

**SUPPLEMENTARY INFORMATION:** In document 99-18291 beginning on page 38528 in the issue of Friday, July 16, 1999, make the following corrections:

**PART 301-5—[CORRECTED]**

1. On page 38528, in the second column, correct amendatory instruction 1. to read as follows:

“1. The authority citation for part 301-51 continues to read as follows:

**Authority:** 5 U.S.C. 5707.”

2. On page 38528, second column, add new amendatory instruction 1a. immediately after amendatory instruction 1. to read as follows:

“1a. Part 301-51 is amended by revising subpart A to read as follows:

3. On page 38528, second column, correct the heading “PART 301-51—PAYING TRAVEL EXPENSES” to read “Subpart A—General”.

4. On page 38528, third column, fourth line, remove the words “Authority: 5 U.S.C. 5707.”

5. On page 38528, third column, add “Subpart A—General” immediately preceding § 301-51.1.

Dated: January 11, 2000.

**Peggy G. DeProspero,**

*Deputy Director, Travel and Transportation Management Policy Division.*

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**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Part 51**

[CC Docket No. 96-98; FCC 99-238]

**Revision of the Commission's Rules Specifying the Portions of the Nation's Local Telephone Networks That Incumbent Local Telephone Companies Must Make Available to Competitors**

**AGENCY:** Federal Communications Commission.

**ACTION:** Final rule.

**SUMMARY:** This document revises rules applicable to incumbent local exchange carriers (LECs) to permit competitive carriers to access portions of the incumbent LECs' networks on an unbundled basis. Unbundling allows competitors to lease portions of the incumbent LECs' network to provide telecommunications services. These rule changes are intended to remove uncertainty regarding the incumbent LECs' unbundling obligations under the Telecommunications Act of 1996 and are expected to accelerate the development of local exchange competition.

**DATES:** Effective February 17, 2000.

**FOR FURTHER INFORMATION CONTACT:** Claudia Fox, Attorney Advisor, Common Carrier Bureau, Policy and Program Planning Division, 202-418-1580.

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's Third Report and Order, (Third) and Fourth Further Notice of Proposed Rulemaking (Fourth FNPRM) in CC Docket No. 96-98 (62 FR 45611, August 28, 1997) FCC 99-238, adopted September 15, 1999, and released November 5, 1999. The final rules associated with the Third R&O are effective 30 days after publication in the **Federal Register** except to the extent specified in the following regulations: the requirement to provide access on an unbundled basis to dark fiber as set forth in § 51.319(a)(1); the requirement to provide access on an unbundled basis to subloops and inside wire as set forth in § 51.319(a)(2); the requirement to provide access on an unbundled basis to packet switching in the limited circumstances set forth in § 51.319(c)(5); the requirement to provide access on an unbundled basis to dark fiber transport as set forth in § 51.319(d)(1)(ii); the requirement to provide access on an unbundled basis to the Calling Name Database, 911 Database, and E911 Database as set forth in § 51.319(e)(2)(i); and the requirement to provide access on an unbundled basis to loop qualification information as set forth in § 51.319(g). The Commission also adopted a Fourth Further Notice of Proposed Rulemaking (Fourth FNPRM) in CC Docket No. 96-98 on September 15, 1999 and released it on November 5, 1999. The Fourth FNPRM seeks comment on certain issues associated with a requesting carrier's ability to use unbundled network elements to provide exchange access service. A complete summary of the Fourth FNPRM is published in the **Federal Register** separately from this summary of the Third R&O in CC Docket No. 96-98. Any final rules that the Commission eventually adopts in connection with the Fourth FNPRM will also be published in the **Federal Register** as required. On November 24, 1999, the Commission adopted and released a Supplemental Order in CC Docket No. 96-98, FCC 99-370, that modifies the Third R&O and Fourth FNPRM with regard to the use of unbundled network elements to provide exchange access services. The complete text of the Third R&O and Fourth FNPRM, the Erratum and the Supplemental Order are available for inspection and copying during normal business hours in the FCC Reference Information Center,

Courtyard Level, 445 12th Street, S.W., Washington, D.C., and also may be purchased from the Commission's copy contractor, International Transcription Services (ITS, Inc.), CY-B400, 445 12th Street, S.W., Washington, D.C. It is also available via the internet at the Commission's home page, <http://www.fcc.gov/ccb/Orders/index6.html>.

**Synopsis of the Third Report and Order and Supplemental Order**

1. The Commission adopts a Third Report and Order (Third R&O) in CC Docket No. 96-98 specifying which portions of their networks incumbent LECs must lease to competitive carriers on an unbundled basis. Specifically, the Commission defines the standard it will use, as set forth in section 251(d)(2) of the Telecommunications Act of 1996 (1996 Act), to determine which network elements the incumbent LEC must unbundle. It then applies that standard to individual network elements to determine if incumbent LECs must provide unbundled access to them. The Third R&O and accompanying rules will benefit consumers by accelerating the development of competitive choices for local telecommunications services.

2. The rules changes were needed to respond to a U.S. Supreme Court decision (*AT&T v. Iowa Utils. Bd.*, 119 S.Ct. 721 (1999)) that affirmed the Commission's implementation of the local competition requirements of the 1996 Act, but that required the Commission to re-evaluate the standard that it uses to determine which network elements the incumbent LECs must unbundle. The standard is set out in section 251(d)(2) of the 1996 Act. It requires the Commission, in determining what network elements should be made available for purposes of section 251(c) of the 1996 Act, to consider whether access to such network elements that are proprietary in nature is “necessary,” and whether the failure to provide access to such network elements would “impair” the ability of a telecommunications carrier seeking access to an element to provide the services that it seeks to offer. The Commission's original rules implementing section 251(d)(2) (Order, 61 FR 45476, August, 29, 1996) required incumbent LECs to unbundle a network element if (1) access to the element was “necessary”, which it defined as a prerequisite to competition, or if (2) a requesting carrier's ability to offer competitive service was impaired, which it defined as occurring if the quality of service that the carrier could provide without access to the element declined, or the cost of providing the service increased. The Supreme Court

directed the Commission to give more substance the “necessary” and “impair” standards by considering more than “any” increase in cost or decrease in quality associated with denying access to an incumbent LEC’s network element and to consider the availability of elements outside the incumbent LEC’s network.

3. As a result, the Third R&O adopts a standard that gives substance to the terms “necessary” and “impair” in section 251(d)(2), evaluates alternative elements that are available through self-provisioning by a requesting carrier or through third party suppliers, and that is rationally related to the goals of the 1996 Act. The Third R&O confirms that the “necessary” standard of section 251(d)(2)(A) is a higher standard that applies to proprietary network elements or to proprietary functions within an element, and that the “impair” standard applies to non-proprietary network elements. The Third R&O adopts a limited definition of the phrase “proprietary in nature” that tracks the intellectual property categories of patent, copyright, and trade secrets. If an incumbent LEC can demonstrate that it has invested resources (time, material, or personnel) to develop proprietary information or network elements that are protected by patent, copyright, or trade secret law, the product of such an investment is “proprietary in nature” within the meaning of section 251(d)(2)(A). The definition excludes elements that are based on widely accepted industry documents or on standards commonly used by a standards-setting body (e.g. ITU, ANSI, IEEE) or by vendors.

4. The Third R&O also finds that there are several circumstances which, if they exist with regard to information or functionalities that the incumbent LEC claims are proprietary, will permit the Commission to order unbundling of the proprietary information or functionality even if unbundled access to the element is not strictly “necessary,” as long as the “impair” standard is met. These circumstances are: (1) Where an incumbent LEC, for the primary purpose of causing a particular network to be evaluated under the stricter “necessary” standard in order to avoid its unbundling obligation, implements only a minor modification to the network element to make the element proprietary; (2) where an incumbent LEC cannot demonstrate that the information or functionality that it claims is proprietary differentiates its services from its competitors’ services, or is otherwise competitively significant; or (3) where lack of access to the proprietary element would

jeopardize the goal of the 1996 Act to bring rapid competition to the greatest number of consumers.

5. The Third R&O concludes that a proprietary network element is “necessary” within the meaning of section 251(d)(2)(A) if, taking into consideration the availability of alternative elements outside the incumbent’s network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element would, as a practical, economic, and operational matter, preclude a requesting carrier from providing the services it seeks to offer.

6. The Third R&O concludes that the failure to provide access to a network element would “impair” the ability of a requesting carrier to provide the services it seeks to offer if, taking into consideration the availability of alternative elements outside the incumbent’s network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element materially diminishes a requesting carrier’s ability to provide the services it seeks to offer.

