

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

In the Matter of
Performance Measurements and
Reporting Requirements
for Operations Support Systems,
Interconnection, and Operator Services
and Directory Assistance
CC Docket No. 98-56
RM-9101

NOTICE OF PROPOSED RULEMAKING

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## I. INTRODUCTION

1. In this proceeding, we explore ways to advance a fundamental goal of the Telecommunications Act of 1996<sup>1</sup> -- to increase consumer choice by fostering competition in the provision of local telephone service. The 1996 Act requires incumbent local telephone service providers to open their markets to competition by establishing three modes of entry by competing carriers into the local exchange market: (1) through the use of their own facilities; (2) through the use of elements from the incumbent's network; (3) through the use of services offered for resale by the incumbent. Under each of these three entry strategies, a new entrant must rely, to varying levels of degree, on the incumbent in order to be able to offer services to end user customers in a competitive manner. In effect, incumbents must act as wholesale providers of the services and facilities needed to facilitate each of the three modes of entry. Unlike many traditional wholesale/retail relationships, however, in this case, the wholesaler is both the retailer's sole supplier and its biggest competitor.

2. Recognizing the unique relationship established by the 1996 Act, Congress imposed certain requirements on incumbent carriers to ensure that new entrants received the necessary services and facilities. Specifically, Congress required incumbents to make available to new entrants in a nondiscriminatory and just and reasonable manner the services and facilities the incumbents use to provide retail services to their own customers.<sup>2</sup> In order to take advantage of the service and facility offerings that Congress requires incumbents to provide, new entrants need access to the support functions that incumbents use to process orders from their own customers.

3. In this proceeding, we propose a methodology by which to analyze whether new providers of local telephone service are able to access, among other things, the support functions (that is, the functions provided by computer systems, databases, and personnel) of incumbent local telephone companies in a nondiscriminatory and just and reasonable manner consistent with the 1996 Act's requirements. Access to these support functions enable new entrants to communicate effectively with the incumbent local carrier regarding such basic activities as placing orders or providing repair service for customers. These support functions are crucial to new entrants' ability to compete effectively in the market for local telephone service. To this end, we seek comment, as explained below, on certain proposed measurements and reports

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<sup>1</sup> The Telecommunications Act of 1996 (1996 Act), Pub. L. No. 104-104, 110 Stat 56, *codified at* 47 U.S.C. §§ 151 *et. seq.*, amended the Communications Act of 1934 (Communications Act or Act).

<sup>2</sup> *See* 47 U.S.C. § 251(c)(3) (requiring incumbent carriers to provide "nondiscriminatory access to unbundled network elements on an unbundled basis at any technically feasible point on rates, terms, and conditions that are just, reasonable, and nondiscriminatory . . ."); and 47 U.S.C. § 251(c)(4) (barring incumbent carriers from imposing "unreasonable or discriminatory conditions or limitations" on the resale of retail services).

designed to illuminate the performance of incumbent local telephone companies in providing access to these vital support functions. Such performance measurements will assist incumbents, new entrants, and regulators in evaluating an incumbent's performance in meeting its statutory obligations. We do not, however, propose specific performance standards or technical standards. We also seek comment on ways to achieve the statutory goals, while also minimizing the burden on all incumbent carriers, especially small, rural, and mid-sized incumbent local telephone companies.

4. We recognize that some state commissions have undertaken efforts to develop performance measurements and reporting requirements to evaluate the access an incumbent provides to its support functions. Other states have yet to begin such efforts, but plan to do so. These states have sought this Commission's help in developing these measurements.<sup>3</sup> The primary goal of this Notice, therefore, is to provide guidance, in the most efficient and expeditious manner possible, to the states and the industry on a set of performance measurements and reporting requirements that will help spur the development of local competition. Accordingly, we propose, in the first instance, to adopt model performance measures and reporting requirements, as described in detail herein, that are not legally binding. This approach will allow those states that have commenced proceedings to incorporate the model performance measurements and reporting requirements as they deem beneficial and aid those states that have not begun work in this area. We expect to develop such model performance measurements and reporting requirements as expeditiously as possible once the record closes in this proceeding. The experience we gain from the development of these model performance measurements and reporting requirements and their application by the states will, we believe, provide a more informed and comprehensive record upon which to decide whether to adopt national, legally binding rules. The adoption of national rules may, however, prove to be unnecessary in light of the states' and carriers' application of the model performance measurements and reporting requirements that we intend to adopt in the first instance. We emphasize our belief that the adoption of model performance measurements and reporting requirements to serve as guidelines for state commissions constitutes the most efficient and effective role for the Commission in this area at this time.

5. We believe that the proposals we make in this Notice follow a common sense approach to promoting competition in the local exchange market. The establishment of a set of performance measurements should bring benefits to both new entrants and incumbents by establishing an objective manner through which an incumbent's compliance with its statutory obligations can be observed on a regular basis. New entrants will have access to the type of information that will enable them to monitor an incumbent's performance in fulfilling its statutory obligation as a provider of services and elements to competing carriers. Incumbents, on the other hand, will be able to use the performance measurements as evidence of compliance with their relevant statutory obligations in order to counter allegations of noncompliance. Moreover, by proceeding in the first instance with model performance measurements and

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<sup>3</sup> See NARUC Convention Floor Resolution No. 5, "Operations Support Systems Performance Standards" (adopted by the Exec. Comm. on Nov. 11, 1997) (NARUC Resolution).

reporting requirements, we maximize state flexibility while at the same time providing needed, and requested, guidance in a complicated area.

## II. BACKGROUND

### A. Purpose of This Proceeding

6. Prior to passage of the Telecommunications Act of 1996, incumbent local exchange carriers (incumbent LECs), functioning as government-sanctioned monopolies, faced virtually no competition in the provision of local telephone service. Through the 1996 Act, Congress sought to give consumers a choice of local telephone service providers by permitting new competitors to enter the local market.

7. The 1996 Act imposes various duties on incumbent local telephone companies to enable new competitors to enter the local market without necessarily having to build redundant physical networks. These duties include, among other things, the duty to provide new entrants with access to individual elements of the incumbents' networks to be used in combination with the new entrants' own facilities or other elements from the incumbents' networks. In addition, incumbent LECs must offer to new entrants at wholesale rates any telecommunications service provided by the incumbents on a retail basis.<sup>4</sup> In this manner, the 1996 Act requires incumbent local telephone companies to serve as wholesale providers of network elements and services to new entrants, which new entrants can utilize to compete against the incumbent carrier to provide retail local service to end users. By enabling competing carriers to enter the local markets through resale of the incumbent's services, or by use of the incumbent's network elements, Congress provided the means for developing local competition much sooner than would occur if competing carriers were required to build redundant local telecommunications facilities, although Congress also encouraged the latter mode of entry.<sup>5</sup>

8. In a competitive wholesale market, because buyers are able to choose freely between wholesale suppliers, market forces furnish wholesalers with the necessary incentive to provide quality service to their buyers. As the single supplier of wholesale facilities and services to competing carriers in the local market, incumbent carriers have no such incentive, especially given the fact that the purchasers of their wholesale offerings are also their retail competitors. Congress recognized this tension and, therefore, required incumbents to provide services and facilities in a nondiscriminatory manner and on a just and reasonable basis through sections 251(c)(3) and (4) of the 1996 Act. These provisions of the Act are designed to prevent incumbent carriers from providing services and facilities in a manner that favors their own retail operations over competing carriers, or in a manner that favors certain competing carriers over others. Under section 251(c)(3), incumbents must provide unbundled network elements under

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<sup>4</sup> See 47 U.S.C. §§ 251(c)(3)-(4).

<sup>5</sup> See Joint Statement of Managers, S. Conf. Rep. No. 104-230, 104th Cong., 2d Sess. 148 (1996) (Joint Explanatory Statement).

terms and conditions that are nondiscriminatory, and just and reasonable.<sup>6</sup> Under section 251(c)(4), incumbents must offer resold services without imposing any limitations or conditions that are discriminatory or unreasonable.<sup>7</sup> In the *Local Competition Order*, the Commission determined that the term "nondiscriminatory," as used throughout section 251 of the Act, requires an equivalency between the terms and conditions an incumbent imposes on itself and third parties.<sup>8</sup> In addition to the nondiscrimination requirement, the Commission determined that the terms "just" and "reasonable" require incumbents to "provide an efficient competitor with a meaningful opportunity to compete."<sup>9</sup>

9. The primary focus of this proceeding is on the operations support systems, or OSS, that an incumbent carrier uses to provide service to its end user customers. Specifically, the term OSS refers to the computer systems, databases, and personnel that incumbent carriers rely upon to discharge many internal functions necessary to provide service to their customers. Thorough understanding of OSS involves a number of complex and technical matters. Nondiscriminatory access to the OSS functions, however, rests on a fairly straightforward concept: efficient and effective communication between the retail service provider (*i.e.*, the new competitor) and the wholesale provider (*i.e.*, the incumbent carrier). By "efficient and effective communication," we mean that the competing carrier must be able to access the customer data necessary to sign up customers, place an order for services or facilities with the incumbent, track the progress of that order to completion, receive relevant billing information from the incumbent, and obtain prompt repair and maintenance for the elements and services it obtains from the incumbent.

10. To ensure efficient and effective communication between incumbents and competing carriers, competing carriers must obtain access to the same OSS functions (that is, functions provided by the relevant databases, computer systems, and personnel) that incumbent LECs use to provide retail services to their own customers. The databases contain information, such as the types of telecommunications services that are available to customers, address verification, telephone number availability, available dates for installation of services, and other

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<sup>6</sup> 47 U.S.C. § 251(c)(3).

<sup>7</sup> 47 U.S.C. § 251(c)(4).

<sup>8</sup> See *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499, 15612, 15658, ¶¶ 218, 312 (1996) (*Local Competition First Report and Order*), *aff'd in part and vacated in part sub nom. Competitive Telecommunications Ass'n v. FCC*, 117 F.3d 1068 (8th Cir. 1997) and *Iowa Utilities Bd. v. FCC*, 120 F.3d 753 (8th Cir. 1997), *writ of mandamus issued sub nom. Iowa Utilities Bd. v. FCC*, No. 96-3321 (8th Cir. Jan. 22, 1998), *petition for cert. granted*, Nos. 97-826, 97-829, 97-830, 97-831, 97-1075, 97-1087, 97-1099, and 97-1141 (U.S. Jan. 26, 1998) (collectively, *Iowa Utils. Bd.*), Order on Reconsideration, 11 FCC Rcd 13042 (1996), Second Order on Reconsideration, 11 FCC Rcd 19738 (1996), Third Order on Reconsideration and Further Notice of Proposed Rulemaking, FCC 97-295 (rel. Aug. 18, 1997), *further recons. pending*.

<sup>9</sup> *Local Competition First Report and Order*, 11 FCC Rcd at 15660, ¶ 315.

key items of information necessary to formulate and process a customer's order for service. The customer representatives of incumbent LECs generally have immediate, electronic access to these databases which enables them to formulate and submit orders, often while customers are on the line. Various systems and databases have also been developed to resolve customer complaints about service and to ensure accurate and timely billing. Competing carriers are dependent on the incumbent carrier for the processing of their orders and for repair and maintenance services.

11. In addition to efficient and effective access to OSS, a carrier's opportunity to compete is also reliant upon its ability to interconnect its network with the incumbent's network. Such interconnection allows customers on one network to call customers on another network. If a competing carrier's customers cannot receive calls, or if their calls cannot be completed because the incumbent has not provided adequate interconnection, then the competing carrier's ability to serve its customers is substantially hindered.<sup>10</sup> Recognizing the importance of interconnection, Congress required incumbent LECs to provide a level of interconnection to competing carriers that is indistinguishable and at least equal in quality to that provided by the local exchange carrier to itself.<sup>11</sup>

12. Additionally, as noted above, Congress also required incumbent LECs to make network elements available to competing carriers on an unbundled basis. Pursuant to its statutory authority, the Commission identified operator services and directory assistance (OS/DA) as network elements that must be provided on an unbundled basis.<sup>12</sup> The Commission has previously found that operator services<sup>13</sup> and directory assistance<sup>14</sup> are key network elements that incumbent carriers must provide to competing carriers on a nondiscriminatory basis.<sup>15</sup> This is because customer perception can be shaped by perceived disparities in the quality of access to OS/DA services provided by a competing carrier or an incumbent carrier.

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<sup>10</sup> See 47 U.S.C. § 251(c)(2) (establishing an incumbent LEC's duty to interconnect).

