementing interstate access charges for entities now exempt from such charges could be our access charge proceedings.

FN57 We also concluded in the Computer III Order that there were benefits in reduced confusion and inefficiency in developing consistent nonstructural safeguards for both the enhanced service and CPE activities of affected carriers. Thus, one goal of this Supplemental Notice phase is to develop nonstructural safeguards for the BOCs' provision of enhanced services that are generally consistent with those we eventually adopt for their provision of CPE. See BOC Structural Relief Notice at paras. 37–52.

FN58 We will not address cost allocation issues for the BOCs' provision of enhanced services since we have decided in the Computer III Order to defer such issues to the new proceeding we established for the allocation of joint and common costs for the nonregulated activities of all carriers. See Separation of Costs of Regulated Telephone Service From Costs of Nonregulated Activities, and the Amendment of Part 31, the Uniform System of Accounts for Class A and Class B Telephone Companies, to Provide for Nonregulated Activities and to Provide for Transactions Between Telephone Companies and Their Affiliates, Notice of Proposed Rulemaking, CC Docket No. 86–111, FCC No. 86–146 (released April 17, 1986) (Joint Cost Notice).

FN59 Computer III Order at para. 147.

FN60 Id. at para. 96; BOC Structural Relief Notice at paras. 51–52.

FN61 A COG is an organization established by each BOC to serve as a centralized point of contact for customers and vendors of non-BOC supplied CPE, including key, PBX, and other telecommunications systems. COGs process orders for BOC services relating to the interconnection of such systems, including scheduling and coordination services. COGs were established pursuant to a settlement agreement between AT & T and some interconnect vendors. Jarvis, Inc. v. American Telephone and Telegraph Co., No. 74–1674 (D.D.C.1980).

FN62 Computer III Order at para. 193; BOC Structural Relief Notice at paras. 51–52.

FN63 Computer III Order at para. 192.

FN64 Computer III Order at paras. 250–51.

FN65 Id. at para. 253.

FN66 See Furnishing of Customer Premises Equipment and Enhanced Services by American Telephone and Telegraph Co., Order, CC Docket No. 85–26, 102 FCC2d 655 (1985) (AT & T Structural Relief Order) at 685–86, para. 52.

FN67 BOC Structural Relief Notice at para. 46.

FN68 Computer III Order at para. 253.

FN69 BOC Structural Relief Notice at paras. 49–50; Computer III Order at para. 264.

FN70 See BOC Structural Relief Notice at para. 50.

FN71 Computer III Order at para. 263.

FN72 See 47 CFR § 64.702(d)(4).

FN73 Computer III Order at note 257.

FN74 Reconsideration Order, 84 FCC2d at 72–73, para. 66. However, since 1984, GTE has been required to maintain "structural separation" between its local exchange services and its information and interexchange services pursuant to an antitrust consent decree it entered into in connection with its acquisition of the interexchange carrier Sprint. See United States v. GTE Corp., 603 F.Supp. 730 (D.D.C.1984) (GTE Consent Decree).

FN75 See BOC Structural Relief Notice at para. 56.

FN76 See Illinois Bell Telephone v. FCC, 740 F.2d 465 (7th Cir.1984). In that case, while the court upheld on the basis of prosecutorial discretion our decision in the BOC Separation Order to apply structural separation to the BOCs but not to GTE, it found "less than persuasive" our reasoning distinguishing between the divested BOCs and the larger Independents on the basis of the urban versus rural nature of their respective service areas. The court stated that residents of rural areas deserve the same protection from abuse of monopoly power as that provided residents of urban areas. But see United States v. GTE Corp., 603 F.Supp. 730, 734 (D.D.C.1984). In that case, the court, in approving the GTE Consent Decree, found that differences between that decree and the AT & T divestiture decree were at least partially justified by the fact that GTE's local exchange areas are thinly populated in comparison with those of the BOCs. The Court noted that GTE serves half as many telephones per square mile as the BOCs and this has "substantial consequences in terms of monopoly control."

FN77 See BOC Structural Relief Notice at para. 57.

FN78 47 CFR § 68.110(b). See also Reconsideration Order, 84 FCC2d at 82–83, para. 95.

FN79 Procedures for Implementing the Detariffing of Customer Premises Equipment and Enhanced Services (Second Computer Inquiry), Fifth Report and Order, CC Docket No. 81–893, 49 Fed.Reg. 46378 (Nov. 26, 1984), reconsideration pending.

FN80 47 USC § 202(a) and 202(b).

FN81 See BOC Structural Relief Notice at para. 58. See also MTS and WATS Market Structure Phase III, Report and Order, 100 FCC2d 860, 873 (1985) (Phase III Order), reconsideration denied, FCC 86–4 (released Jan. 8, 1986).

FN82 See Phase III Order, 100 FCC2d at 871, para. 33.

FN83 See BOC Structural Relief Notice at 34–35, para. 59.

FN84 The Telecommunications Bazaar at 58–9.

FN85 CSEPA/NBFAA Reply Comments at 27–28.

FN86 Dobson/Fort Bend Comments at 16.

FN87 See Phase III Report and Order, 100 FCC2d at 873–80, paras. 43–65.