7. In order to determine whether an alternative element is available as a practical, economic, and operational matter, the Third R&O considers the following factors associated with a requesting carrier’s ability to actually provide service using the alternative element: cost, timeliness, quality, ubiquity, and operational issues. In determining which network elements the incumbent LECs should be required to unbundle, the Third R&O also considers factors that promote the goals of the 1996 Act. Specifically, the Order considers whether unbundling a particular element would: (1) Promote rapid introduction of competition in all markets; (2) promote facilities-based competition, investment, and innovation; (3) reduce regulation; (4) create certainty in the market; and (5) allow for administrative practicality.

8. The Third R&O applies the “necessary” and “impair” standards to identify a minimum list of seven network elements that should be unbundled on a national basis, subject to discrete geographic and product market exceptions: (1) Loops; (2) subloops; (3) network interface devices; (4) circuit switching; (5) interoffice transmission facilities; (6) signaling and call-related databases; (7) operations support systems. Given the rapid changes in technology, competition, and the economic conditions of the telecommunications market, the Third R&O concludes that the Commission

will periodically revisit the issue of what elements are subject to the unbundling obligations of the Act. It also concludes that the goals of the Act will better be served if network elements identified by the Commission are not removed from the unbundling obligations of the Act on a state-by-state basis, at this time.

9. *Loops*: The Third R&O requires incumbent LECs to provide unbundled access to the local loop nationwide, including high-capacity lines, xDSL-capable loops, dark fiber, and inside wire owned by the incumbent LEC. “xDSL” refers to broadband services based on digital subscriber line technology, and are referred to as “advanced” services. The Third R&O finds that lack of access to unbundled loops impairs a carrier’s ability to provide the services it seeks to offer because requiring carriers to self-provision loops would materially raise entry costs, delay broad-based entry, and limit the scope and quality of the competitor’s offerings. Neither self-provisioning loops nor obtaining loops from third-party sources is an adequate alternative for loops that a carrier can obtain from an incumbent LEC under the section 251(c) unbundling obligation. The Third R&O also concludes that access to the full capabilities of incumbent LECs’ loop plant nationwide will further the goals of the Act. Specifically, requiring access to unbundled loops will promote the rapid development of competition and bring the benefits of competition to greater numbers of consumers, and will also encourage competition for broadband services.

10. The Third R&O defines the loop network element to include all features, functions, and capabilities of the transmission facilities, including dark fiber and attached electronics (except those used for the provision of advanced services, such as digital subscriber line access multiplexers (DSLAMs)) owned by the incumbent LEC, between an incumbent LEC’s central office and the loop demarcation point at the customer premises. Dark fiber is fiber that has not been activated through connection to the electronics that “light” it, and thereby render it capable of carrying communications services. DSLAMs split voice (low band) and data (high band) signals carried over a copper twisted pair. The Third R&O modifies the definition of loop contained in the Commission’s First Report and Order in CC Docket No. 96–98 to include dark fiber and attached electronics. The Commission’s previous definition did not specify whether dark fiber fell within the definition of the loop.

11. In order to secure access to the loop's full functions and capabilities, the Third R&O requires incumbent LECs to condition loops, and finds that incumbent LECs may charge for such conditioning. Loop conditioning is necessary to allow requesting carriers to offer advanced services. The terms "conditioned," "clean copper," "xDSL-capable" and "basic" loops all describe copper loops from which bridge taps, low-pass filters, range extenders, and similar devices have been removed. Thus, incumbent LECs cannot resist or refuse a competitive carrier's request to condition loops on the grounds that they themselves are not planning to offer xDSL to that customer. The Third R&O defers to the states to ensure that the costs incumbents impose on competitors for line conditioning are in compliance with the Commission's pricing rules for nonrecurring costs. The Third R&O also finds no basis for placing a restriction on what services a carrier may offer using the loop network element.

12. Nothing in the Third R&O disturbs the Commission's previous finding that incumbent LECs must provide cross connect facilities between an unbundled loop and a requesting carrier's collocated equipment, and that they must provide cross connect facilities according to sections 252(d)(1) and 251(c)(3) at any technically feasible point that a requesting carrier seeks access to the loop. Charges for cross connect facilities must meet the cost-based standard provided in section 252(d)(1), and the terms and conditions of providing cross connect facilities must be reasonable and nondiscriminatory under section 251(c)(3). The Third R&O declines to identify loop spectrum as a separate unbundled network element in this Order.

13. *Subloops*: The Third R&O requires incumbent LECs to provide unbundled access to subloops nationwide. It concludes that self-provisioning subloop elements, like the loop itself, would materially raise entry costs, delay broad-based entry, and limit the scope and quality of the competitive LEC's service offerings. It finds that lack of access to unbundled subloops at technically feasible points throughout the incumbent's loop plant will impair a competitor's ability to provide the services it seeks to offer. The Third R&O also finds that access to unbundled subloop elements allows competitive LECs to self-provision part of the loop, and thus, over time, to deploy their own loop facilities, and eventually to develop competitive loops. If requesting carriers can reduce their reliance on the

incumbent by interconnecting their own facilities closer to the customer, their ability to provide service using their own facilities will be greatly enhanced, thereby furthering the goal of the 1996 Act to promote facilities-based competition.

14. The Third R&O defines subloops as portions of the loop that can be accessed at terminals in the incumbent's outside plant. An accessible terminal is a point on the loop where technicians can access the wire or fiber within the cable without removing a splice case. Points of access include a technically feasible point near the customer premises, such as the pole or pedestal, the network interface device ("NID"), or the minimum point of entry to the customer premises (MPOE). Another point of access is the feeder distribution interface (FDI), which is where the trunk line, or "feeder," leading back to the central office, and the "distribution" plant, branching out to the subscribers, meet, and "interface." A third point of access is the main distribution frame in the incumbent's central office.

15. The Third R&O establishes a rebuttable presumption that subloops can be unbundled at any accessible terminal in the outside loop plant. If parties are unable to reach an agreement pursuant to voluntary negotiations about the availability of space or the technical feasibility of unbundling the subloop at one of the points identified above, the incumbent will have the burden of demonstrating to the state, in the context of a section 252 arbitration proceeding, that there is no space available or that it is not technically feasible to unbundle the subloop at these points. To the extent there is not currently a single point of interconnection that can be feasibly accessed by a requesting carrier, the Third R&O encourages parties to cooperate in any reconfiguration of the network necessary to create one. If parties are unable to negotiate a reconfigured single point of interconnection at multi-unit premises, the Commission requires the incumbent to construct a single point of interconnection that will be fully accessible and suitable for use by multiple carriers. Any disputes regarding the implementation of this requirement, including the provision of compensation to the incumbent LEC under forward-looking pricing principles, shall be subject to the usual dispute resolution process under section 252.

16. The Third R&O also establishes a further rebuttable presumption that, once one state has determined that it is technically feasible to unbundle

subloops at a designated point, it will be presumed that it is technically feasible for any incumbent LEC in any other state to unbundle the loop at the same point everywhere. If the conditions surrounding a request for unbundling at a similar point differ to such an extent that it is not technically feasible for the incumbent to provide unbundled access to that subloop element, the incumbent will have the burden of demonstrating in a section 252 arbitration proceeding that such an arrangement is indeed not technically feasible under those different conditions.

17. *Network Interface Device (NID)*: The Third R&O requires incumbent LECs to provide access to the NID nationwide. It concludes that lack of unbundled access to the incumbent's NID impairs the ability of requesting carriers to provide the services that they seek to offer. Requiring a requesting carrier to self-provision NIDs for all customers it seeks to serve would materially raise the cost of entry, delay broad facilities-based market entry, and materially limit the scope and quality of the competitor's service offerings. Unbundling the NID will accelerate the development of alternative networks, because it will allow requesting carriers efficiently to connect their facilities with the incumbent's loop plant. Thus, the Commission's decision to unbundle NIDs is consistent with the 1996 Act's goals of rapid introduction of competition and the promotion of facilities-based entry.

18. The Third R&O defines the NID to include all features, functions, and capabilities of the facilities used to connect the loop distribution plant to the customer premises wiring, regardless of the particular design of the NID mechanism. Specifically, it defines the NID to include any means of interconnection of customer premises wiring to the incumbent LEC's distribution plant, such as a cross-connect device used for that purpose.