<sup>11</sup> See *Local Competition First Report and Order*, 11 FCC Rcd at 15614-15, ¶ 224; 47 U.S.C. § 251(c)(2)(C).

<sup>12</sup> See 47 U.S.C. § 251(d)(2).

<sup>13</sup> Operator services include services which need the assistance of an operator, such as collect calls, third party billed calls, and person-to-person calls. *Newton's Telecom Dictionary*, 11th Edition at 435 (1996).

<sup>14</sup> Directory assistance allows subscribers to retrieve telephone numbers of other subscribers from the local telephone service provider. *Newton's Telecom Dictionary*, 11th Edition at 188 (1996).

<sup>15</sup> *Local Competition First Report and Order* at 15771-72, ¶ 534. The Commission concluded that both the facilities (*e.g.*, operators) and functionalities (*e.g.*, the directory assistance database) used to provide operator services and directory assistance must be provided by an incumbent LEC on an unbundled basis. *Id.* at 15771-15774, ¶¶ 534-538.

13. Mandating nondiscriminatory access, however, is not the same thing as achieving it in practice. A number of competing carriers have submitted anecdotal evidence suggesting that incumbent LECs may not be providing nondiscriminatory access to OSS functions and interconnection consistent with the statutory requirements.<sup>16</sup> Many of these carriers also have emphasized that it is frequently difficult to resolve disputes regarding nondiscriminatory access, because the incumbent LECs do not report on the time and manner in which they process orders for their own retail customers. We note as well that the Commission has denied three of the applications filed by Bell Operating Companies (BOCs) under section 271 of the Act to provide in-region, interLATA service, in part because of the BOCs' failure to demonstrate that they provide nondiscriminatory access to their OSS functions.<sup>17</sup>

14. We believe that the establishment of model performance measurements and reporting requirements will promote the goal of efficient and effective communication between competing carriers and incumbent LECs, while also reducing the need for regulatory oversight in this area. Performance measurements and reporting requirements should make much more transparent, or observable, the extent to which an incumbent LEC is providing nondiscriminatory access, because such requirements will permit direct comparisons between the incumbent's performance in serving its own retail customers and its performance in providing service to competing carriers. We recognize that the modification of an incumbent LEC's internal operations support systems to accommodate the needs of the new wholesale "customers" is a substantial undertaking. Nevertheless, we believe that it is often the lack of adequate information about the performance of an incumbent LEC's OSS that has led to disputes, and, therefore, performance monitoring reports will help to fill the current gap in everyone's knowledge about how the incumbent LECs' internal processes operate with respect to their own customers and the competing carriers.

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<sup>16</sup> See, e.g., LCI Petition at 36, 50, 52, 57, 61, and 74; ACSI Comments at 4; ATX Reply Comments at 2-3; CompTel Reply Comments at 21-22 (summarizing problems noted by competing carriers); GST Comments at 8-9; KMC Comments at 2-3; MCI Comments at 5; WinStar Comments at 4-6.

<sup>17</sup> See *Application of Ameritech Michigan Pursuant to Section 271 of the Communications Act of 1934, as amended, to Provide In-Region, InterLATA Services in Michigan*, CC Docket No. 97-137, Memorandum Opinion and Order, 12 FCC Rcd 20543 (1997) (*Ameritech Michigan 271 Order*); *Application of BellSouth Corp., et al. Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in South Carolina*, CC Docket No. 97-208, Memorandum Opinion and Order, FCC 97-418 (rel. Dec. 24, 1997) (*BellSouth South Carolina 271 Order*); *Application by BellSouth Corp., et al Pursuant to Section 271 of the Communications Act of 1934, as amended, To Provide In-Region, InterLATA Services in Louisiana*, CC Docket No. 97-231, Memorandum Opinion and Order, FCC 98-17 (rel. Feb. 4, 1998) (*BellSouth Louisiana 271 Order*). Section 271 of the 1996 Act bars all Bell Operating Companies (BOCs) from providing in-region, interLATA services until they demonstrate that: (1) they are providing access to a facilities-based competing provider of telephone exchange service, with limited exceptions, in accordance with section 271(c)(1); (2) they are complying with the fourteen point competitive checklist contained in section 271(c)(2)(B); (3) they are complying with the separate affiliate safeguards contained in section 272; and (4) their entry into the in-region, interLATA market "is consistent with the public interest, convenience, and necessity." 47 U.S.C. § 271(d)(3); see *SBC Communications Inc. v. FCC*, No. 97-1425, slip op. at 6 & n. 5 (D.C. Cir. March 20, 1998).



15. We also believe performance measurements and reporting requirements will provide an important incentive for incumbent LECs to comply with the statutory nondiscrimination and just and reasonable requirements because competing carriers will have access to information detailing an incumbent LEC's performance. Because this access to information increases the risk of detecting statutory violations, incumbents will have an additional incentive to meet the statutory requirements. In a competitive environment, market forces will tend to ensure that wholesalers provide quality service to their buyers. Here, where competition is largely absent, performance measurements and reporting requirements may increase incumbent LECs' incentive to comply with their statutory obligations.

16. Performance monitoring reports should also reduce the need for regulatory oversight by encouraging self-policing among carriers. In the first instance, incumbent LECs can review the performance reports and correct any deficiencies in their performance that they detect. Additionally, competing carriers can review the performance reports and assess whether they indicate possible statutory violations. Competing carriers can then use this information as a basis for discussion with the incumbents to resolve performance disputes. Should resort to the complaint process become necessary, the information contained in these performance monitoring reports can facilitate timely and fair resolution of the complaints.

17. In sum, we seek in this proceeding to promote efficient competition between incumbent carriers and new entrants by exploring methods designed to measure the performance of incumbent carriers in providing access to OSS functions. Likewise, we consider establishing model reporting requirements to enable new entrants to verify that they are receiving the nondiscriminatory access mandated by the statute. We believe that the proposals outlined below will enable new entrants to detect and deter violations and provide incumbent LECs with an important incentive to comply with their statutory obligations, while also minimizing the burdens on incumbent LECs. We emphasize, however, that we do not propose performance or technical standards in this area, preferring instead to rely in the first instance on the industry standard-setting process and contractual arrangements between private parties.

18. We underscore that "performance measurements" and "reporting requirements" are quite different from "performance standards" and "technical standards." In this Notice, we use the term "performance measurements" to refer to the measures used to collect data regarding an incumbent carrier's performance, such as the period of time it takes to order and provision a resold service. Likewise, we use the term "reporting requirements" to refer to the incumbent LEC's obligation to collect performance measurements and provide the results of those measurements to other parties. On the other hand, we use the term "performance standards" to refer to specific performance goals or benchmarks, such as a requirement that an incumbent LEC complete a resale order for residential service within a specified period of time. Finally, we use the term "technical standards" to refer to the establishment of industry-wide OSS interface specifications.

## **B. Procedural History**

19. On May 30, 1997, LCI International Telecom Corp. (LCI) and the Competitive Telecommunications Association (CompTel) jointly filed a petition asking the Commission to initiate a rulemaking proceeding ("LCI/CompTel Petition") concerning the requirements governing OSS, interconnection, and other related activities established by the Commission in its *Local Competition First Report and Order*.<sup>18</sup> On June 10, 1997, the Commission issued a Public Notice seeking comment on the LCI/CompTel petition.<sup>19</sup> A number of parties, including both incumbent LECs and competing carriers, filed comments and reply comments in response to this Public Notice.<sup>20</sup>

20. Among other things, petitioners ask the Commission to establish: (1) performance measurements and reporting requirements for the provision of OSS functions; (2) default performance standards or benchmarks that would apply when an incumbent LEC fails, or refuses, to report on its performance; (3) technical standards for OSS interfaces if industry fora fail to adopt standards for OSS interfaces by a date certain;<sup>21</sup> and (4) remedial provisions that would apply to non-compliant incumbent LECs. In their petition, LCI/CompTel propose that the Commission rely on the Service Quality Measurements adopted by the Local Competition Users Group (LCUG) as the basis for establishing performance measurements, reporting requirements, and default performance standards.<sup>22</sup> On October 8, 1997, LCUG filed a revised proposal that described in greater detail its proposed performance measurements and default standards.<sup>23</sup> A number of parties filed additional *ex parte* comments, offering their own proposed measurements and addressing the specific recommendations made by LCUG in its revised proposal.<sup>24</sup>

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<sup>18</sup> *Local Competition First Report and Order*, 11 FCC Rcd at 15808, ¶ 611.

<sup>19</sup> *Comments Requested on Petition for Expedited Rulemaking to Establish Reporting Requirements and Performance and Technical Standards for Operations Support Systems*, Public Notice, DA No. 97-1211 (rel. June 10, 1997) (*June 10th Public Notice*).

<sup>20</sup> See *infra* Appendix C for list of commenters.

<sup>21</sup> LCI Comments at 7 and CompTel Comments at 8.

<sup>22</sup> LCUG is comprised of AT&T, Sprint, MCI, LCI, and WorldCom.

<sup>23</sup> LCUG, Service Quality Measurements, Version 6.1 (filed October 8, 1997) (LCUG proposal) (available at <http://www.fcc.gov/ccb>).

<sup>24</sup> See, e.g., Letter from Robert Blau, BellSouth, to William F. Caton, Acting Secretary, FCC (filed Nov. 3, 1997) (BellSouth Nov. 3 *Ex Parte*); Letter from Dee May, Bell Atlantic, to William F. Caton, Acting Secretary, FCC (filed Nov. 20, 1997) (Bell Atlantic Nov. 20 *Ex Parte*); Letter from Lynn Starr, Ameritech, to Magalie Roman Salas, Secretary, FCC (filed Nov. 18, 1997) (Ameritech Nov. 18 *Ex Parte*); Letter from Anne MacClintock, SNET, to William F. Caton, Acting Secretary, FCC (filed Oct. 31, 1997) (SNET Oct. 31 *Ex Parte*); Letter from Richard J. Metzger, Association for Local Telecommunications Services (ALTS), to Magalie Roman Salas, FCC (filed Jan. 14, 1998) (ALTS Jan. 14 *Ex Parte*).

### C. Summary of Proposals

21. In this Notice, we tentatively conclude that we should propose model performance measurements and reporting requirements for OSS functions, interconnection, and access to operator services and directory assistance. In Part III, we discuss the respective roles of the Commission and the states with regard to the development and implementation of model rules, as well as with respect to the establishment of legally binding rules. In Part IV, we set forth proposed performance measurements. In Part V, we discuss reporting procedures, and in Part VI we propose methods to evaluate performance measurements. As explained in Part VII, we conclude that we will not address at this time several points raised in the LCI/CompTel petition, such as the establishment of national performance standards, technical standards, and enforcement mechanisms. In addition, we recognize that the proposals set forth in this Notice may disproportionately impact small, rural, and midsized incumbent LECs. Consequently, in Part VIII we also seek comment on the potential burdens that our proposed model rules could impose on these incumbent LECs and we seek comment on possible remedies. Finally, Appendix A contains a chart that presents in summary fashion each of the performance measurements we propose in this Notice and Appendix B contains a detailed discussion of possible statistical techniques that could be used in evaluating performance measurements.

### III. ROLE OF COMMISSION AND STATES

22. As noted above, LCI and CompTel petitioned the Commission to initiate a rulemaking to promulgate performance measurements and reporting requirements. States as well have urged us to assist them in developing these measurements. Indeed, NARUC passed a resolution seeking such assistance. It states in pertinent part:

RESOLVED: That the FCC be urged to move promptly to advance the establishment of performance guidelines that can be used to evaluate the provision of access to the components of OSS functions. . . .<sup>25</sup>

Individual states have also begun work in this area. For example, California and New York have initiated proceedings to develop OSS requirements, including performance measurements and reporting requirements.<sup>26</sup>

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<sup>25</sup> See NARUC Resolution.

<sup>26</sup> See *Order Instituting Rulemaking on the Commission's Own Motion into Monitoring Performance of Operations Support Systems*, R 97-10-016, and *Order Instituting Investigation on the Commission's Own Motion into Monitoring Performance of Operations Support Systems*, I 97-10-017 (filed California Public Utilities Commission, Oct. 9, 1997); see also *In the Matter of Petition of New York Telephone Company for Approval of Its Statement of Generally Available Terms and Conditions Pursuant to Section 252 of the Telecommunications Act of 1996 and Draft Filing of Petition for InterLATA Entry Pursuant to Section 271 of the Telecommunications Act of 1996*, Case 97-C-0271 (State of New York Public Service Commission).