FN88 See BOC Structural Relief Notice at para. 53.

FN89 Second Further Reconsideration Order at para. 5.

FN90 Id. at para. 6.

FN91 We referred issues concerning the unseparated BOC provision of NCTE to the BOC Structural Relief Notice proceeding, CC Docket 86–79.

FN92 Notice at para. 152.d.

FN93 See 47 CFR § 68.3(p).

FN94 The "block" generically refers to the interface equipment that connects the local loop to the inside wiring on the customer premises.

FN95 Since the purpose of this proposal is to increase network flexibility and usefulness, we expect the functions offered on the network side to be compatible with the NCTE functions in CPE. We

seek comment on what, if any, requirements we should impose regarding the compatibility issue.

FN96 Final Decision, 77 FCC2d at 477 n. 57.

FN97 International Business Machines Corp., Memorandum Opinion and Order, ENF File No. 83–34, 58 Rad.Reg.2d (P & F) 374 (released June 11, 1985); reconsideration denied, FCC 86–122 (released March 25, 1986).

FN98 AT & T Comments at 58–59.

FN99 IDCMA Reply Comments at 88 n. 133.

FN100 PacTel Reply Comments at 53–4.

FN101 Further Reconsideration Order, 84 FCC2d at 53, para. 9 n. 4.

FN102 GTE Telenet Communications Corporation—Tymnet, Inc., Memorandum Opinion and Order, File Nos. I–T–C–81–274; 82–210, 91 FCC2d 232 (1982) (Telenet Order); GTE Telenet Communications Corporation—Tymnet Inc., Memorandum Opinion and Order, 100 FCC2d 776 (1985) (Telenet Reconsideration), appeal pending No. 83–2207 (D.C.Cir., filed Oct. 7, 1983).

FN103 Regulatory Policies Concerning Resale and Shared Use of Common Carrier International Communications Services, Notice of Proposed Rulemaking, CC Docket No. 80–176, 77 FCC2d 831 (1980) (International Resale).

FN104 IRCs provide record services, such as telex, message telegrams, some private line services, teletype, facsimile, and other data services, internationally. See id. at 832–34, paras. 4–6. AT & T and the BOCs are not IRCs.

FN105 The revisions of the enhanced services definition, 47 CFR § 64.702(a), proposed in this Supplemental Notice reflect this tentative finding by referring to “interstate or foreign” communications. See Appendices A–C. (emphasis added).

FN106 International Competitive Carrier Policies, Report and Order, CC Docket No. 85–107 (released Nov. 15, 1985) (International Competitive Carrier Order).

FN107 International Communications Policies Governing Designation of Recognized Private Operating Agencies, Grants of IRUs in International Facilities and Assignment of Data Network Identification Codes, Report and Order, CC Docket No. 83–1230 (released May 12, 1986) (RPOA Order).

FN108 ITC is a convention that governs, among other things, the creation of technical standards for world telecommunications and the development of basic operating arrangements for international telecommunications.

FN109 5 USC § 605(b) (1982).

FN110 15 USC § 632 (1982).

FN111 Competitive Carrier, First Report and Order, 85 FCC2d at 24 (1980).

FN112 See section 1.1231 of the Commission's Rules, 47 CFR § 1.1231.

APPENDIX A

***27** The text of Section 64.702(a) is amended to read as follows:

> (a) For the purpose of this Subpart, the term “enhanced service” shall refer to services offered over common carrier transmission facilities used in interstate or foreign communications that employ computer processing applications that act on a subscriber's transmission to [1] change its information content; [2] provide the subscriber additional information; or [3] permit subscriber interaction with stored information. Enhanced services are not regulated under Title II of the Act.

APPENDIX B

The text of Section 64.702(a) is amended to read as follows:

(a) For the purpose of this Subpart, (i) the term "enhanced service" shall refer to services offered over common carrier transmission facilities used in interstate or foreign communications that employ computer processing applications that act on a subscriber's transmission to [1] change its information content; [2] provide the subscriber additional information; [3] permit subscriber interaction with stored information; or [4] provide the subscriber with protocol processing services; and (ii) the term "protocol processing" shall refer to the employment of computer processing applications, in connection with services offered over common carrier transmission facilities used in interstate or foreign communications, that act on the information and protocol symbols of a subscriber's transmission, without changing the information content of the transmission, in order to establish, maintain, or terminate end-to-end communications between and among subscribers. The Commission may remove specific protocol processing services from the "enhanced services" category. Enhanced services are not regulated under Title II of the Act.

APPENDIX C

The text of Section 64.702(a) is amended (by adding the underlined language) to read as follows:

(a) For the purpose of this subpart, the term "enhanced service" shall refer to services, offered over common carrier transmission facilities used in interstate or foreign communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information, except that "enhanced service" shall not refer to protocol processing (i) involved in the initiation, routing and termination of calls (or subelements of calls, e.g., packets), (ii) in connection with the introduction of new technology to implement existing services, or (iii) to create internetworking protocols. Enhanced services are not regulated under Title II of the Act.

FCC

1986 WL 291966 (F.C.C.)

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