19. *Local Circuit Switching*: The Third R&O requires incumbent LECs to provide local switching as an unbundled network element nationwide, except for local circuit switching used to serve end users with four or more lines in access density zone 1 in the top 50 Metropolitan Statistical Areas (MSAs), provided that the incumbent LEC provides nondiscriminatory, cost-based access to combinations of loop and transport unbundled network elements, known as the enhanced extended link (EEL) throughout density zone 1. The Third R&O finds that requesting carriers are not impaired without access to unbundled switching for end users with

four or more lines within density zone 1 in the top 50 MSAs. It concludes that, as a general matter, unbundled local circuit switching meets the "impair" standard set forth in section 251(d)(2), and that lack of access to unbundled local switching materially raises entry costs, delays broad-based entry, and limits the scope and quality of the new entrant's service offerings. The Third R&O also finds that unbundling local circuit switching is consistent with the 1996 Act's goals of rapid introduction of competition and the promotion of facilities-based entry. Requiring incumbent LECs to provide access to unbundled switching, and to use unbundled switching in combination with other network elements, will allow requesting carriers to serve the broadest number of customers without incurring collocation and switch provisioning delays.

20. The Third R&O defines local circuit switching as including the basic function of connecting lines and trunks. In addition to line-side and trunk-side facilities, the definition of the local circuit switching element encompasses all the features, function and capabilities of the switch. The Third R&O rejects the argument of an incumbent LEC that switch routing tables are "proprietary," within the meaning of section 251(d)(2)(A), and requires them to be unbundled as part of the local circuit switching element.

21. To the extent the market shows that requesting carriers are not serving a market segment with self-provisioned switches, the Third R&O finds that this fact is probative evidence that requesting carriers are impaired without access to unbundled local circuit switching for a discrete market segment. Conversely, to the extent that the market shows that requesting carriers are generally providing service in particular situations with their own switches, the Third R&O finds this fact to be probative evidence that requesting carriers are not impaired without access to unbundled local circuit switching. It thus concludes that it is appropriate to create an exception to the switching unbundling obligation in certain circumstances in the top 50 MSAs, as defined by the Office of Management and Budget, because most of the switches competitors have deployed are within the confines of the top 50 MSAs. The Third R&O also finds that requesting carriers have deployed greater numbers of switches in areas of high customer density within the top 50 MSAs. It therefore concludes that it is appropriate to create an exception to the local circuit switching unbundling obligation only in density zone 1, as

these density zones were defined on January 1, 1999, within the top 50 MSAs. Incumbent LECs assign their central offices to density zones based on traffic volume.

22. The conclusion that competitors are not impaired in certain circumstances without access to unbundled switching in density zone 1 in the top 50 MSAs also is predicated upon the availability of the EEL throughout density zone 1. The EEL allows requesting carriers to serve their customers by extending a customer's loop from the central office that serves the customer to a different end office in which the competitive LEC is already collocated. The EEL therefore allows requesting carriers to aggregate loops at fewer collocations and increase their efficiencies by transporting aggregated loops over efficient high-capacity facilities to their central switching location. The Third R&O also concludes that a rule that provides requesting carriers with access to unbundled local switching for requesting carriers when they serve customers with three lines or less captures a significant portion of the mass market.

23. *Packet Switching:* The Third R&O does not require incumbent LECs to unbundle packet switching functionality except in limited circumstances. It defines packet switching as the function of routing individual data units ("packets") based on address or other routing information contained in the packets. The definition of packet switching includes the necessary electronics (e.g. routers and DSLAMs). The record demonstrates that competitors are actively deploying facilities to serve medium and large business segments of the market, and hence they cannot be said to be impaired in their ability to offer service at least to these segments without access to the incumbent's facilities. In the residential and small business segments of the market, competitors may be impaired in their ability to offer service without access to incumbent LEC facilities due to the cost and timeliness of obtaining collocation in every central office where the requesting carrier provides service with unbundled loops. Given the nascent nature of the advanced services marketplace, however, the Third R&O does not order unbundling of packet switching functionality as a general matter. The Third R&O further declines to unbundle specific packet switching technologies incumbent LECs may have deployed in their networks.

24. The Third R&O requires incumbent LECs to provide unbundled access to packet switching in one

limited circumstance. Specifically, where a requesting carrier is unable to install its DSLAM at the remote terminal or obtain spare copper loops necessary to offer the same level of quality for advanced services as the incumbent LEC, incumbent LECs must provide requesting carriers with access to unbundled packet switching where the incumbent has placed its own DSLAM in a remote terminal. The incumbent LEC will be relieved of this unbundling obligation only if it permits a requesting carrier to collocate its DSLAM in the incumbent's remote terminal on the same terms and conditions that apply to its own DSLAM. Incumbents may not unreasonably limit the deployment of alternative technologies when requesting carriers seek to collocate their own DSLAMs in the remote terminal.

25. *Interoffice Transmission Facilities:* The Third R&O requires incumbent LECs to provide unbundled access to dedicated and shared interoffice transmission facilities. Incumbent LECs must offer unbundled access to dedicated interoffice transmission facilities, or transport, including dark fiber. The Third R&O concludes that that state commissions are free to establish reasonable limits governing access to dark fiber if incumbent LECs can show that they need to maintain fiber reserves. Dedicated interoffice transmission facilities are defined as incumbent LEC transmission facilities dedicated to a particular customer or carrier that provide telecommunications between wire centers owned by the incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers. Dedicated transport transmission facilities include all technically feasible capacity-related services such as DS1-DS3 and OC3-OC96 dedicated transport services, and those provided by electronics that are necessary components of the functionality of capacity-related services and are used to originate and terminate telecommunications services.

26. The Third R&O finds that unbundling high-capacity dedicated transport offerings will encourage competition and facilitate the deployment of advanced services. Accordingly, it requires that incumbent LECs unbundle DS1 through OC192 dedicated transport offerings and such higher capacities as evolve over time. The intention is to ensure that the definition of interoffice transmission facilities will apply to new, as well as current technologies, and to ensure that competitors will continue to be able to

access these facilities as unbundled network elements as long as that access is required pursuant to section 251(d)(2). Although the Third R&O concludes that an incumbent LEC's unbundling obligation extends throughout its ubiquitous transport network, including ring transport architectures, it does not require incumbent LECs to construct new transport facilities to meet specific competitive LEC point-to-point demand requirements for facilities that the incumbent LEC has not deployed for its own use.

27. Incumbent LECs must also offer unbundled access to shared transport where unbundled local circuit switching is provided. Shared transport is defined as transmission facilities shared by more than one carrier, including the incumbent LEC, between end office switches, between end office switches and tandem switches, and between tandem switches in the incumbent LEC's network.

28. The Third R&O finds that requesting carriers are impaired without access to the incumbent LECs' unbundled dedicated and shared transport network. In particular, self-provisioning ubiquitous interoffice transmission facilities, or acquiring these facilities from non-incumbent LEC sources, materially increases a requesting carrier's costs of entering a market or of expanding the scope of its service, delays broad-based entry, and materially limits the scope and quality of a requesting carrier's service offerings. The Third R&O finds that requiring incumbent LECs to unbundle interoffice transmission facilities is consistent with the goal of the 1996 Act to facilitate rapid entry into the local exchange market. The Third R&O notes that the Commission will closely monitor the developments in the transport market to determine whether the transport market, or a particular segment of this market, is supplying requesting carriers with effective alternatives to the incumbent LEC's unbundled network elements when the Commission reexamines its unbundling rules in three years.

29. *Signaling and Call-Related Databases:* The Third R&O requires incumbent LECs to offer unbundled access to signaling links and signaling transfer points (STPs) in conjunction with unbundled switching, and on a stand-alone basis. The signaling network element includes, but is not limited to, signaling links and STPs. The Third R&O concludes that without unbundled access to the incumbent LECs' signaling networks, a requesting carrier's ability to provide the services

it seeks to offer is materially diminished. Requiring a requesting carrier to obtain signaling from alternative sources would materially diminish its ability to provide the services it seeks to offer, due to the quality differences between the signaling networks available from the incumbent LEC and those available from alternative providers of signaling. It also concludes that unbundling the incumbent LECs' signaling networks will promote the development of facilities-based competition and thereby encourage investment and innovation in new technologies and telecommunications services. Unbundling the incumbent LECs' signaling networks will give competitive LECs incentive to deploy their own switches, because they can be connected to the ubiquitous incumbent LECs' signaling networks.

30. The Third R&O requires incumbent LECs to offer unbundled access to call-related databases, including, but not limited to, the Line Information database (LIDB), Toll Free Calling database, Number Portability database, Calling Name (CNAM) database, Advanced Intelligent Network (AIN) databases, and the AIN platform and architecture. The Third R&O clarifies that the definition of call-related databases includes, but is not limited to, the CNAM database, as well as the 911 and E911 databases. It identifies specifically the CNAM, 911 and E911 databases as being illustrative of call-related databases, and not as a comprehensive list of all call-related databases.