23. The primary goal of this notice is to provide the requested guidance to the states in the most efficient and expeditious manner possible. Accordingly, we intend, in the first instance, to adopt a set of model performance measurements and reporting requirements, based on the detailed descriptions provided herein and subject to whatever modifications we deem appropriate in light of comments received. These model performance measurements and reporting requirements would not be legally binding. This approach will maximize state flexibility, by allowing those states that have begun the process of developing performance measurements and reporting requirements to continue their work and incorporate the model rules to the extent they deem appropriate, while providing a comprehensive set of measurements that can be adopted by those states that have yet to begin the process. Our intent is to promulgate the model performance measurements and reporting requirements, based on the proposals described in detail below, as expeditiously as possible. It is also our hope and expectation that states will adopt performance measurements and reporting requirements and that the guidance we provide through this process will enable them to do so quickly.<sup>27</sup> We believe that prompt implementation of performance measurements and reporting requirements consistent with those proposed in this Notice will spur the development of local competition.

24. The experience we gain from the development of the model performance measures and reporting requirements and their application by the states will, we believe, provide useful and important information that will enable us to decide whether to adopt national, legally binding rules in this area. The adoption of national, legally binding rules may prove unnecessary, however, in light of the states' and carriers' application of the model performance measurements and reporting requirements we propose to adopt in the first instance. We underscore, however, that we have no intention to issue binding rules in the first instance.

25. We recognize that parties in this proceeding have offered differing opinions concerning our jurisdiction to issue OSS rules. Some have argued that the Eighth Circuit's decision in *Iowa Utilities v. FCC*<sup>28</sup> would preclude our authority to establish rules relating to OSS, while others have argued, to the contrary, that portions of that decision would validate our authority to issue such rules.<sup>29</sup> We invite parties to comment on this issue. Given that our

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<sup>27</sup> Although we recognize that state commissions may have specific concerns regarding particular performance measurements, we believe that the adoption of a common set of guidelines may benefit incumbent LECs that have deployed regionwide systems to comply with their OSS obligations. For example, the California Commission indicates that, since most incumbent LECs' OSS functions are provided through centralized facilities serving multiple states, the establishment of broad federal reporting requirements, in coordination with state input, would reduce the likelihood of states developing conflicting OSS regulations. Comments of the People of California and Public Utilities Commission of the State of California for Expedited Operations Support Systems Rulemaking (California Commission Comments) at 7-8.

<sup>28</sup> *Iowa Utilities v. FCC*, 120 F.3d 753 (8th Cir. 1997). See *supra* note 9.

<sup>29</sup> Several incumbent LECs argued that the *Iowa Utilities Bd.* decision bars Commission action in this area. See, e.g., Bell Atlantic/NYNEX Reply at 5 (Eighth Circuit did not recognize Commission's authority to establish performance measurements or standards for OSS, which is an intrastate function); BellSouth Reply at 3-5

primary goal is to provide guidance to states through the adoption of model rules in the first instance, however, we strongly encourage parties to focus on the substance of the proposed performance measurements and reporting requirements described below, rather than focusing exclusively on issues of jurisdiction. We have attempted to describe these measurements and reporting requirements in detail in order to maximize the development of a useful record and provide as much guidance to the states as possible.

26. We intend to work with state commissions in developing model performance measurements and reporting requirements. We applaud the efforts states have undertaken thus far to develop performance measurements and reporting requirements and strongly encourage states to continue this work. It is not our intent in this proceeding to undermine the work states have done in this area, but rather to build upon it and inform it, where necessary and helpful. We also encourage carriers to continue working with the state commissions on developing a set of performance measurements and reporting requirements. We encourage states filing comments in this proceeding to highlight any performance measurements or reporting requirements that they have adopted or are currently considering in their proceedings that they believe should be part of the model rules.

#### **IV. PROPOSED PERFORMANCE MEASUREMENTS AND REPORTING REQUIREMENTS**

##### **A. General Issues**

27. In this section, we propose performance measurements for each of the five OSS functions, as well as for interconnection and OS/DA. These measurements are intended to permit a direct assessment of whether an incumbent LEC is complying with its obligations under section 251.<sup>30</sup>

28. In the *Local Competition First Report and Order*, the Commission determined that, because OSS includes the information necessary to obtain other network elements or resold services, providing access to OSS functions falls squarely within an incumbent LEC's duty under section 251(c)(3) to provide unbundled network elements under terms and conditions that are nondiscriminatory and just and reasonable, and its duty under section 251(c)(4) to offer resale services without imposing any limitations or conditions that are discriminatory or

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(Commission cannot establish standards for interconnection agreements because Eighth Circuit held that state commissions retained primary authority to enforce substantive terms of agreements made pursuant to sections 251 and 252); USTA Reply at 5 (same). A number of competing carriers, however, disagreed that the Commission's authority in this area was limited by the Eighth Circuit's decision. *See, e.g.*, ALTS Reply at 4 (Eighth Circuit recognized Commission's jurisdiction to issue rules related to unbundled network elements, such as OSS); Sprint Reply at 5 (same); MCI Reply at 12-13 n. 9 (same); AT&T Reply at 3 (Eighth Circuit affirmed Commission's authority to issue rules regarding resold services).

<sup>30</sup> See *infra* ¶¶ 28, 29, 30, describing the obligations under § 251(c)(2), (3) and (4).

unreasonable.<sup>31</sup> Additionally, the Commission identified OSS itself as a network element and stated that it consisted of five functions: (1) pre-ordering; (2) ordering; (3) provisioning; (4) maintenance and repair; and (5) billing.<sup>32</sup> The Commission concluded that, as with all unbundled network elements, an incumbent LEC must provide access to these five OSS functions that is equivalent to what it provides itself, its own end-user customers, or other carriers.<sup>33</sup>

29. As a practical matter, for those OSS functions provided to competing carriers that are analogous to OSS functions that an incumbent LEC provides itself in connection with retail service offerings, the incumbent LEC must provide access to competing carriers that is equivalent to the level of access that the incumbent LEC provides itself in terms of quality, accuracy, and timeliness. Thus, for example, for those functions that an incumbent LEC itself accesses electronically, the incumbent LEC must provide electronic access for competing carriers.<sup>34</sup> In addition, competing carriers must have access to OSS functions that allows them to make use of such functions in "substantially the same time and manner" as the incumbent LEC.<sup>35</sup> For those OSS functions that have no direct retail analog, such as the ordering and provisioning of unbundled network elements, an incumbent LEC must provide access sufficient to allow an efficient competitor a meaningful opportunity to compete.<sup>36</sup>

30. With respect to interconnection, the Commission concluded that "section 251(c)(2)(C) requires an incumbent LEC to provide interconnection between its network and that of a requesting carrier at a level of quality that is at least indistinguishable from that which the incumbent provides itself, a subsidiary, an affiliate, or any other party."<sup>37</sup> Finally, incumbent LECs are obligated under section 251(c)(3) to provide nondiscriminatory access to operator services and directory assistance because they are network elements.<sup>38</sup>

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<sup>31</sup> *Local Competition First Report and Order*, 11 FCC Rcd at 15763, ¶ 517.

<sup>32</sup> *Id.*, 11 FCC Rcd at 15660-61, 15763, ¶¶ 316, 516-17; 47 C.F.R. § 51.319(f). The Commission's determination that OSS is an unbundled network element was upheld by the Eighth Circuit. *See Iowa Utilities Bd.*, 120 F.3d at 809.

<sup>33</sup> *See, e.g., Local Competition First Report and Order*, 11 FCC Rcd at 15766, ¶ 523.

<sup>34</sup> *Id.*

<sup>35</sup> *Id.*, 11 FCC Rcd at 15763-64, ¶ 518.

<sup>36</sup> *Id.*, 11 FCC Rcd at 15660, ¶ 315.

<sup>37</sup> *Id.*, 11 FCC Rcd at 15614, ¶ 224. The Commission further concluded that "this duty requires incumbent LECs to design interconnection facilities to meet the same technical criteria and service standards, such as probability of blocking in peak hours and transmission standards, that are used within their own networks." *Id.*

<sup>38</sup> The Commission identified operator services and directory assistance as unbundled network elements. *Id.*, 11 FCC Rcd at 15771, ¶ 534; 47 C.F.R. § 51.319(g). The Eighth Circuit upheld the Commission's

31. The measurements we propose in this Notice are designed to assist in assessing an incumbent LEC's performance in providing OSS, interconnection, and OS/DA to competing carriers. Various parties presented proposals for performance measurements in this proceeding.<sup>39</sup> We conclude, however, that no single proposal optimally balances our goals of detecting possible instances of discrimination while minimizing, to the extent possible, burdens imposed on incumbent LECs. We therefore propose a set of measurements that we believe provides an appropriate balance of these goals. We seek to limit the burden on incumbent LECs by minimizing the levels of disaggregation for reporting purposes.<sup>40</sup> We have also chosen not to propose measurements that we believe may be particularly burdensome on incumbent LECs. For example, we are not proposing that incumbent LECs measure certain aspects of network performance.<sup>41</sup>

32. With regard to OSS, the proposed measurements attempt to capture an incumbent LEC's performance during each of the critical stages of processing and servicing a competing carrier's order. In proposing these measurements, we seek to gauge an incumbent LEC's ability to provision the five OSS functions to competing carriers in terms of timeliness, quality, and accuracy. We thus begin with a measurement of the time it takes a competing carrier to access the incumbent's databases that are necessary for the competing carrier to formulate an order (*i.e.*, the pre-ordering measurement). We next propose a series of measurements that will assess how efficiently the incumbent processes that order once transmitted from the competing carrier to the incumbent LEC (*i.e.*, the order completion measurements, the average time for customer conversion measurement, the average interval for held orders measurement, and the installation troubles measurement). We also propose to measure an incumbent LEC's ability to deliver order status information to competing carriers in a timely manner (*i.e.*, the order status measurements). Additionally, we propose two measurements that attempt to gauge the efficiency of an incumbent LEC's electronic ordering systems (*i.e.*, the ordering quality measurements). We then propose measurements to determine how proficiently the incumbent LEC performs its responsibility to address and correct repair and maintenance problems encountered by the competing carrier's customers. Finally, we propose to gauge an incumbent LEC's ability to render timely billing information to the competing carrier so that the competing carrier can in turn bill its customers. In addition to proposing OSS-related measurements, we also propose measurements to gauge an incumbent LEC's performance in providing interconnection and OS/DA to competing carriers. We believe that the measurements proposed in this Notice collectively will provide an accurate assessment of an incumbent LEC's overall performance in

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determination that operator services and directory assistance must be made available as unbundled network elements. *See Iowa Utilities Bd.*, 120 F.3d at 809.

<sup>39</sup> *See, e.g.*, LCUG proposal; ALTS Jan. 14 *Ex Parte*; Letter from Amy G. Zirkle, MCI, to William F. Caton, Acting Secretary, FCC (filed Oct. 23, 1997) (MCI Oct. 23 *Ex Parte*); Ameritech Nov. 18 *Ex Parte*; Bell Atlantic Nov. 20 *Ex Parte*.

<sup>40</sup> *See infra* Part IV.B.2.a. and note 68 discussing greater levels of disaggregation proposed by LCUG.

<sup>41</sup> *See* LCUG proposal at 51-55 (describing proposed network performance measurements).

undertaking its role as a wholesale provider of network elements and services as contemplated by Congress.

33. We discuss the basis for proposing each of these measurements below. In addition, commenters should refer to Appendix A while reading this portion of the Notice. Appendix A proposes a formula for calculating each measurement, the levels of disaggregation for each measurement (*i.e.*, the categories that incumbent LECs should use to break out the data), and any exceptions to the measurement. Where the measurements or exceptions are self-explanatory, we simply refer to Appendix A. Where a measurement or exception requires explanation, however, we provide further clarification or explanation in this section.

34. We recognize that reporting averages of performance measurements alone, without further analysis, may not reveal whether there are underlying differences in the way incumbent LECs treat their own retail operations in relation to the way they treat competing carriers. Consequently, we propose, as part of the model rules proposed herein, the use of statistical tests to determine whether measured differences in the average performance of incumbent LECs toward their retail customers and toward competing carriers represent true differences in behavior rather than random chance.<sup>42</sup> Further, we recognize that reporting on averages alone may mask potential forms of discrimination. For example, an incumbent LEC may have the same average completion interval in providing service to competing carriers as it has in providing service to its retail customers, but the variation in completion intervals in providing the service may differ greatly. It may be the case, for instance, that the average completion interval is four days for both competing carriers and the incumbent's retail customers, but half of the competing carriers' orders are completed in one day and half in seven days, while all of the retail customers' orders are completed in exactly four days. For this reason, we seek comment below on the possible use of statistical tests that capture differences in variances between two samples as well as tests of differences in averages. We also seek comment below on whether, as part of the model rules proposed herein, the data underlying the performance measurement results should be made available to competing carriers so that they can evaluate the incumbent LECs' performance in other ways if they choose to do so.<sup>43</sup>

35. Before describing the individual performance measurements, however, we seek comment on a number of general issues that pertain to all performance measurements. These general issues concern: 1) the appropriate balance between the burdens and benefits associated with performance measurements and reporting requirements; 2) the appropriate geographic level for reporting; 3) the scope of activities that incumbent LECs should report; and 4) the relevant electronic interfaces for purposes of reporting the measurements described below.

## 1. Balance Between Burdens and Benefits

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<sup>42</sup> See *infra* Part VI and Appendix B regarding the use of statistical analysis.

<sup>43</sup> See *infra* Part V.C. and Appendix B regarding access to data underlying performance measurements.



36. Our goal in developing performance measurements, and the associated level of detail, is to isolate the activities in which an incumbent could discriminate when providing services and facilities to competing carriers. We believe that persistent discrimination by an incumbent LEC in any of the activities for which we have proposed performance measurements potentially would undermine a competing carrier's prospects for success in the local market. At the same time, as we have noted previously, although we believe that performance measurements and reporting requirements will help foster competition in the local exchange market, compliance with performance measurements and reporting requirements imposes certain burdens on incumbent LECs. In developing our proposed performance measurements and reporting requirements, we have sought to balance our goal of detecting possible instances of discrimination with our goal of minimizing, to the extent possible, burdens imposed on incumbent LECs. As a general matter, we seek comment on whether our proposed measurements described below appropriately balance these twin goals. Specifically, we seek comment on whether the difficulties in obtaining and collecting information for a particular measurement outweigh the benefits associated with reporting this information. We request that parties identify those measurements, if any, in which a substitute approach would capture similar information but would be less burdensome than our proposed measurement. We also seek comment on whether additional measurements are necessary to detect discrimination or whether fewer measurements would capture sufficient information while imposing less burden on incumbent LECs.

37. Additionally, we ask parties to comment generally on the level of detail contained in the proposed performance measurements. As discussed above, we tentatively conclude that the model performance measurements we ultimately adopt should contain a level of detail sufficient for states or carriers to use them without requiring further supplementation or modification. Many competing carriers and incumbent LECs differ, however, over particular details in measuring performance, such as the levels of disaggregation required to make the measurements meaningful. By proposing detailed measurements, we hope to resolve potential areas of dispute between negotiating carriers. Finally, we believe that only detailed performance measurements will ensure that incumbent LECs collect appropriate data and disaggregate the data in a manner that permits meaningful comparisons between the incumbent LEC's own operations and those of competing carriers. We seek comment on whether the performance measurements we propose in this Notice are sufficiently detailed to ensure the collection of meaningful data, or whether greater detail or disaggregation is necessary or whether lesser detail or disaggregation would be sufficient.

## 2. Geographic Level for Reporting

38. We seek comment on the appropriate geographic level of reporting. We note that several competing carriers recommend a reporting level based on relatively small geographic areas, such as local access and transport areas (LATAs) or on a market-by-market basis.<sup>44</sup> We

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<sup>44</sup> See, e.g., Sprint Comments at 11 (performance should be reported by the geographic divisions used by the incumbent LEC, such as a LATA); WorldCom Comments at 9 (performance should be reported on a market-

seek comment on this issue. In particular, we seek comment on whether carriers should report data for each performance measurement based on state boundaries, LATAs, metropolitan statistical areas (MSAs),<sup>45</sup> or some other relevant geographic area. We ask parties to explain how their recommendations fulfill our twin goals of ensuring meaningful results while minimizing reporting burdens on incumbent LECs. We also seek comment on whether a uniform geographic level of reporting should apply to all performance measurements, or whether it would be appropriate to require different levels of reporting for separate measurements.

### 3. Scope of Reporting

39. We believe that, when an incumbent LEC reports the results of the performance measurements, it must do so in a manner that permits a competing carrier to compare the access the incumbent LEC provides to the carrier and other competing carriers with the access the incumbent LEC provides to itself or its affiliates.<sup>46</sup> Accordingly, we tentatively conclude that an incumbent LEC should report separately on its performance as provided to: (1) its own retail customers; (2) any of its affiliates that provide local exchange service; (3) competing carriers in the aggregate; and (4) individual competing carriers.<sup>47</sup> We tentatively conclude that such reporting will enable competing carriers to assess whether an incumbent LEC is providing access to OSS, interconnection, and OS/DA in a nondiscriminatory manner. An individual competing carrier will be able to compare the access it receives from an incumbent LEC with the access the incumbent LEC provides to itself or to a separate local exchange affiliate. Additionally, information on the access provided to competing carriers in the aggregate will help an individual competing carrier determine whether it is receiving nondiscriminatory access vis-a-vis other competing carriers by gauging whether the access it receives is comparable to that provided other competing carriers. We seek comment on these proposed levels of disaggregation and whether they will permit competing carriers to detect discrimination.

### 4. Relevant Electronic Interfaces

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by-market basis).

<sup>45</sup> A "metropolitan statistical area" is defined by the U.S. Census Bureau as a city and the surrounding area containing 50,000 persons or more. *See Newton's Telecom Dictionary*, 11th Edition at 375 (1996).

<sup>46</sup> We address other issues related to reporting procedures, such as who should receive reports and confidentiality issues, in Part V *infra*.

<sup>47</sup> As part of its merger commitments, Bell Atlantic agreed to prepare its reports on performance measurements in this manner. *See In the Application of NYNEX Corp. Transferor and Bell Atlantic Corp., Transferee, for Consent to Transfer Control of NYNEX Corp. and Its Subsidiaries*, Memorandum Opinion and Order, 12 FCC Rcd 19985 at 20107, App. C, ¶ 1(b) (1997) (*Bell Atlantic/NYNEX Merger Order*). These reporting categories were also sought by a number of commenters in this proceeding. *See, e.g.*, LCI/CompTel Petition at 12-13; MCI Comments at 7-8; Sprint Comments at 10; WorldCom Comments at 6, and the LCUG proposal at 5. These categories are often used by incumbent LECs. *See, e.g.*, Letter from Todd F. Silbergeld, SBC Communications, to William F. Caton, Acting Secretary, FCC, Attachment 1 at 3 (filed Sept. 5, 1997) (SBC Sept. 5 *Ex Parte*); Bell Atlantic Nov. 20 *Ex Parte*, Exhibit A at 4.

40. As the Commission has previously noted, an incumbent LEC must provide competing carriers the same electronic access to its OSS functions as it provides itself in accessing its own internal systems and databases.<sup>48</sup> Because incumbent LECs access their systems electronically for retail purposes, we tentatively conclude that incumbent LECs need measure only the access they provide electronically to competing carriers. Therefore, our proposals would only require incumbent LECs to measure the performance of the electronic interfaces that incumbent LECs offer to competing carriers for access to OSS.

41. We recognize that most incumbent LECs provide several types of electronic interfaces, such as a GUI-based<sup>49</sup> interface and an EDI-based<sup>50</sup> interface. We seek comment on whether these incumbent LECs must provide performance measurements for each type of electronic interface. We note that, in section 271 applications, BOCs have identified certain interfaces as those which meet the nondiscrimination standards of the Act and our implementing rules.<sup>51</sup> We seek comment on whether an incumbent LEC should measure performance for each of its electronic interfaces or only some subset of the interfaces it offers. To the extent that incumbent LECs report on performance for all electronic interfaces, we tentatively conclude that they should disaggregate the data by interface type when reporting each performance measurement.

42. As noted above, we have sought to balance our goal of detecting possible instances of discrimination with our goal of minimizing, to the extent possible, burdens imposed on incumbent LECs. Because we intend to limit our proposed measurements to the performance of an incumbent LEC's electronic interfaces, we expect that most of the measurements proposed in this Notice can be collected through electronic coding or some other automatic logging procedure. We seek comment on which, if any, of our proposed measurements may require

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<sup>48</sup> See, e.g., *Local Competition Second Reconsideration Order*, 11 FCC Rcd at 19742-43, ¶ 9 ("to the extent that an incumbent LEC provides electronic pre-ordering, ordering, provisioning, maintenance and repair, or billing to itself, its customers, or other carriers, the incumbent LEC must provide at least equivalent electronic access to requesting carriers in the provision of unbundled network elements or [resold services].").

<sup>49</sup> The term "GUI" refers to Graphic User Interface.

<sup>50</sup> The term "EDI" refers to Electronic Data Interchange. The EDI standard is defined by the Telecommunications Industry Forum. *Local Competition First Report and Order*, 11 FCC Rcd at 15761, ¶ 513, n. 1238.

<sup>51</sup> *BellSouth South Carolina 271 Order* at ¶ 94 (because BellSouth did not rely on its LENS interface as the nondiscriminatory interface for ordering functions, the Commission did not evaluate that interface in determining whether BellSouth provided nondiscriminatory access to OSS ordering functions); *BellSouth Louisiana 271 Order* at ¶ 24, n. 19 (the Commission only considered orders submitted via EDI because BellSouth claimed it provided nondiscriminatory access through that interface); see generally, *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20616-17, ¶ 137 (BOC must provide equivalent electronic access for competing carriers).

more labor-intensive collection methods and whether, as a result, they would be unduly burdensome.<sup>52</sup>

## B. Proposed Measurements

### 1. Pre-Ordering Measurements

43. We have previously found that competing carriers must have access to pre-ordering information in order to compete effectively in the local market.<sup>53</sup> The pre-ordering function allows a competing carrier to gather and confirm information necessary to place an accurate order for its end user. Because many competing carriers retrieve pre-ordering information from the incumbent LEC's databases while a customer is on the line (as an incumbent LEC does), timely access to pre-ordering information is critical to a competing carrier's ability to interact with its customers. We therefore tentatively conclude that an incumbent LEC must measure the average interval for providing access to pre-ordering information to competing carriers, as well as to itself.<sup>54</sup> The Average Response Time measurement set forth in Appendix A could, however, be based on all queries sent to the pre-ordering interface or some subset of these queries. We seek comment on whether a sampling approach, such as the one adopted in the *Bell Atlantic/NYNEX Merger Order*, would be a sufficient method for assessing an incumbent LEC's nondiscriminatory provision of pre-ordering

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<sup>52</sup> As noted above, we propose to measure only the performance of the electronic interfaces that incumbent LECs offer to competing carriers for access to OSS.

<sup>53</sup> In general, pre-ordering consists of several functions including street address validation, telephone number reservation, feature availability, service availability, due date information, and customer service records (CSRs). *BellSouth South Carolina 271 Order* at ¶ 147. We note that the Commission stated previously that "although an incumbent carrier is not required to disclose [customer proprietary network information] CPNI pursuant to section 222(d)(1) or section 222(c)(2) absent an affirmative written request, local exchange carriers may need to disclose a customer's service record upon the oral approval of the customer to a competing carrier prior to its commencement of service as part of the LEC's obligations under sections 251(c)(3) and (c)(4)." The Commission also stated that "a carrier's failure to disclose CPNI to a competing carrier that seeks to initiate service to a customer that wishes to subscribe to the competing carrier's service, may well, depending upon the circumstances, constitute an unreasonable practice in violation of section 201(b)." *See In the Matter of Implementation of the Telecommunications Act of 1996: Telecommunications Carriers' Use of Customer Proprietary Network Information and Other Customer Information: Implementation of the Non-Accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as Amended*, CC Docket No. 96-115 and 96-149 ¶ 84-85 (rel. Feb. 26, 1998).

<sup>54</sup> This measurement seeks to ensure that an incumbent LEC is complying with its statutory requirements under section 251(c). *See supra* ¶¶ 28, 29.

information.<sup>55</sup> In addition, we propose that an incumbent LEC disaggregate the results for this measurement according to the pre-ordering sub-functions listed in Appendix A.<sup>56</sup>

44. We recognize that there may be instances where an incumbent LEC does not provide access to certain pre-ordering sub-functions on a real time basis, but rather via batch files (*e.g.*, street address verification).<sup>57</sup> We seek comment on whether incumbent LECs should exclude those pre-ordering sub-functions that are not provided on a real time basis from this measurement, or whether there are alternative methods to detect possible discriminatory access in such instances.