31. Because certain services created in the AIN platform and architecture are proprietary, the Third R&O finds that if competitive LECs receive unbundled access to incumbent LECs' AIN platforms, access to AIN service software should not be unbundled because such access is not "necessary" within the meaning of section 251(d)(2)(A) of the 1996 Act. With the exception of AIN service software, the Third R&O analyzes call-related databases under the "impair" standard. It finds that lack of access to call-related databases on an unbundled basis would materially impair the ability of a requesting carrier to provide the services it seeks to offer in the local telecommunications market. It finds that there are no alternatives of comparable quality and ubiquity available to requesting carriers, as an economic, operational, and practical matter, for the incumbent LECs' call-related databases. The Third R&O notes that the analysis of call-related databases is intertwined with the analysis of signaling, because

signaling is necessary to obtain access to certain call-related databases. Thus, the decision to unbundle the signaling network leads to a decision to unbundle call-related databases as well. Requiring incumbent LECs to provide access to call-related databases, including access to the AIN databases, will also foster investment and innovation in the local telecommunications marketplace.

32. *Operations Support Systems:* The Third R&O requires incumbent LECs to offer unbundled access to their operations support systems (OSS). It defines OSS as consisting of pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by an incumbent LEC's databases and information. The Third R&O also clarifies that an incumbent LEC must provide the requesting carrier with nondiscriminatory access to the same detailed information about the loop that is available to the incumbent. In addition, the Third R&O concludes that an incumbent LEC should not be permitted to deny a requesting carrier access to loop qualification information for particular customers simply because the incumbent is not providing xDSL or other services from a particular end office. An incumbent LEC must provide access to the underlying loop information and may not filter or digest such information to provide only that information that is useful in the provision of a particular type of xDSL service that the incumbent chooses to offer. Instead, the incumbent LEC must provide access to the underlying loop qualification information contained in its engineering records, plant records, and other back office systems. If an incumbent LEC has not compiled such information for itself, the Third R&O does not require the incumbent to conduct a plant inventory and construct a database on behalf of requesting carriers.

33. The Third R&O concludes that lack of access to the incumbent LEC's OSS impairs the ability of requesting carriers to provide the services they seek to offer. The incumbents' OSS provides access to key information that is unavailable outside the incumbents' networks and is critical to the ability of other carriers to provide local exchange and exchange access service.

34. *Operator Services and Directory Assistance:* The Third R&O finds that incumbent LECs are not required to offer unbundled access to their operator services and directory assistance (OS/DA), except in the limited circumstance where an incumbent LEC does not provide customized routing, including compatible signaling protocol, to a

requesting carrier to allow it to route traffic to alternative OS/DA providers. Operator services are any automatic or live assistance to a consumer to arrange for billing or completion of a telephone call. Directory assistance is a service that allows subscribers to retrieve telephone numbers of other subscribers.

35. The Third R&O finds that where incumbent LECs provide customized routing, including compatible signaling protocol, lack of access to the incumbents' OS/DA service on an unbundled basis does not materially diminish a requesting carrier's ability to offer telecommunications service. The record provides significant evidence of a wholesale market in the provision of OS/DA services and opportunities for self-provisioning OS/DA services. Moreover, the evidence regarding the differences in cost, timeliness, quality, interoperability and ubiquity between the incumbent LEC's OS/DA service and alternative OS/DA services, provided either through self-provisioning or third-party alternatives, does not demonstrate that lack of unbundled access to the incumbent's OS/DA service would materially diminish a requesting carrier's ability to offer the services it seeks to provide. The non-discrimination requirements of section 251(b)(3) of the 1996 Act, coupled with evidence of multiple providers of OS/DA service in the marketplace, provide strong evidence that competitors are not impaired without access to the incumbent LEC's OS/DA service as an unbundled network element. The Third R&O also finds that declining to require incumbent LECs to unbundle OS/DA service is consistent with the goals of the Act, because it will reduce competitors' reliance on the incumbent LEC's network and create new opportunities for competitors of OS/DA service to differentiate their services through increased quality and lower prices.

36. In instances where the requesting carrier obtains the unbundled switching element from the incumbent, the lack of customized routing, including compatible signaling protocol, effectively precludes requesting carriers from using alternative OS/DA providers and, consequently, would materially diminish the requesting carrier's ability to provide the services it seeks to offer. Thus, the Third R&O requires incumbent LECs, to the extent they have not accommodated technologies used for customized routing, to offer OS/DA as an unbundled network element.

37. *Other Issues:* The Third R&O concludes that the prices, terms, and conditions set forth under sections 251 and 252 of the 1996 Act do not

presumptively apply to the network elements on the competitive checklist of section 271. In circumstances where a checklist network element is no longer unbundled, the Commission has determined that a competitor is not impaired in its ability to offer services without access to that element. Such a finding in the case of switching for large volume customers is predicated in large part upon the fact that competitors can acquire switching in the marketplace at a price set by the marketplace. Under these circumstances, it would be counterproductive to mandate that the incumbent offers the element at forward-looking prices. Rather, the market price should prevail, as opposed to a regulated rate which, at best, is designed to reflect the pricing of a competitive market.

38. A number of parties, including competitive LECs and state commissions, argue that the Commission should either identify a new network element comprised of the unbundled loop, multiplexing/concentrating equipment, and dedicated transport, (the enhanced extended link or "EEL"), or, alternatively, reinstate §§ 51.315(c) through (f) of the Commission's Rules (47 CFR 51.315(c) through (f)), which require incumbent LECs to provide unbundled loop and transport elements on a combined basis. The Third R&O declines to define the EEL as a separate network element in this Order. The Eighth Circuit Court of Appeals is currently reviewing whether §§ 51.315(c) through (f) should be reinstated, and the Commission states in the Third R&O that it therefore sees no reason to decide whether the EEL should be a separate network element in light of the Eighth Circuit's review of those rules. The Third R&O also declines to reinstate §§ 51.315(c) through (f), based on the pending Eighth Circuit litigation.

39. The Third R&O also clarifies that under existing law (47 CFR 51.309(a), 51.315(b)), a requesting carrier is entitled to obtain existing combinations of loop and transport between the end user and the incumbent LEC's serving center on a restricted basis at unbundled network element prices. In particular, any requesting carrier that is collected in a serving wire center is free to order loops and transport to that serving wire center as unbundled network elements because those elements meet the unbundling standard. Moreover, to the extent those unbundled network elements are already combined as a special access circuit, the incumbent may not separate them under rule 51.315(b), which was reinstated by the Supreme Court. In such circumstances,

it would be impermissible for an incumbent LEC to require that a requesting carrier provide a certain amount of local service over such facilities.

40. Moreover, where the requesting carrier is collocated and has self-provisioned transport or obtained transport from an alternative provider, but is purchasing unbundled loops, that carrier may provide only exchange access over those facilities. Thus, for instance, a requesting carrier is entitled to purchase unbundled loops in order to provide advanced services (e.g., interstate special access xDSL service).

41. The Third R&O also clarifies that interexchange carriers are entitled to use unbundled dedicated transport from their point of presence to a serving wire center in order to provide local telephone exchange service. Such carriers are entitled to obtain such dedicated transport links pursuant to the unbundling standard.

42. The Third R&O concludes that the record is insufficient to allow the Commission to determine whether or how its rules should apply in the discrete situation involving the use of dedicated transport links between the incumbent LEC's serving wire center and an interexchange carrier's switch or point of presence (referred to as "entrance facilities"). The Commission believes that it should explore fully the policy ramifications of applying its rules in a way that potentially could cause a significant reduction of the incumbent LEC's special access revenues prior to full implementation of access charge and universal service reform. Therefore, it sets certain discrete issues for further comment as described below in the Fourth Further Notice of Proposed Rulemaking in this docket.

#### **Paperwork Reduction Act of 1995 Analysis**

43. The actions contained in this Third R&O have been analyzed with respect to the Paperwork Reduction Act of 1995 and found to impose no burden on the public.

#### **Final Regulatory Flexibility Analysis**

44. As required by the Regulatory Flexibility Act (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Notice in CC Docket 96-98 (64 FR 20238, April 26, 1999). The Commission sought written public comments on the proposals in the Notice, including comments on the IRFA. The Commission's Final Regulatory Flexibility Analysis (FRFA) in the Third R&O conforms to the RFA.