45. In certain instances a competing carrier may be unable to retrieve pre-ordering information for each query attempt. Instead, it may receive a rejected query notice (also known as a failed attempt notice). As noted above, because many competing carriers attempt to retrieve pre-ordering information with a customer on the line, the timeliness of a rejected query notice is often critical. Without receiving such a response, a competing carrier will not know whether the information is forthcoming or whether another query attempt is required. We therefore seek comment on whether an incumbent LEC should measure the speed by which it provides rejected query notices to competing carriers as well as to itself. In addition, we seek comment on whether a rejected query notice measurement must be provided as a separate category for the pre-ordering function in general or, alternatively, disaggregated separately for each pre-ordering sub-function. Finally, we seek comment on whether incumbent LECs should measure the number of rejected query notices as a percentage of the total number of pre-ordering queries.

## 2. Ordering and Provisioning Measurements

### a. Disaggregation of Data

46. Before describing the proposed ordering and provisioning measurements,<sup>58</sup> this section discusses the levels of disaggregation that we believe should apply to these measurements, as well as to the repair and maintenance measurements discussed below in Part

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<sup>55</sup> The *Bell Atlantic/NYNEX Merger Order* does not require Bell Atlantic to measure the average response time based on all the of pre-ordering queries received from each competing carrier or all of the pre-ordering queries it conducts for itself. Instead, Bell Atlantic conducts random test queries of pre-ordering information for both competing carriers and itself, and reports the results of its sampling on an aggregate level.

<sup>56</sup> We note that in its implementation of the terms of the *Bell Atlantic/NYNEX Merger Order*, Bell Atlantic does not disaggregate the results by pre-ordering sub-function. *See* Bell Atlantic Nov. 20, 1997 *Ex Parte*.

<sup>57</sup> Batch processing involves transmitting information at periodic intervals, such as every thirty minutes. Unlike real time processing, batch processing does not permit interaction between two databases or computers. *See Newton's Telecom Dictionary*, 11th Edition at 74 (1996).

<sup>58</sup> The proposed ordering and provisioning measurements seek to ensure that an incumbent LEC is complying with its statutory requirements under section 251(c). *See supra* ¶¶ 28, 29.

V.B.3. We believe that some level of disaggregation is necessary to ensure the collection of meaningful results. We note that a number of parties have proposed various levels of disaggregation.<sup>59</sup> Although we make no tentative conclusions regarding the appropriate levels of disaggregation for ordering and provisioning measurements and repair and maintenance measurements, we seek comment on the thirteen measurement categories<sup>60</sup> set forth in Appendix A.<sup>61</sup> In order for competing carriers to track more easily the treatment accorded to certain types of orders throughout the ordering and provisioning process, we propose to use these thirteen measurement categories for the order completion measurements,<sup>62</sup> the order status measurements,<sup>63</sup> the held orders measurement,<sup>64</sup> and the installation troubles measurement.<sup>65</sup> Similarly, in order for competing carriers to observe more easily correlations between the types of services or elements ordered and any subsequent need for repair and maintenance, we propose to use the same thirteen measurement categories for the various repair and maintenance measurements, the Average Time to Restore measurement, the Frequency of Troubles in a Thirty Day Period measurement, the Frequency of Repeat Troubles in a Thirty Day Period measurement and the Percentage of Customer Troubles Resolved within Estimated Time measurement.<sup>66</sup> As discussed above, we seek to balance our goal of detecting possible instances

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<sup>59</sup> See, e.g., LCUG proposal at 56-57; BellSouth Nov. 3 *Ex Parte*; Bell Atlantic Nov. 20 *Ex Parte*; Ameritech Nov. 18 *Ex Parte*; SNET Oct. 31 *Ex Parte*.

<sup>60</sup> LCUG refers to measurement categories as "reporting dimensions." LCUG proposal at 56.

<sup>61</sup> These thirteen categories are: (1) Resale Residential POTS/dispatch; (2) Resale Residential POTS/non-dispatch; (3) Resale Business POTS/dispatch; (4) Resale Business POTS/non-dispatch; (5) Resale Specials/dispatch; (6) Resale Specials/non-dispatch; (7) Unbundled Loops with Interim Number Portability; (8) Unbundled Loops without Interim Number Portability; (9) Unbundled Switching; (10) Unbundled Local Transport; (11) Combinations of Unbundled Network Elements/dispatch; (12) Combinations of Unbundled Network Elements/non-dispatch; and (13) Interconnection Trunks. The term "dispatch" is explained *infra* at ¶ 49.

<sup>62</sup> The order completion measurements proposed below in Part IV.B.2.b are the Average Completion Interval and Percentage Due Dates Missed.

<sup>63</sup> The order status measurements described below in Part IV.B.2.d are (1) the Average Reject Notice Interval, (2) the Average Firm Order Confirmation (FOC) Notice Interval, (3) the Average Jeopardy Notice Interval, (4) the Percentage of Orders in Jeopardy, and (5) the Average Completion Notice Interval.

<sup>64</sup> The Average Interval for Held Orders is described in Part IV.B.2.e.

<sup>65</sup> The Percentage of Troubles in Thirty Days for New Orders measurement is described below in Part IV.B.2.f. One exception to our proposed level of disaggregation for ordering and provisioning is for the Order Quality measurements, discussed further in that section. See *infra* Part IV.B.2.g.

<sup>66</sup> These measurements are described below at Part IV.B.3.

of discrimination with our goal of minimizing, to the extent possible, burdens imposed on incumbent LECs.<sup>67</sup> We seek comment on these proposals.

47. Our proposed categories reflect a middle ground between the detailed breakdowns proposed by LCUG and more aggregated measurements incumbent LECs have been using.<sup>68</sup> In general, in proposing the categories listed below, our intention is to minimize, to the extent possible, the reporting burden on incumbent LECs while at the same time ensuring that the measurements are reliable indicia of an incumbent LEC's compliance with the applicable statutory requirements. We seek comment on whether these categories appropriately balance the reporting burden on incumbent LECs with the need to produce meaningful measurement results. Specifically, we seek comment on whether different or fewer levels of disaggregation would sufficiently detect instances of discrimination, but would impose less reporting burdens on incumbent LECs.

48. In developing the proposed measurement categories, we seek to separate those types of orders that are likely to produce divergent results due to differences in order complexity or in the mechanisms used to provision orders. By separately grouping the results that are likely to vary due to such differences, we believe that any other meaningful differences, such as those resulting from discrimination, can be more easily detected. We seek comment on whether the thirteen proposed measurement categories listed in Appendix A are appropriate. In particular, we seek comment on whether these categories would disaggregate the data sufficiently to allow the detection of discrimination. We also seek comment on whether fewer levels of disaggregation would sufficiently detect instances of discrimination, but would impose less reporting burden on incumbent LECs.

49. We propose that incumbent LECs first break down the orders by separating resold services, unbundled network elements, and interconnection trunks. For resold services, we propose to disaggregate the measurements further according to the three broad categories of resold telecommunications services: 1) residential POTS;<sup>69</sup> 2) business POTS; and 3) special

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<sup>67</sup> For comparison purposes, we note that LCUG generally asks for more levels of disaggregation. For example, for the Average Completion Interval, LCUG breaks down the measurements into fifteen "service groupings," each of which would then be broken down by seven "order activities" resulting in approximately 105 measurement categories. *See* LCUG proposal at 24.

<sup>68</sup> For example, LCUG proposes to disaggregate its order completion measurements by fifteen service groupings as well as seven order activities (*e.g.*, new service installations, service migrations without changes, service migrations with changes). LCUG proposal at 56. In contrast, in its section 271 application for the state of Louisiana, BellSouth indicated that it disaggregated similar measurements by seven service groupings and three order activities, which are applicable to resale services only. *See* Application by BellSouth for Provision of In-Region, InterLATA Services in Louisiana, Appendix A, Volume 5, Tab 13, Affidavit of William N. Stacy at Exhibits WNS-10 and WNS-11 (filed on Nov. 6, 1997).

<sup>69</sup> The term "POTS" or "plain old telephone service" refers to the most basic types of telecommunications services offered by local exchange carriers to their customers.

services.<sup>70</sup> We believe that each particular service that is available for resale can be categorized under one of these broader service umbrellas. Further disaggregation by service grouping does not appear to be necessary because there are no significant differences in the order complexity and provisioning mechanisms associated with the individual services in the three resold service groupings. We propose, however, that each group should be broken down by orders that require the dispatch of a service technician and those that do not. We believe that this breakdown is important because the need for field work has a significant impact on the amount of time necessary to provision a resale order placed by a competing carrier.<sup>71</sup> We seek comment on the proposed levels of disaggregation for resold services, as described above.

50. For unbundled network elements, we propose that incumbent LECs report separately the measurement results associated with ordering and provisioning different types of network elements (*i.e.*, unbundled loops, unbundled switching, and unbundled local transport). We believe that disaggregation by type of network element is necessary because there are varying degrees of order complexity and inter-carrier coordination involved with different types of network elements, including combinations of network elements, and that these variations will affect the time required to provision a network element order. In addition, we propose that orders for unbundled loops should be broken down by whether the loops are provisioned with interim number portability. We believe that the provisioning time for loops with interim number portability may differ from those without.<sup>72</sup> We seek comment on our proposed levels of disaggregation for network element orders. We also seek comment on whether the unbundled loop category should be further disaggregated, as suggested by LCUG,<sup>73</sup> between 2-wire unbundled loops, which are generally used for POTS-type services, and all other loop types, such as 4-wire unbundled loops and unbundled DS1 loops, which may be more complex to provision.

51. Finally, we propose to include interconnection trunks as a separate measurement category. Although interconnection trunks are physically indistinguishable from transport links, interconnection trunks are unique because they are used for the transmission of traffic between two networks, whereas transport links are used for the transmission of traffic within the incumbent's network. As a result, the process for ordering interconnection trunks, as well as the mechanisms for provisioning those trunks, is likely to involve a higher degree of order complexity, as well as greater inter-carrier coordination, and, therefore, may require a separate

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<sup>70</sup> The special services category captures all non-POTS-type services, which require design intervention by the incumbent LEC (*e.g.*, centrex, PBX trunks, channelized services, etc.).

<sup>71</sup> We note that the term "dispatch" as used in this Notice refers to only those instances in which technicians must do work outside of a central office to fulfill an order request. The term "dispatch" does not include those instances in which a technician must do work inside of a central office to fulfill an order request.

<sup>72</sup> It may take an incumbent LEC longer to provide an unbundled loop with interim number portability, rather than without interim number portability, because provision of number portability requires a switch update.

<sup>73</sup> LCUG proposal at 52-53.



reporting category. We seek comment on the inclusion of interconnection trunks as a separate measurement category.

### b. Order Completion Measurements

52. We tentatively conclude, as set forth in Appendix A, that incumbent LECs must measure the Average Completion Interval<sup>74</sup> and the Percentage of Due Dates Missed for orders placed by their own retail customers and for orders placed by competing carriers. These measurements seek to assess whether an incumbent LEC processes and completes orders from competing carriers in the same time frame in which it processes and completes its own retail orders.<sup>75</sup>

53. The measurement for the Average Completion Interval seeks to compare the average length of time it takes an incumbent LEC to complete orders for competing carriers with the average length of time it takes to complete comparable incumbent LEC retail orders. For competing carriers' orders, we tentatively conclude that an incumbent LEC must measure the interval from its receipt of a valid order<sup>76</sup> ("Order Submission Date and Time") at its OSS interface until the time it returns a completion notification to the competing carrier ("Date and Time of Notice of Completion"). For its own orders, we propose that an incumbent LEC measure the interval from when its service representative enters an end user customer's order into its order processing system ("Order Submission Date and Time") to the time it completes the order ("Completion Date and Time").<sup>77</sup> We seek comment on whether our proposed measurement for the Average Completion Interval is sufficient or whether greater or lesser detail is necessary.<sup>78</sup>

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<sup>74</sup> We note that in previous orders, the Commission has referred to such a measurement as the "average installation interval." See *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20652-58, ¶¶ 204-213. Although we believe that the two terms are similar, we believe that "Average Completion Interval" more clearly describes the focus of the measurement, which is to measure the time required to complete an order, whether it requires a mere billing change or the dispatch of a technician.

<sup>75</sup> Throughout this Notice, we use the term "retail orders" to refer to orders placed by incumbent LEC retail customers; we do not intend this term to refer to orders associated with the incumbent LEC's use of local services for its internal or administrative purposes.

<sup>76</sup> As noted below, valid orders include those orders that have not been rejected by an incumbent LEC's OSS interface. Orders may be rejected if they fail to comply with syntax or formatting requirements in the order form, for example. See *infra* ¶ 60. We propose a separate measurement for order rejections below in our Order Quality Measurements section. See *infra*, Part IV.B.2.g.

<sup>77</sup> An order has been completed when each component of the order has been provisioned by the incumbent LEC. The initiation of customer billing, however, need not have begun.

<sup>78</sup> We note that the proposed Average Completion Interval measurement proposed in this proceeding differs somewhat from the *BellSouth South Carolina Order* discussion regarding the need for Average Installation Intervals. In the *BellSouth South Carolina Order*, we found that "the most meaningful average installation

54. The Percentage of Due Dates Missed measurement seeks to determine whether the agreed-upon due dates for order completion are equally reliable for orders placed by competing carriers and orders placed by an incumbent LEC's end user customers. We tentatively conclude that an incumbent LEC must calculate this percentage by comparing the total number of orders not completed by the committed due date and time<sup>79</sup> during the specified reporting period to the total number of orders scheduled to be completed during that reporting period.<sup>80</sup> This same measurement would apply to orders for an incumbent LEC's customers and for orders submitted by competing carriers. We seek comment on whether our proposed measurement for Percentage of Due Dates Missed is appropriate or whether additional detail is necessary.

55. With respect to both the Average Completion Interval and Percentage of Due Dates Missed measurements, we tentatively conclude that certain exclusions should apply, as listed in Appendix A. Because we believe that an incumbent LEC should only measure orders during the time period in which the incumbent LEC has control over completion of the orders, we tentatively conclude that incumbent LECs should exclude orders canceled or supplemented<sup>81</sup> by competing carriers from these measurements. We seek comment on whether additional exclusions are needed.

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interval measure is the average time it takes from when BellSouth first receives an order from a competing carrier to when BellSouth provisions the service for that Order." *BellSouth South Carolina Order* at ¶ 41 (footnote omitted). The Commission was concerned in that Order with evidence of large numbers of the new entrants' orders being rejected and having to be resubmitted before being accepted into BellSouth's ordering system. The Commission therefore concluded that simply measuring orders that had made it into the ordering system, as BellSouth proposed, did not present an accurate picture of how long it was taking orders to be completed. In this Notice, we propose to measure only "valid orders," that is, orders that have not been rejected, for the Average Completion Interval. In separate measurements described below, we seek comment on measurements that determine how many orders are being rejected, how long it is taking the incumbents to notify competing carriers that their orders are being rejected, and how often competing carriers have to resubmit orders. We also seek comment on how long it takes to notify competing carriers that orders are completed. We believe that this combination of measurements captures the concerns underlying the *BellSouth South Carolina Order*. In the *BellSouth South Carolina Order*, we also stated that the average installation interval measurement is complete at the time service is installed. Here we propose the end point to be when the incumbent notifies the competing carrier that service has been installed. We also propose to measure the time it takes to notify a competing carrier that its order has been completed (*i.e.*, the Average Completion Notice Interval). The Average Installation Interval discussed in the *BellSouth South Carolina Order* can be derived from these two measurements, the Average Completion Interval and the Average Completion Notice Interval.

<sup>79</sup> An order has been completed by the committed due date if the incumbent LEC has returned a completion notification to the competing carrier by the date and time specified on the initial firm order confirmation ("FOC") returned by the incumbent LEC to the competing carrier.

<sup>80</sup> See *infra* Part V.B. discussing the proposed reporting period.

<sup>81</sup> By orders supplemented by competing carriers, we mean initial orders that subsequently have been changed or modified by the competing carrier. These changed or modified orders would be measured as a new order when resubmitted.

56. We tentatively conclude that requiring both the Average Completion Interval and the Percentage of Due Dates Missed measurements are necessary to ensure that incumbent LECs are unable to mask discrimination. The Average Completion Interval allows competing carriers to assess whether the interval to complete their orders is similar to the interval to complete comparable incumbent LEC retail orders. The Percentage of Due Dates Missed allows competing carriers to assess whether the incumbent LEC's due date commitments -- that is, the date and time the incumbent LEC has promised to provision an order -- are equally reliable for competing carriers and the incumbent LEC's retail operations. Both of these factors directly influence customer perception. If a customer can obtain service more quickly from the incumbent, or if the competing carrier cannot initiate service to a customer when promised, the competing carrier's ability to compete is undermined. We, therefore, tentatively conclude that both the Average Completion Interval and Percentage of Due Dates Missed measurements are necessary to provide a complete picture of an incumbent LEC's ability to complete orders for competing carriers in a nondiscriminatory manner.<sup>82</sup> We seek comment on this tentative conclusion.

**c. Average Time for Coordinated Customer Conversions**

57. We tentatively conclude that the incumbent LECs should measure the Average Coordinated Customer Conversion Interval, as set forth in Appendix A.<sup>83</sup> Specifically,

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<sup>82</sup> This conclusion is consistent with previous decisions made by the Commission in this area. In the *Ameritech Michigan 271 Order* and the *BellSouth Louisiana 271 Order*, the Commission found that average completion intervals for incumbent LEC and new entrant orders were necessary as evidence in determining whether a BOC is providing nondiscriminatory access to OSS functions. *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20652-58, ¶¶ 204-213; *BellSouth Louisiana 271 Order* at ¶ 28, n. 98. In addition, among the conditions for approval of the Bell Atlantic/NYNEX merger, the Commission required Bell Atlantic, *inter alia*, to track both the Average Completion Time and the Percentage of Due Dates Missed. *Bell Atlantic/NYNEX Merger Order*, 12 FCC Rcd. at 20119-20, App. D, ¶¶ 9, 11. We also note that, under the Commission's Automated Reporting Management Information System (ARMIS) Service Quality Report (FCC Report 43-05), incumbent price cap LECs (both mandatory and elective) must measure annually, among other things, the percentage of commitments met and the average installation interval for their own local service orders. *See In the Matter of Revision of ARMIS Annual Summary Report (FCC Report 43-01), ARMIS USOA Report (FCC Report 43-02), ARMIS Joint Cost Report (FCC Report 43-03), ARMIS Access Report (FCC Report (43-04), ARMIS Service Quality Report (FCC Report 43-05), ARMIS Customer Satisfaction Report (FCC Report 43-06), ARMIS Infrastructure Report (FCC Report 43-07), and ARMIS Operating Data Report (FCC Report 43-08) for Certain Class A and Tier 1 Telephone Companies*, Order, DA 97-2621, AAD 95-91, Attachment 5 at 10 (Com. Car. Bur. rel. Dec. 16, 1997) ("*ARMIS Revision Order*"). Finally, under the Commission's ONA nondiscrimination requirements, the BOCs and GTE are currently required to file quarterly reports measuring, among other things, the percentage of due dates missed and the average installation interval for their own affiliated enhanced service operations and for all other customers. *See In the Matter of Filing and Review of Open Network Architecture Plans*, Memorandum Opinion and Order, CC Docket No. 88-2, 5 FCC Rcd 3084, 3093-94 and App. B (1990) ("*BOC ONA Reconsideration Order*").

<sup>83</sup> We believe that the Average Coordinated Customer Conversion measurement is similar to the Coordinated Customer Conversion measurement proposed by TCG and the Percent of INP Coordinated Orders with Disconnection, Loop Provisioning, and Number Portability done within five minutes of Each Other

incumbent LECs must measure the average time it takes to disconnect an unbundled loop from the incumbent LEC's switch and cross connect it to a competing carrier's equipment with and without number portability. This performance measurement will assist in determining how long a customer switching to a competing carrier is without local exchange service when the competing carrier utilizes the incumbent LEC's unbundled loop, in conjunction with its own switching equipment, to provide such service. We believe that this measurement will assist in evaluating the incumbent LEC's provisioning of unbundled loops and the impact on competing carriers' customers.

#### d. Order Status Measurements

58. We have previously stated that a competing carrier must receive information on the status of its orders on the same basis as an incumbent LEC provides such notices to itself.<sup>84</sup> Timely notification of an order's status enables a competing carrier to inform its customer promptly of the progress of an order, or of any rescheduling or order change. By comparing the average time it takes a competing carrier to obtain information on the status of its orders to the average time it takes an incumbent LEC to inform its own retail customer service representative of the status of an order, a competing carrier can determine whether it is receiving notification of an order's status in a nondiscriminatory and just and reasonable manner.

59. We tentatively conclude that incumbent LECs must provide the following order status measurements set forth in Appendix A: (1) the Average Reject Notice Interval; (2) the Average Firm Order Confirmation (FOC) Notice Interval; (3) the Average Jeopardy Notice Interval; (4) the Percentage of Orders Given Jeopardy Notices; and (5) the Average Completion Notice Interval. We note that a number of incumbent LECs have indicated that they already report, or are willing to report, on some form of these notification intervals, either through average intervals or percentages within specified time intervals.<sup>85</sup> We tentatively conclude that all incumbent LECs must also measure these intervals for themselves, whether or not they have done so previously, in order to provide a basis for comparison with the average intervals for competing carriers. A comparison of these times can provide information on whether the

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measurement proposed by ALTS. See TCG, Model Performance Parity Measures for Facilities-Based Competition (Nov. 1997) (available at <http://www.tcg.com>); ALTS Jan. 14 *Ex Parte*.

<sup>84</sup> In the *BellSouth South Carolina 271 Order*, we explained that "[i]t is critical to a competing carrier's ability to compete that it receive information concerning the status of its customers' orders in substantially the same time and manner as the BOC provides such information to its retail operations." *BellSouth South Carolina 271 Order* ¶ 115 (citing *Ameritech Michigan 271 Order* at ¶ 186). At a minimum, the Commission has explained that order status notices must include order receipt, order rejection, firm order confirmation, order jeopardy, and order completion notices. *Id.* n. 347.

<sup>85</sup> See, e.g., Bell Atlantic Nov. 20 *Ex Parte*, Exhibit A at 3 (measures, among other things, average reject notice interval, average interval to return order completion notice); SNET Oct. 31 *Ex Parte* C, Attachment 3 at 2 (measures FOCs returned within 24 hours, installation appointments met, and notification of completed dispatch service orders).

incumbent is providing nondiscriminatory access to competing carriers. We seek comment on these tentative conclusions. If an incumbent LEC does not currently provide itself with a certain form of notice (*e.g.*, a FOC), we seek comment on the appropriate retail analog that should be measured. We also seek comment on whether all of these order status measurements are necessary to ensure that an incumbent LEC is providing access in a nondiscriminatory and just and reasonable manner.

60. The Average Reject Notice Interval seeks to measure the amount of time it takes an incumbent LEC to notify the competing carrier that an order has been rejected. An incumbent LEC typically sends an order rejection notice for invalid orders, such as those that have syntax or formatting errors in the order form. The Commission has previously explained that "[t]imely delivery of order rejection notices has a direct impact on a new entrant's ability to service its customers, because new entrants cannot correct errors and resubmit orders until they are notified of their rejection . . . ."<sup>86</sup> We tentatively conclude that an incumbent LEC must measure the time it takes to deliver such notices by using the measurement set forth in Appendix A. We propose that an incumbent LEC measure this interval from the time it receives an order at its OSS interface to the time the rejection notice leaves its gateway. We seek comment on these tentative conclusions.

61. The Average FOC Notice Interval seeks to measure the amount of time it takes an incumbent LEC to send a competing carrier a notice confirming the order. Competing carriers rely on FOC notices to apprise their customers of due dates.<sup>87</sup> We tentatively conclude that an incumbent LEC must measure the time it takes to deliver a FOC notice by using the measurement set forth in Appendix A. We also tentatively conclude that the incumbent LEC must measure this interval from the time it received a valid order<sup>88</sup> at its OSS interface from the competing carrier to the time the FOC leaves its OSS interface and is transmitted to the competing carrier. Because this interval measures only valid orders, we tentatively conclude that incumbent LECs must exclude rejected orders from this measurement. We seek comment on these tentative conclusions.

62. The Average Jeopardy Notice Interval attempts to determine how far in advance a competing carrier receives notice that its customer's order is in jeopardy of not being completed as scheduled, compared to how far in advance an incumbent LEC's service representative receives such notice. The Commission has previously explained that competing carriers need timely order jeopardy notices to inform their customers of the potential need to reschedule the

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<sup>86</sup> *BellSouth South Carolina 271 Order* at ¶ 117.