### Need for, and Objectives of the Third Report and Order

45. This R&O responds to the Supreme Court's January, 1999 decision that directs the Commission to revise the standards used to determine which network elements incumbent LECs must unbundle pursuant to section 251 of the Act. More specifically, this Third R&O gives substance to the "necessary" and "impair" standards set in section 251(d)(2) of the Act. Applying these standards, and considering the availability of the elements outside of the incumbent's network, this Third R&O adopts a list of network elements that must be unbundled on a national basis, subject to certain discrete geographic and product market exceptions. It also announces that the Commission will reexamine the national list of unbundled elements in three years. It reaffirms a state commission's authority to require incumbent LECs to unbundle additional elements, as long as the unbundling obligations: (1) are consistent with the requirements of section 251; (2) do not substantially prevent implementation of the requirements of that section and the purposes of the Act; and (3) are consistent with the national policy framework established in the Third R&O. Finally the Third R&O reaffirms that incumbent LECs are obligated to offer combinations of loop, multiplexing/concentrating equipment, and dedicated transport if they are currently combined.

### Summary of Significant Issues Raised by the Public Comments in Response to the IRFA

46. No comments were submitted in direct response to the IRFA. The Commission did, however, receive some general small-business-related comments which are discussed throughout the Third R&O and are summarized in subsection 5 of the FRFA, *infra*.

### Description and Estimate of the Number of Small Entities to Which Rules Will Apply

47. In the FRFA to the Commission's Local Competition First Report and Order, the Commission adopted the analysis and definitions set forth in determining the small entities affected by the Third R&O for purposes of this FRFA. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by rules (5 U.S.C. 603(b)(3)). The RFA generally defines the term "small entity" as having the same meaning as

the terms "small business," "small organization," and "small governmental jurisdiction." (5 U.S.C. 601(6)). The RFA defines a "small business" to be the same as a "small business concern" under the Small Business Act, unless the Commission has developed one or more definitions that are appropriate to its activities. (5 U.S.C. 601(3)). Under the Small Business Act, a "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the Small Business Administration (SBA (15 U.S.C. 632)). Below, the Commission describes and estimates the number of small entities that may be affected by the rules adopted in the Third R&O.

48. The Commission has included small incumbent LECs in this RFA analysis. As noted, a "small business" under the RFA is one that, *inter alia*, meets the pertinent small business size standard (*e.g.*, a telephone communications business having 1,500 or fewer employees), and "is not dominant in its field of operation." (5 U.S.C. 601(3)). The SBA's Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not national in scope. The Commission has therefore included small incumbent LECs in this RFA analysis, although it emphasizes that this RFA action has no effect on the Commission's analyses and determinations in other non-RFA contexts.

49. The United States Bureau of the Census (the Census Bureau) reports that at the end of 1992, there were 3,497 firms engaged in providing telephone services, as defined therein, for at least one year. (United States Department of Commerce, Bureau of the Census, 1992 Census of Transportation, Communications and Utilities: Establishment and Firm Size, at Firm Size 1-123 (1995) (1992 Census)). These firms include a variety of different categories of carriers, including LECs, interexchange carriers, competitive access providers, wireless providers, operator service providers, pay telephone operators, wireless providers, and resellers. At least some of these 3,497 telephone service firms may not qualify as small entities because they are not "independently owned and operated." (15 U.S.C. 632(a)(1)). For example, a wireless provider that is affiliated with a LEC having more than 1,500 employees would not meet the definition of a small business. It seems reasonable to conclude, therefore, that fewer than 3,497 of these telephone

service firms are small entities that may be affected by the Third R&O. Since 1992, however, many new carriers have entered the telephone services marketplace. At least some of these new entrants may be small entities that are affected by the Third R&O.

50. The SBA has developed a definition of small entities for telephone communications companies other than radiotelephone (wireless) companies. The Census Bureau reports that there were 2,321 such telephone companies that had been operating for at least one year at the end of 1992. (1992 Census at Firm Size 1-123). According to the SBA's definition, a wireline telephone company is a small business if it employs no more than 1,500 persons. (13 CFR 121.201, Standard Industrial Classification Code 4812). All but 26 of the 2,321 wireline companies listed by the Census Bureau were reported to have fewer than 1,000 employees. Thus, even if all 26 of those companies had more than 1,500 employees, there would still be 2,295 wireline companies that might qualify as small entities. Although it seems certain that some of these carriers are not independently owned and operated, the Commission is unable at this time to estimate with greater precision the number of wireline carriers and service providers that would qualify as small business concerns under the SBA's definition. Consequently, it estimates that fewer than 2,295 of these wireline companies are small entities that the Third R&O may affect. Since 1992, however, many wireline carriers have entered the telephone services marketplace. Many of these new entrants may be small entities that are affected by the Third R&O.

51. *Incumbent Local Exchange Carriers*. Neither the Commission nor the SBA has developed a definition specifically directed toward small incumbent LECs. The closest applicable definition under SBA rules is for telephone communications companies other than radiotelephone (wireless) companies. The most reliable source of information regarding the number of LECs nationwide of which the Commission is aware appears to be the data that the Commission collects annually in connection with the Telecommunications Relay Service (TRS). According to the Commission's most recent data, 1,410 companies reported that they were engaged in the provision of local exchange services. (Federal Communications Commission, Carrier Locator: Interstate Service Providers, Fig. 1 (January 1999) (Carrier Locator Report)). Although it seems certain that some of these carriers are

not independently owned and operated or have more than 1,500 employees, the Commission is unable at this time to estimate with greater precision the number of small incumbent LECs that would qualify as small business concerns under SBA's definition. Consequently, the Commission estimates that there are fewer than 1,410 small incumbent LECs that may be affected by the decisions and rules adopted in the Third R&O.

#### **Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements**

52. Pursuant to sections 251(c) and (d) of the 1996 Act, incumbent LECs, including those that qualify as small entities, are required to provide nondiscriminatory access to unbundled network elements. The only exception to this rule is those carriers that qualify and have gone through the process of obtaining an exemption, suspension or modification pursuant to section 251(f) of the Act. The Third R&O interprets the "necessary" and "impair" standards of section 251(d)(2) in such a way that it fulfills the Supreme Court's requirement that the Commission apply some limiting standard to an incumbent LEC's 251(c) obligations. In the Third R&O, the Commission identifies a minimum set of network elements that incumbent LECs are obligated to offer to requesting carriers on an unbundled basis nationwide: (1) local loops, including dark fiber and high-capacity loops; (2) subloops; (3) network interface devices; (4) local switching, except under certain conditions; (5) interoffice transport; (6) signaling and call-related databases; (7) operations support systems; and (8) in very limited situations, packet switching. State commissions may require incumbent LECs to provide additional network elements on an unbundled basis. The Third R&O also clarifies that incumbent LECs are obligated to provide access to combinations of loop, multiplexing/concentrating equipment and dedicated transport if they are currently combined. Compliance with the rules and decisions adopted in this Third R&O may require the use of engineering, technical, operational, accounting, billing, and legal skills.

#### **Steps Taken to Minimize the Economic Impact of This Order on Small Entities, and Alternatives Considered**

53. As the Commission concluded in the original FRFA, and as discussed more thoroughly, the Commission believes that its actions establishing a minimum national list of unbundled network elements in this Third R&O

facilitates the development of competition in the local exchange and exchange access markets. This decision decreases entry barriers and provides reasonable opportunities for all carriers, including small entities, to provide local exchange and exchange access services.

54. National requirements for unbundling allows requesting carriers, including small entities, to take advantage of economies of scale in the network. Requesting carriers, which may include small entities, should have access to the same technologies and economies of scale and scope available to incumbent LECs. Having such access will facilitate competition and help lower prices for all consumers, including individuals and small entities. A minimum national list of unbundled network elements also should facilitate the development of consistent standards and help resolve issues without imposing additional litigation costs on parties, including small entities.

55. Establishing a minimum national list of unbundled network elements facilitates negotiations and reduces regulatory burdens for all parties, including small entities. Adopting a national list lowers requesting carrier's cost by enabling them to implement regional and/or national business plans. In reaching this conclusion, the Commission considered one proposal to adopt national standards that would be applied by state commissions on a market-by-market basis. The Commission concluded that this approach would lead to greater uncertainty in the market and would hinder the development of competition. It also found that it would complicate the negotiation of interconnection agreements and lead to increased litigation. Furthermore, this approach would increase the administrative burden on state commissions and parties arbitrating interconnection agreements before these state commissions. All of these factors would slow the development of competition. Therefore, the Commission adopted a national list.

#### **Report to Congress**

56. The Commission will send a copy of the Third R&O, including this FRFA, in a report to be sent to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996. (5 U.S.C. 801(a)(1)(A)). In addition, the Commission will send a copy of the Third R&O, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. The Third R&O and FRFA, or summaries thereof, are also

published in the **Federal Register**. (5 U.S.C. 604(b)).

#### **Initial Regulatory Flexibility Analysis (IRFA)**

57. As required by the RFA, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this Fourth Further Notice of Proposed Rulemaking. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the Fourth Further Notice of Proposed Rulemaking provided above in section VII. The Commission will send a copy of the Fourth Further Notice of Proposed Rulemaking, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration. (5 U.S.C. 603(a)). In addition, the Fourth Further Notice of Proposed Rulemaking and IRFA, or summaries thereof, are now also published in the **Federal Register**.

#### **Need for, and Objectives of, the Proposed Rules**

58. In this proceeding commenters have argued that allowing requesting carriers to obtain combinations of loop and transport unbundled network elements based on forward-looking cost would provide opportunities for arbitrage of special access services. The Commission recognizes that special access has historically been provided by incumbent LECs at prices that are higher than the unbundled network element pricing scheme of section 252(d)(1). Accordingly, in this Fourth Further Notice, the Commission seeks comment on the legal and policy bases for precluding requesting carriers from substituting dedicated transport for special access entrance facilities. The Commission asks whether there is any basis in the statute or our rules under which incumbent LECs could decline to provide entrance facilities at unbundled network element prices.

59. The Commission also invites parties to refresh the record on whether requesting carriers may use unbundled dedicated or shared transport facilities in conjunction with unbundled switching to originate or terminate interstate toll traffic to customers to whom the requesting carrier does not provide local exchange service.

#### **Legal Basis**

60. Sections 1 through 4, 10, 201, 202, 251 through 254, 271, and 303(r) of the Communications Act, as amended, 47

U.S.C. 151 through 54, 160, 201, 202, 251 through 54, 271, and 303(r).

### Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

61. In the FRFA in the Third R&O, the Commission has described the entities possibly affected by that decision. The Commission anticipates that the same entities, as well as those described below, could be affected by any action taken in response to the Fourth Further Notice. The Commission therefore incorporates the description and estimates used in the FRFA in the Third R&O and adds the following descriptions.

62. *Competitive Local Exchange Carriers.* Neither the Commission nor SBA has developed a definition of small entities specifically directed toward providers of competitive local exchange services. The most reliable source of information regarding the number of competitive LECs nationwide of which the Commission is aware appears to be the data it collected in the August, 1999 Local Competition Report. According to the Commission's most recent data, 158 companies reported that they were local service competitors holding numbering codes. (Federal Communications Commission, Local Competition Report, August 1999, at 45, table 4.1). Although it seems certain that some of these carriers are not independently owned and operated, or have more than 1,500 employees, the Commission is unable at this time to estimate with greater precision the number of competitive LECs that would qualify as small business concerns under SBA's definition. Consequently, the Commission estimates that there are fewer than 158 small entity competitive LECs that may be affected by the decisions and rules adopted in response to the Fourth Further Notice of Proposed Rulemaking.

63. *Competitive Access Providers.* Neither the Commission nor SBA has developed a definition of small entities specifically directed toward providers of competitive access services (CAPs). The closest applicable definition under SBA rules is for telephone communications companies other than radiotelephone (wireless) companies. The most reliable source of information regarding the number of CAPs nationwide of which the Commission is aware appears to be the data that we collect annually in connection with the TRS Worksheet. According to the Commission's most recent data, 129 companies reported that they were engaged in the provision of competitive access services. (Carrier Locator Report at Fig.1). Although it

seems certain that some of these carriers are not independently owned and operated, or have more than 1,500 employees, the Commission is unable at this time to estimate with greater precision the number of competitive LECs that would qualify as small business concerns under SBA's definition. Consequently, the Commission estimates that there are fewer than 129 small entity competitive LECs that may be affected by the decisions and rules adopted in response to the Fourth Further Notice of Proposed Rulemaking.

### Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

64. If the Commission does not establish any restrictions on the use of unbundled network elements or combinations of network elements, no additional compliance requirements are anticipated from further consideration of this issue. If, however, restrictions on access to network elements are imposed, and depending on how the restrictions are imposed, competitive LECs, CAPs and other purchasers of unbundled network elements, including small entities, may be subject to additional reporting, recordkeeping and other compliance requirements. Incumbent LECs, including small incumbent LECs, would also be impacted because they would have to keep track of competitive LEC filings and whether the use of the unbundled network element changed in such a way that a restriction would attach. If restrictions are placed on the use of unbundled network elements or combinations of such elements, compliance with these requests may require the use of engineering, technical, operational, accounting, billing, and legal skills.

### Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

65. If requesting carriers can substitute unbundled network elements, such as transport, for entrance facilities, incumbent LECs, including small entities, may be significantly economically impacted. On the other hand, substituting unbundled network elements for entrance facilities could benefit competitive LECs, CAPs, and other purchasers of unbundled network elements. The Commission will evaluate in this proceeding whether there are legal grounds for restricting such access. If no such grounds exist, and instead if the statute requires unrestricted access to these unbundled network elements or combinations, then the Commission will have no alternative other than

implementation of the statutory requirements for unrestricted access.

### Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rules

66. *Ordering Clauses*  
Effective February 17, 2000, except as specified in the regulations.

67. The Commission will send a copy of this *Third Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

The Commission will send a copy of this *Fourth Further Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

### List of Subjects in 47 CFR Part 51

Communications, Common Carriers, Telecommunications.

Federal Communications Commission.

**Magalie Roman Salas,**  
*Secretary.*

### Rule Changes

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 51 as follows:

### PART 51—INTERCONNECTION

1. The authority citation for part 51 continues to read:

**Authority:** Sections 1–5, 7, 201–05, 207–09, 218, 225–27, 251–54, 271, 332, 48 Stat. 1070, as amended, 1077; 47 U.S.C. 151 through 55, 157, 201 through 205, 207 through 209, 218, 225 through 227, 251 through 254, 271, and 332, unless otherwise noted.

2. Section 51.5 is amended by revising the following definition to read as follows:

#### § 51.5 Terms and definitions.

\* \* \* \* \*

*Pre-ordering and ordering.* Pre-ordering and ordering includes the exchange of information between telecommunications carriers about: current or proposed customer products and services; or unbundled network elements, or some combination thereof. This information includes loop qualification information, such as the composition of the loop material, including but not limited to: fiber optics or copper; the existence, location and type of any electronic or other equipment on the loop, including but not limited to, digital loop carrier or other remote concentration devices, feeder/distribution interfaces, bridge

taps, load coils, pair-gain devices, disturbers in the same or adjacent binder groups; the loop length, including the length and location of each type of transmission media; the wire gauge(s) of the loop; and the electrical parameters of the loop, which may determine the suitability of the loop for various technologies.

\* \* \* \* \*

3. Section 51.317 is revised to read as follows:

**§ 51.317 Standards for requiring the unbundling of network elements.**

(a) *Proprietary network elements.* A network element shall be considered to be proprietary if an incumbent LEC can demonstrate that it has invested resources to develop proprietary information or functionalities that are protected by patent, copyright or trade secret law. The Commission shall undertake the following analysis to determine whether a proprietary network element should be made available for purposes of section 251(c)(3) of the Act:

(1) Determine whether access to the proprietary network element is "necessary." A network element is "necessary" if, taking into consideration the availability of alternative elements outside the incumbent LEC's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to the network element precludes a requesting telecommunications carrier from providing the services that it seeks to offer. If access is "necessary," then, subject to any consideration of the factors set forth under paragraph (c) of this section, the Commission may require the unbundling of such proprietary network element.

(2) In the event that such access is not "necessary," the Commission may require unbundling subject to any consideration of the factors set forth under paragraph (c) of this section if it is determined that:

(i) The incumbent LEC has implemented only a minor modification to the network element in order to qualify for proprietary treatment;

(ii) The information or functionality that is proprietary in nature does not differentiate the incumbent LEC's services from the requesting carrier's services; or

(iii) Lack of access to such element would jeopardize the goals of the 1996 Act.

(b) *Non-proprietary network elements.* The Commission shall undertake the following analysis to determine whether a non-proprietary network element

should be made available for purposes of section 251(c)(3) of the Act:

(1) Determine whether lack of access to a non-proprietary network element "impairs" a carrier's ability to provide the service it seeks to offer. A requesting carrier's ability to provide service is "impaired" if, taking into consideration the availability of alternative elements outside the incumbent LEC's network, including self-provisioning by a requesting carrier or acquiring an alternative from a third-party supplier, lack of access to that element materially diminishes a requesting carrier's ability to provide the services it seeks to offer. The Commission will consider the totality of the circumstances to determine whether an alternative to the incumbent LEC's network element is available in such a manner that a requesting carrier can provide service using the alternative. If the Commission determines that lack of access to an element "impairs" a requesting carrier's ability to provide service, it may require the unbundling of that element, subject to any consideration of the factors set forth under section 51.317(c).