<sup>87</sup> *See id.* at ¶ 115. The Commission has noted that "[d]elays in the return of the FOC notice therefore delay a new entrant's ability to inform its customers when service will begin." *BellSouth South Carolina 271 Order* at ¶ 122; *BellSouth Louisiana 271 Order* at ¶ 35.

<sup>88</sup> A valid order is an order that has not been rejected for formatting or other reasons. *See supra* note 77.

time for service installation.<sup>89</sup> We tentatively conclude that incumbent LECs must measure the amount of time between the originally scheduled order completion date and time (as stated on the FOC) and the date and time a notice leaves the incumbent LEC's interface informing the carrier that the order is in jeopardy of missing the originally scheduled date, as set forth in Appendix A. We seek comment on this tentative conclusion.

63. We also tentatively conclude that incumbent LECs must measure the Percentage of Orders Given Jeopardy Notices using the measurement set forth in Appendix A. This measurement determines the percentage of orders for which the incumbent LEC provides notice of being in jeopardy of not being completed on time for any reason. This information will enable a competing carrier to determine whether a significantly higher percentage of its orders are placed in jeopardy than an incumbent LEC's retail orders. Although there are many reasons why orders are placed in jeopardy, a higher jeopardy rate for competing carriers might reflect a discriminatory preference by an incumbent LEC to complete its own orders first. Additionally, a competing carrier should receive a jeopardy notice for each of its orders that the incumbent LEC fails to complete on time. A competing carrier can determine whether it is receiving this requisite advance notice by comparing the Percentage of Orders Given Jeopardy Notices to the Percentage Due Dates Missed measurement.

64. Finally, the Average Completion Notice Interval measures the amount of time it takes an incumbent LEC to send a competing carrier notice that work on an order has been completed. Prompt receipt of a completion notice is critical because, among other things, this notice informs the competing carrier that it may begin billing the customer for service. More fundamentally, this notice informs the competing carrier that its formal relationship with a new customer has begun. We tentatively conclude that an incumbent LEC must use the measurement set forth in Appendix A and must measure the interval by subtracting the date and time that it completed the work from the date and time a valid completion notice leaves its OSS interface. We seek comment on these tentative conclusions.

**e. Average Interval for Held Orders**

65. We tentatively conclude that incumbent LECs must measure the Average Interval for Held Orders, as described in Appendix A. This measurement seeks to capture the time required to complete held orders, *i.e.*, those orders pending at the end of the reporting period whose committed due dates have passed. For example, if incumbent LECs report on a monthly basis, a held order would be any order that is overdue at the end of the month. By measuring those orders whose due dates have passed, the Average Held Order measurement will capture those orders not covered by the Average Completion Interval measurement, which measures orders that are completed by the committed due date. We believe that the Average Interval for Held Orders measurement will enable a requesting carrier to determine whether the average period that its orders are pending after the committed due date is no longer than the average

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<sup>89</sup> See *BellSouth South Carolina 271 Order* at ¶ 130; *BellSouth Louisiana 271 Order* at ¶ 39.

period for similar incumbent LEC pending orders. We seek comment on the utility of measuring the average interval for held orders and whether the measurement described below accurately captures the necessary information.

66. To arrive at the Average Interval for Held Orders, we tentatively conclude that the incumbent LEC should first identify all orders with a FOC listing a due date prior to the end of the reporting period in question for which a valid completion notice has not yet been issued. The held order interval for a particular order is the number of calendar days between the completion date listed on that order's FOC and the close of the reporting period. The Average Interval for Held Orders is then calculated by dividing the total number of days since the due date up to the reporting period close date by the number of held orders. Incumbent LECs should measure the Average Interval for Held Orders for both competing carrier orders and their own retail customer orders. We propose that incumbent LECs exclude from this measurement those orders cancelled by a competing carrier, as listed in Appendix A. We seek comment on whether these exclusions will assist in producing meaningful results and on whether additional exclusions are needed.

67. We note that certain incumbent LECs have indicated that they currently provide, or are willing to provide, a measurement for percentage of held orders due to lack of facilities.<sup>90</sup> We have proposed a broader measurement that would not be limited to orders that are not completed due to lack of facilities, but rather would cover all uncompleted orders with passed due dates. Because incumbent LECs and requesting carriers are still learning how to manage and work with the operations support systems, we tentatively conclude that a broader measurement, such as the one proposed above, will be more useful because it will capture all instances when an order is not completed rather than just those instances when an order is not completed due to lack of facilities. We seek comment on our tentative conclusion.

#### **f. Installation Troubles**

68. We tentatively conclude that an incumbent LEC must measure the Percentage of Troubles in Thirty Days for New Orders. We believe that incumbent LECs must calculate the percentage of new orders for which a competing carrier, or incumbent LEC customer service representative, receives complaints that there is a problem with the service within the first thirty days after completion of the order. Trouble reports often indicate that a customer has not received the exact service ordered, either because the carrier provided the wrong type of service or a lower quality of service than expected. We believe, therefore, that this measurement will provide information about whether the incumbent LEC processed the order accurately. Accordingly, we propose that incumbents LECs measure the Percentage of Troubles in Thirty Days for New Orders as a substitute for LCUG's proposed measurement of Percentage Orders

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<sup>90</sup> See, e.g., SBC Sept. 5 *Ex Parte*, Attachment at 3; Bell Atlantic Nov. 20 *Ex Parte*, Exhibit A at 4.

Processed Accurately.<sup>91</sup> We believe that the Percentage of Troubles in Thirty Days for New Orders will provide the information sought by LCUG, but will be a less burdensome measurement than measuring order accuracy, which requires an incumbent LEC to compare the original account profile and order sent by the competing carrier to the account profile following completion of the order. Nevertheless, we seek comment on using this measurement as a substitute for order accuracy. We also seek comment on whether thirty days is an appropriate cut-off for measuring trouble reports for new orders.

69. Although we make no tentative conclusions regarding the specific measurement needed to measure the Percentage of Troubles in Thirty Days for New Orders, we seek comment on the measurement set forth in Appendix A. Specifically, we seek comment on whether this measurement should be disaggregated in the same way as the other ordering and provisioning measurements. It may not be appropriate, for example, to include interconnection trunks because any problems relating to such trunks will likely affect many customers on the competing carrier's network, rather than one specific customer. We seek comment on whether interconnection trunks, or any other categories of disaggregation, should be eliminated for this measurement.

70. Finally, we seek comment on whether it is appropriate to measure percentage troubles on a "per order" basis. We seek comment on whether tracking troubles on a per order basis might mask a higher number of troubles for larger orders. For example, an order of forty new lines may have several problems and yet would be reported as having only one trouble report. We therefore seek comment on whether a "per circuit" basis for resale orders and "per element" basis for unbundled network element orders might be more useful than a "per order" basis.

## **g. Ordering Quality Measurements**

### **1. Order Flow Through**

71. An incumbent LEC's internal ordering system permits its retail service representatives to submit retail customer orders electronically, directly into the ordering system.<sup>92</sup> This is known as "flow through." Similarly, a competing carrier's orders "flow through" if they are transmitted electronically (*i.e.*, with no manual intervention) through the gateway into the incumbent LEC's ordering systems. Order Flow Through applies solely to the OSS ordering function, not the OSS provisioning function. In other words, Order Flow Through

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<sup>91</sup> LCUG proposal at 26. A number of incumbent LECs have proposed substituting an installation troubles measurement for a measurement for order accuracy. *See, e.g.*, Ameritech Nov. 18 *Ex Parte*, Attachment at 2; Bell Atlantic Nov. 20 *Ex Parte*, Exhibit A at 5.

<sup>92</sup> For example, the Department of Justice noted that 97 percent of BellSouth's residential orders and 81 percent of its business orders are processed electronically (that is, without additional human intervention once the order is submitted into the system). *BellSouth South Carolina 271 Order* at ¶ 104.



measures only how the competing carrier's order is transmitted to the incumbent's back office ordering system, not how the incumbent ultimately completes that order. Electronically processed service orders are more likely to be completed and less prone to human error than orders that require some degree of human intervention.<sup>93</sup>

72. We tentatively conclude that incumbent LECs should measure the percentage of competing carriers' orders that flow through electronically to the incumbent LECs' ordering systems, as set forth in Appendix A. The Percentage of Order Flow Through measurement seeks to calculate the percentage of orders that an incumbent LEC processes electronically through its gateway and accepts into its back office systems without manual intervention (*i.e.*, without additional human intervention once the order is submitted into the system). This measurement only applies to valid orders, that is, orders that have not been rejected for some reason.<sup>94</sup> A separate measurement for rejected orders is discussed below.

73. We believe that the Order Flow Through measurement is necessary to determine whether an incumbent LEC is able to process orders for competing carriers in a nondiscriminatory manner. This measurement also serves as a yardstick to evaluate whether an incumbent LEC's OSS is capable of handling reasonably foreseeable commercial volumes of orders.<sup>95</sup> If a LEC processes a substantial number of orders manually, rather than electronically, a competing carrier may be effectively prevented from increasing its order volume due to the increased likelihood of errors and delays in order completion.<sup>96</sup> An incumbent LEC's failure to ensure adequate order flow through could also have a direct impact on the competing carrier's ability to provide service in a timely manner to its end user customers.

74. We tentatively conclude that the Order Flow Through measurement must be disaggregated by the following categories, as set forth in Appendix A: (1) resale POTS; (2) resale specials; (3) network elements; and (4) combinations of network elements. We note that the proposed categories for the Order Flow Through measurement are less detailed than the categories proposed for the other measurements relating to the ordering process (*e.g.*, order completion and order status measurements). We believe this distinction is justified because the Order Flow Through measurement focuses solely on the OSS ordering function, whereas the other proposed measurements (*i.e.*, those regarding order completion and order status) also focus

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<sup>93</sup> See *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20634-35, at ¶¶ 172-73.

<sup>94</sup> For a discussion of valid orders, see *supra* note 77.

<sup>95</sup> See *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20634-49, ¶¶ 172-199 (Commission found a direct correlation between mechanized order processing (*i.e.*, flow-through) and the BOC's ability to provide competing carriers with nondiscriminatory access to OSS functions); *BellSouth South Carolina 271 Order* at ¶ 107 (Commission found that low percentage of order flow-through for resale orders was a substantial factor in BOC's inability to provision resale services on a timely basis). See also *Bell Atlantic/NYNEX Merger Order* at ¶ 182 and Appendix C and D (requiring order flow-through measurement as a condition of the merger approval).

<sup>96</sup> See, *e.g.*, *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20634-20650, ¶¶ 172-199.

on the OSS provisioning function. In the provisioning context, there may be substantial differences in the time required to provide various types of unbundled network elements and services. For example, the time required to complete certain orders may vary based on whether an order requires a dispatch, or merely a billing change. In the order flow through context, such issues are irrelevant. The method of ordering resold services and network elements is not likely to vary between residential and business customers. We seek comment on the proposed levels of disaggregation for the Order Flow Through measurement and whether further disaggregation is necessary.

## 2. Order Rejections

75. We tentatively conclude that incumbent LECs must report on the Percentage of Rejected Orders. We also tentatively conclude that this measurement must be reported to the same level of disaggregation as the Order Flow Through measurement. The Percentage of Rejected Orders measurement, as shown in Appendix A, would determine the percentage of total orders received electronically that are rejected.<sup>97</sup> We believe that this measurement is useful in several respects. For example, a significantly high rejection rate for a competing carrier could reflect problems in obtaining access to the incumbent LEC's ordering system. A high rejection rate might also indicate problems with the ordering interface used by a competing carrier, or that an incumbent LEC has failed to provide adequate business rules to explain how to input ordering data.<sup>98</sup> In conjunction with the Order Flow Through measurement, the Order Rejection measurement can provide valuable information regarding the operational readiness of an incumbent LEC's OSS. A high order flow through percentage may be less meaningful if the carrier also has a high percentage of rejected orders. Using the Order Rejection measurement and the Order Flow Through measurement, a competing carrier can gauge the number of orders that are likely to be rejected at the gateway, the number that will flow through, and the number that will require manual processing.<sup>99</sup>

76. In addition to the above measurement, we seek comment on whether incumbent LECs should report on the average number of times an order must be resubmitted before it is

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<sup>97</sup> This measurement was proposed, for example, by BellSouth in Georgia Docket No. 7892\_U. *See* Letter from Kathleen B. Levitz, BellSouth, to Magalie Roman Salas, Secretary, FCC, (filed January 23, 1998) (BellSouth Jan. 23 *Ex Parte*)

<sup>98</sup> "Business rules refer to the protocols that a BOC uses to ensure uniformity in the format of orders." *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20617, ¶ 137, n. 335. We recognize that other factors, such as a competing carrier's failure to train its employees properly, could contribute to a high order rejection rate. Measuring the percentage of rejections, however, will alert the competing carrier that there is a potential problem with its own procedures and personnel or with the incumbent LEC.