(2) In considering whether lack of access to a network element materially diminishes a requesting carrier's ability to provide service, the Commission shall consider the extent to which alternatives in the market are available as a practical, economic, and operational matter. The Commission will rely upon the following factors to determine whether alternative network elements are available as a practical, economic, and operational matter:

(i) Cost, including all costs that requesting carriers may incur when using the alternative element to provide the services it seeks to offer;

(ii) Timeliness, including the time associated with entering a market as well as the time to expand service to more customers;

(iii) Quality;

(iv) Ubiquity, including whether the alternatives are available ubiquitously;

(v) Impact on network operations.

(3) In determining whether to require the unbundling of any network element under this rule, the Commission may also consider the following additional factors:

(i) Whether unbundling of a network element promotes the rapid introduction of competition;

(ii) Whether unbundling of a network element promotes facilities-based competition, investment, and innovation;

(iii) Whether unbundling of a network element promotes reduced regulation;

(iv) Whether unbundling of a network element provides certainty to requesting

carriers regarding the availability of the element;

(v) Whether unbundling of a network element is administratively practical to apply.

(4) If an incumbent LEC is required to provide nondiscriminatory access to a network element in accordance with § 51.311 and section 251(c)(3) of the Act under § 51.319 of this section or any applicable Commission Order, no state commission shall have authority to determine that such access is not required. A state commission must comply with the standards set forth in this § 51.317 when considering whether to require the unbundling of additional network elements. With respect to any network element which a state commission has required to be unbundled under this § 51.317, the state commission retains the authority to subsequently determine, in accordance with the requirements of this rule, that such network element need no longer be unbundled.

4. Section 51.319 is revised to read as follows:

**§ 51.319 Specific unbundling requirements.**

(a) *Local loop and subloop.* An incumbent LEC shall provide nondiscriminatory access, in accordance with § 51.311 and section 251(c)(3) of the Act, to the local loop and subloop, including inside wiring owned by the incumbent LEC, on an unbundled basis to any requesting telecommunications carrier for the provision of a telecommunications service.

(1) *Local loop.* The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and the loop demarcation point at an end-user customer premises, including inside wire owned by the incumbent LEC. The local loop network element includes all features, functions, and capabilities of such transmission facility. Those features, functions, and capabilities include, but are not limited to, dark fiber, attached electronics (except those electronics used for the provision of advanced services, such as Digital Subscriber Line Access Multiplexers), and line conditioning. The local loop includes, but is not limited to, DS1, DS3, fiber, and other high capacity loops. The requirements in this section relating to dark fiber are not effective until May 17, 2000.

(2) *Subloop.* The subloop network element is defined as any portion of the loop that is technically feasible to access at terminals in the incumbent LEC's outside plant, including inside wire. An

accessible terminal is any point on the loop where technicians can access the wire or fiber within the cable without removing a splice case to reach the wire or fiber within. Such points may include, but are not limited to, the pole or pedestal, the network interface device, the minimum point of entry, the single point of interconnection, the main distribution frame, the remote terminal, and the feeder/distribution interface. The requirements in this section relating to subloops and inside wire are not effective until May 17, 2000.

(i) *Inside wire.* Inside wire is defined as all loop plant owned by the incumbent LEC on end-user customer premises as far as the point of demarcation as defined in § 68.3 of this chapter, including the loop plant near the end-user customer premises. Carriers may access the inside wire subloop at any technically feasible point including, but not limited to, the network interface device, the minimum point of entry, the single point of interconnection, the pedestal, or the pole.

(ii) *Technical feasibility.* If parties are unable to reach agreement, pursuant to voluntary negotiations, as to whether it is technically feasible, or whether sufficient space is available, to unbundle the subloop at the point where a carrier requests, the incumbent LEC shall have the burden of demonstrating to the state, pursuant to state arbitration proceedings under section 252 of the Act, that there is not sufficient space available, or that it is not technically feasible, to unbundle the subloop at the point requested.

(iii) *Best practices.* Once one state has determined that it is technically feasible to unbundle subloops at a designated point, an incumbent LEC in any state shall have the burden of demonstrating, pursuant to state arbitration proceedings under section 252 of the Act, that it is not technically feasible, or that sufficient space is not available, to unbundle its own loops at such a point.

(iv) *Rules for collocation.* Access to the subloop is subject to the Commission's collocation rules at §§ 51.321 through 51.323.

(v) *Single point of interconnection.* The incumbent LEC shall provide a single point of interconnection at multi-unit premises that is suitable for use by multiple carriers. This obligation is in addition to the incumbent LEC's obligation to provide nondiscriminatory access to subloops at any technically feasible point. If parties are unable to negotiate terms and conditions regarding a single point of interconnection, issues in dispute,

including compensation of the incumbent LEC under forward-looking pricing principles, shall be resolved under the dispute resolution processes in section 252 of the Act.

(3) *Line conditioning.* The incumbent LEC shall condition lines required to be unbundled under this section wherever a competitor requests, whether or not the incumbent LEC offers advanced services to the end-user customer on that loop.

(i) Line conditioning is defined as the removal from the loop of any devices that may diminish the capability of the loop to deliver high-speed switched wireline telecommunications capability, including xDSL service. Such devices include, but are not limited to, bridge taps, low pass filters, and range extenders.

(ii) Incumbent LECs shall recover the cost of line conditioning from the requesting telecommunications carrier in accordance with the Commission's forward-looking pricing principles promulgated pursuant to section 252(d)(1) of the Act.

(iii) Incumbent LECs shall recover the cost of line conditioning from the requesting telecommunications carrier in compliance with rules governing nonrecurring costs in § 51.507 (e).

(iv) In so far as it is technically feasible, the incumbent LEC shall test and report trouble for all the features, functions, and capabilities of conditioned lines, and may not restrict testing to voice-transmission only.

(b) *Network interface device.* An incumbent LEC shall provide nondiscriminatory access, in accordance with § 51.311 and section 251(c)(3) of the Act, to the network interface device on an unbundled basis to any requesting telecommunications carrier for the provision of a telecommunications service. The network interface device network element is defined as any means of interconnection of end-user customer premises wiring to the incumbent LEC's distribution plant, such as a cross connect device used for that purpose. An incumbent LEC shall permit a requesting telecommunications carrier to connect its own loop facilities to on-premises wiring through the incumbent LEC's network interface device, or at any other technically feasible point.

(c) *Switching capability.* An incumbent LEC shall provide nondiscriminatory access, in accordance with § 51.311 and section 251(c)(3) of the Act, to local circuit switching capability and local tandem switching capability on an unbundled basis, except as set forth in § 51.319(c)(2), to any requesting telecommunications

carrier for the provision of a telecommunications service. An incumbent LEC shall be required to provide nondiscriminatory access in accordance with § 51.311 and section 251(c)(3) of the Act to packet switching capability on an unbundled basis to any requesting telecommunications carrier for the provision of a telecommunications service only in the limited circumstance described in § 51.319(c)(4).

(1) *Local circuit switching capability, including tandem switching capability.* The local circuit switching capability network element is defined as:

(i) Line-side facilities, which include, but are not limited to, the connection between a loop termination at a main distribution frame and a switch line card;

(ii) Trunk-side facilities, which include, but are not limited to, the connection between trunk termination at a trunk-side cross-connect panel and a switch trunk card; and

(iii) All features, functions and capabilities of the switch, which include, but are not limited to:

(A) The basic switching function of connecting lines to lines, lines to trunks, trunks to lines, and trunks to trunks, as well as the same basic capabilities made available to the incumbent LEC's customers, such as a telephone number, white page listing and dial tone, and

(B) All other features that the switch is capable of providing, including but not limited to, customer calling, customer local area signaling service features, and Centrex, as well as any technically feasible customized routing functions provided by the switch.

(2) Notwithstanding the incumbent LEC's general duty to unbundle local circuit switching, an incumbent LEC shall not be required to unbundle local circuit switching for requesting telecommunications carriers when the requesting telecommunications carrier serves end-users with four or more voice grade (DS0) equivalents or lines, provided that the incumbent LEC provides nondiscriminatory access to combinations of unbundled loops and transport (also known as the "Enhanced Extended Link") throughout Density Zone 1, and the incumbent LEC's local circuit switches are located in:

(i) The top 50 Metropolitan Statistical Areas as set forth in Appendix B of the Third Report and Order and Fourth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, and

(ii) In Density Zone 1, as defined in § 69.123 of this chapter on January 1, 1999.

(3) *Local tandem switching capability.* The tandem switching capability network element is defined as:

(i) Trunk-connect facilities, which include, but are not limited to, the connection between trunk termination at a cross connect panel and switch trunk card;

(ii) The basic switch trunk function of connecting trunks to trunks; and

(iii) The functions that are centralized in tandem switches (as distinguished from separate end office switches), including but not limited, to call recording, the routing of calls to operator services, and signaling conversion features.

(4) *Packet switching capability.* (i) The packet switching capability network element is defined as the basic packet switching function of routing or forwarding packets, frames, cells or other data units based on address or other routing information contained in the packets, frames, cells or other data units, and the functions that are performed by Digital Subscriber Line Access Multiplexers, including but not limited to:

(ii) The ability to terminate copper customer loops (which includes both a low band voice channel and a high-band data channel, or solely a data channel);

(iii) The ability to forward the voice channels, if present, to a circuit switch or multiple circuit switches;

(iv) The ability to extract data units from the data channels on the loops, and

(v) The ability to combine data units from multiple loops onto one or more trunks connecting to a packet switch or packet switches.

(5) An incumbent LEC shall be required to provide nondiscriminatory access to unbundled packet switching capability only where each of the following conditions are satisfied. The requirements in this section relating to packet switching are not effective until May 17, 2000.

(i) The incumbent LEC has deployed digital loop carrier systems, including but not limited to, integrated digital loop carrier or universal digital loop carrier systems; or has deployed any other system in which fiber optic facilities replace copper facilities in the distribution section (e.g., end office to remote terminal, pedestal or environmentally controlled vault);

(ii) There are no spare copper loops capable of supporting xDSL services the requesting carrier seeks to offer;

(iii) The incumbent LEC has not permitted a requesting carrier to deploy a Digital Subscriber Line Access multiplexer in the remote terminal, pedestal or environmentally controlled

vault or other interconnection point, nor has the requesting carrier obtained a virtual collocation arrangement at these subloop interconnection points as defined by paragraph (b) of this section; and

(iv) The incumbent LEC has deployed packet switching capability for its own use.

(d) *Interoffice transmission facilities.*

An incumbent LEC shall provide nondiscriminatory access, in accordance with § 51.311 and section 251(c)(3) of the Act, to interoffice transmission facilities on an unbundled basis to any requesting telecommunications carrier for the provision of a telecommunications service. The requirements in this section relating to dark fiber transport are not effective until May 17, 2000.

(1) Interoffice transmission facility network elements include:

(i) Dedicated transport, defined as incumbent LEC transmission facilities, including all technically feasible capacity-related services including, but not limited to, DS1, DS3 and OCn levels, dedicated to a particular customer or carrier, that provide telecommunications between wire centers owned by incumbent LECs or requesting telecommunications carriers, or between switches owned by incumbent LECs or requesting telecommunications carriers;

(ii) Dark fiber transport, defined as incumbent LEC optical transmission facilities without attached multiplexing, aggregation or other electronics;

(iii) Shared transport, defined as transmission facilities shared by more than one carrier, including the incumbent LEC, between end office switches, between end office switches and tandem switches, and between tandem switches, in the incumbent LEC network.

(2) The incumbent LEC shall:

(i) Provide a requesting telecommunications carrier exclusive use of interoffice transmission facilities dedicated to a particular customer or carrier, or use the features, functions, and capabilities of interoffice transmission facilities shared by more than one customer or carrier.

(ii) Provide all technically feasible transmission facilities, features, functions, and capabilities that the requesting telecommunications carrier could use to provide telecommunications services;

(iii) Permit, to the extent technically feasible, a requesting telecommunications carrier to connect such interoffice facilities to equipment designated by the requesting telecommunications carrier, including

but not limited to, the requesting telecommunications carrier's collocated facilities; and

(iv) Permit, to the extent technically feasible, a requesting telecommunications carrier to obtain the functionality provided by the incumbent LEC's digital cross-connect systems in the same manner that the incumbent LEC provides such functionality to interexchange carriers.

(e) *Signaling networks and call-related databases.* An incumbent LEC shall provide nondiscriminatory access, in accordance with § 51.311 and section 251(c)(3) of the Act, to signaling networks, call-related databases, and service management systems on an unbundled basis to any requesting telecommunications carrier for the provision of a telecommunications service.

(1) *Signaling networks.* Signaling networks include, but are not limited to, signaling links and signaling transfer points.

(i) When a requesting telecommunications carrier purchases unbundled switching capability from an incumbent LEC, the incumbent LEC shall provide access from that switch in the same manner in which it obtains such access itself.

(ii) An incumbent LEC shall provide a requesting telecommunications carrier with its own switching facilities access to the incumbent LEC's signaling network for each of the requesting telecommunications carrier's switches. This connection shall be made in the same manner as an incumbent LEC connects one of its own switches to a signaling transfer point.

(2) *Call-related databases.* Call-related databases are defined as databases, other than operations support systems, that are used in signaling networks for billing and collection, or the transmission, routing, or other provision of a telecommunications service.

(i) For purposes of switch query and database response through a signaling network, an incumbent LEC shall provide access to its call-related databases, including but not limited to, the Calling Name Database, 911 Database, E911 Database, Line Information Database, Toll Free Calling Database, Advanced Intelligent Network Databases, and downstream number portability databases by means of physical access at the signaling transfer point linked to the unbundled databases. The requirements in this section relating to the Calling Name Database, 911 Database, and E911 Database are not effective until May 17, 2000.

(ii) Notwithstanding the incumbent LEC's general duty to unbundle call-related databases, an incumbent LEC shall not be required to unbundle the services created in the AIN platform and architecture that qualify for proprietary treatment.

(iii) An incumbent LEC shall allow a requesting telecommunications carrier that has purchased an incumbent LEC's local switching capability to use the incumbent LEC's service control point element in the same manner, and via the same signaling links, as the incumbent LEC itself.

(iv) An incumbent LEC shall allow a requesting telecommunications carrier that has deployed its own switch, and has linked that switch to an incumbent LEC's signaling system, to gain access to the incumbent LEC's service control point in a manner that allows the requesting carrier to provide any call-related database-supported services to customers served by the requesting telecommunications carrier's switch.

(v) An incumbent LEC shall provide a requesting telecommunications carrier with access to call-related databases in a manner that complies with section 222 of the Act.

(3) *Service management systems:*

(i) A service management system is defined as a computer database or system not part of the public switched network that, among other things:

(A) Interconnects to the service control point and sends to that service

control point the information and call processing instructions needed for a network switch to process and complete a telephone call; and

(B) Provides telecommunications carriers with the capability of entering and storing data regarding the processing and completing of a telephone call.

(ii) An incumbent LEC shall provide a requesting telecommunications carrier with the information necessary to enter correctly, or format for entry, the information relevant for input into the incumbent LEC's service management system.

(iii) An incumbent LEC shall provide a requesting telecommunications carrier the same access to design, create, test, and deploy Advanced Intelligent Network-based services at the service management system, through a service creation environment, that the incumbent LEC provides to itself.

(iv) An incumbent LEC shall provide a requesting telecommunications carrier access to service management systems in a manner that complies with section 222 of the Act.

(f) *Operator services and directory assistance.* An incumbent LEC shall provide nondiscriminatory access in accordance with § 51.311 and section 251(c)(3) of the Act to operator services and directory assistance on an unbundled basis to any requesting telecommunications carrier for the provision of a telecommunications

service only where the incumbent LEC does not provide the requesting telecommunications carrier with customized routing or a compatible signaling protocol. Operator services are any automatic or live assistance to a consumer to arrange for billing or completion, or both, of a telephone call. Directory assistance is a service that allows subscribers to retrieve telephone numbers of other subscribers.

(g) *Operations support systems.* An incumbent LEC shall provide nondiscriminatory access in accordance with § 51.311 and section 251(c)(3) of the Act to operations support systems on an unbundled basis to any requesting telecommunications carrier for the provision of a telecommunications service. Operations support system functions consist of pre-ordering, ordering, provisioning, maintenance and repair, and billing functions supported by an incumbent LEC's databases and information. An incumbent LEC, as part of its duty to provide access to the pre-ordering function, must provide the requesting carrier with nondiscriminatory access to the same detailed information about the loop that is available to the incumbent LEC. The requirements in this section relating to loop qualification information are not effective until May 17, 2000.

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