<sup>99</sup> The difference between the total number of orders transmitted and the sum of flow through orders and rejected orders provides the number of orders requiring manual processing.

finally accepted as a valid order.<sup>100</sup> The Average Submissions per Order measurement, as set forth in Appendix A, would require incumbent LECs to measure the number of orders accepted for provisioning and the number of orders rejected during the reporting period in order to calculate the total number of order submissions in the reporting period. The total number of order submissions would then be divided by the total number of orders accepted for provisioning in the reporting period. We believe that this measurement could reflect the quality of access to an incumbent LEC's ordering system. If a carrier must resubmit the same order multiple times, it may indicate that there are problems with the incumbent LEC's gateway or error checking systems, or that the competing carrier does not have an adequate understanding of the incumbent LEC's internal business rules.

#### **h. 911 Database Update and Accuracy**

77. One of the OSS databases used in ordering and provisioning services and facilities to competing carriers is the 911/E911 database. We seek comment on whether incumbent LECs should measure the provision of 911 and E911 emergency services to competing carriers. The accuracy of 911 and E911 database updates was identified as an important issue in the *Ameritech Michigan 271 Order*.<sup>101</sup> We seek comment on whether federal reporting requirements are necessary to monitor possible discrimination, or whether the states' existing oversight functions of 911 and E911 database services adequately monitor carrier-to-carrier discrimination.

78. We also seek comment on what particular measurements would be useful if we were to adopt reporting requirements in this area. In particular, we seek comment on the utility of measuring the Percentage of Accurate Updates for incumbent LEC and competing carrier customers, as proposed in Appendix A. Such a measurement might assist a competing carrier in determining whether there is discriminatory treatment in updating these databases.<sup>102</sup>

79. We also seek comment on the utility of measuring the timeliness of updates to the 911 and E911 databases, as proposed in Appendix A. We seek comment on whether incumbent

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<sup>100</sup> See *BellSouth Jan. 23 Ex Parte*.

<sup>101</sup> See *Ameritech Michigan 271 Order* at ¶¶ 261-279. In that order, the Commission found that Ameritech failed to meet its duty to provide nondiscriminatory access to 911 and E911 databases because Ameritech maintained entries in its 911 database for its own customers with greater accuracy and reliability than entries for customers of competing carriers. Additionally, in response to BellSouth's section 271 application for the state of South Carolina, the Department of Justice noted that 911 and E911 measurements are important to guard against discrimination. We note that in the *BellSouth South Carolina 271 Order*, we found that BellSouth had met the 911 checklist requirement. See *BellSouth South Carolina 271 Order* at ¶¶ 225-230.

<sup>102</sup> In the *Ameritech Michigan 271 Order*, the Commission noted that Ameritech's failure to report on the accuracy of 911 and E911 databases for competing carriers was a significant issue because Ameritech's error rate for customers of competing carriers was alleged to be higher than for incumbent LEC customers. *Ameritech Michigan 271 Order* at ¶¶ 267-68.

LECs should measure the Percentage of Missed Due Dates by establishing due dates, or specific time frames, for updating databases. Alternatively, we seek comment on whether incumbent LECs should measure the Average Time to Update the 911 and E911 Databases.<sup>103</sup>

### 3. Repair and Maintenance Measurements

80. We tentatively conclude that incumbent LECs must provide measurements for certain aspects of their repair and maintenance services. We note that, regardless of whether it obtains resold services or unbundled network elements from an incumbent LEC, a competing carrier remains dependent upon the incumbent LEC for repair and maintenance services. Customers will be dissatisfied with competing carrier service if they perceive that service problems are not resolved promptly or that there is a high incidence of repeated service problems associated with the competing carrier's service.

81. We tentatively conclude that incumbent LECs must provide the following repair and maintenance measurements, as listed in Appendix A: (1) Average Time to Restore; (2) Frequency of Troubles in a Thirty Day Period; (3) Frequency of Repeat Troubles in a Thirty Day Period; and (4) Percentage of Customer Troubles Resolved within the Estimated Time.<sup>104</sup> Incumbent LECs must calculate these measurements for themselves and for competing carriers. We seek comment on whether these four measurements are sufficient to assess whether incumbent LECs provide repair and maintenance in a nondiscriminatory manner, or whether this assessment could be done with fewer measurements.<sup>105</sup> In addition, we seek comment on whether incumbent LECs should disaggregate the repair and maintenance measurements in the manner described above with respect to the ordering and provisioning measurements.

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<sup>103</sup> We note that ALTS proposes measuring the "Mean Database Update Interval" and the "Percentage of Updates Completed within 24 Hours." ALTS Proposal at 18-19.

<sup>104</sup> Most of the proposed repair and maintenance measurements are standard measurements that various incumbent LECs already provide or have indicated a willingness to provide. *See, e.g.,* Ameritech Nov. 18 *Ex Parte*, Att. A at 3 (measures Mean Time to Repair, % Repeats, Trouble Report Rate, among other things); Bell Atlantic Nov. 20 *Ex Parte*, Exh. A at 5 (measures Mean Time to Repair, % Repeat Troubles in 30 Days, and Customer Trouble Report Rate, among other things); SNET Oct. 31 *Ex Parte*, Att. 3 at 2 (measurements include Mean Time to Repair and Network Reports per 100 Lines). Several of the proposed repair and maintenance measurements are similar to measurements that various incumbent LECs currently provide pursuant to other Commission requirements, such as ARMIS and ONA. For example, ARMIS requires price cap LECs to provide a measurement for repair intervals and a measurement for repeat trouble reports. *ARMIS Revision Order*, Attachment 5 at 12. These measurements are similar to the proposed measurements for the Average Time to Restore and the Frequency of Repeat Troubles respectively. Likewise, under ONA, the BOCs and GTE must report on the average interval for providing maintenance services, which is similar to the proposed measurement for Average Time to Restore. *BOC ONA Reconsideration Order* at ¶¶ 73-80 and App. B.

<sup>105</sup> These measurements seek to ensure that an incumbent LEC is complying with its statutory requirements under section 251(c). *See supra* ¶¶ 28, 29.

82. The Average Time to Restore measurement allows a competing carrier to gauge whether its customers' services are repaired in the same time frame as that of the incumbent LEC's customers. As shown in Appendix A, the Average Time to Restore measures the time from when a service problem is reported to the incumbent LEC (*i.e.*, when a "trouble ticket" is logged) to the time when the incumbent LEC returns a trouble ticket resolution notification to the competing carrier.

83. The Frequency of Troubles in a Thirty Day Period measurement reports the percentage of access lines that receive trouble tickets in a thirty day period. This measurement permits a competing carrier to determine on an ongoing basis whether its customers experience more frequent incidents of trouble than the incumbent LEC's end users. Disparity in this measurement may indicate differences in the underlying quality of the network components supplied by the incumbent LEC. We propose that this measurement should be calculated as indicated in Appendix A. We seek comment on whether thirty days is an appropriate time frame.

84. The Frequency of Repeat Troubles in a Thirty Day Period measurement calculates the percentage of trouble tickets that are repeat trouble tickets. Any differences in this measurement may indicate that the incumbent LEC provides inferior maintenance support in the initial resolution of troubles or, in the alternative, that the incumbent LEC supplies network components of an inferior quality. As demonstrated in Appendix A, the Frequency of Repeat Troubles in a Thirty Day Period measurement is calculated by dividing the number of repeat troubles generated in a thirty day period by the total number of trouble tickets received in the same thirty day period. Again, we seek comment on whether thirty days is an appropriate time frame.

85. The Percentage of Customer Troubles Resolved Within the Estimated Time measures whether the estimated times for repairs the incumbent LEC reports to competing carriers are as reliable as the estimated times the incumbent LEC provides to its end user customers. The reliability of these estimates are critical to a competing carrier's ability to retain customers because customers expect their service to be restored within the promised time frame. From the customer's perspective, the failure to fulfill such a commitment aggravates an already unsatisfactory situation. The Percentage of Customer Troubles Resolved Within the Estimated Time measurement must be calculated in the manner described in Appendix A. We note that Appendix A lists interconnection trunks as a separate category for reporting on the repair and maintenance measurements. Recognizing that troubles on interconnection trunks may not be customer specific, we seek comment on the utility of requiring incumbent LECs to report on the Percentage of Customer Troubles Resolved Within the Estimated Time with respect to interconnection trunks.

86. We note that LCUG has proposed measurement categories for the Average Time to Restore measurement based on the disposition and cause of the trouble.<sup>106</sup> We seek comment on whether most carriers use the disposition and cause categories proposed by LCUG, and whether such a breakdown would be useful for the repair and maintenance measurements. We also seek comment on whether such a breakdown would place undue burdens on incumbent LECs.

87. As listed in Appendix A, we tentatively conclude that incumbent LECs should exclude the following types of trouble reports from the measurements described above: 1) trouble tickets that are cancelled by the competing carrier; 2) incumbent LEC trouble reports associated with the internal or administrative use of local service; and 3) instances where the customer requests a ticket be "held open" for monitoring.<sup>107</sup> With respect to the Frequency of Repeat Troubles measurement, we tentatively conclude that incumbent LECs should exclude subsequent trouble reports on maintenance tickets that have not been reported as resolved or closed. We seek comment on whether these exclusions will assist in producing meaningful results and whether additional exclusions are needed.

#### 4. Billing Measurements

88. As noted above, an incumbent LEC must provide nondiscriminatory access to billing, as one of the five OSS functions identified by the Commission in the *Local Competition First Report and Order*.<sup>108</sup> A competing carrier is dependent on an incumbent LEC to obtain billing information, regardless of whether it uses unbundled network elements or resold services. Two types of billing information a competing carrier must obtain from an incumbent LEC are: 1) customer usage records (*i.e.*, those records detailing each end user's use of the incumbent's services); and 2) billing invoices, which establish the amount the competing carrier owes the incumbent LEC for use of its services or facilities. A competing carrier needs timely access to customer usage records because this information provides the basis for billing end users. Prompt delivery of customer usage records therefore permits the competing carrier to bill its customers in a timely manner. Timely delivery of billing invoices is also necessary so that a competing carrier can have prompt notification of the amount it owes an incumbent LEC for use of the incumbent's services.

89. We tentatively conclude that a competing carrier can determine whether it is obtaining nondiscriminatory access to these two sets of billing records by obtaining performance

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<sup>106</sup> LCUG proposal at 33 and 57. LCUG proposes the following disposition and cause categories: 1) out of service no dispatch; 2) out of service with dispatch; 3) hold open for monitoring; 4) customer premise equipment trouble (including inside wire); 5) no trouble found; 6) central office equipment; 7) interoffice facilities; 8) loop/access line; 9) all other troubles; and 10) no access.

<sup>107</sup> Such a situation might arise if, after the incumbent LEC has completed the repair work, the customer must do some additional testing at his end before concluding that the repair work is satisfactory.

<sup>108</sup> *Local Competition First Report and Order*, 11 FCC Rcd at 15766, ¶ 523.

measurements on the Average Time to Provide Usage Records and the Average Time to Deliver Invoices, as set forth in Appendix A.<sup>109</sup> The first measurement (Average Time to Provide Usage Records) seeks to capture the average time it takes an incumbent LEC to provide customer usage records. We tentatively conclude that incumbent LECs should use the measurements for the Average Time to Provide Usage Records in Appendix A in calculating the intervals for competing carriers and for their own retail use. For competing carriers, an incumbent LEC must compare the date and time it records usage data with the date and time it transmits the records from its OSS gateway to the competing carrier. For its own retail use, we propose that an incumbent LEC measure the elapsed time between the date and time of recording the usage record to the date and time it reformats the record on an Electronic Message Record (EMR),<sup>110</sup> or an equivalent, format. We seek comment on these measurements. Additionally, we understand that files and billing for local usage, exchange access usage, and alternately billed usage are separated in the actual billing process,<sup>111</sup> and we seek comment on whether incumbent LECs should disaggregate the Average Time to Provide Usage Records into these three groups.

90. The second measurement (Average Time to Deliver Invoices) seeks to measure the average time it takes an incumbent LEC to transmit a billing invoice to a competing carrier for charges related to resale and/or network elements. We tentatively conclude that incumbent LECs should calculate the Average Time to Deliver Invoices in accordance with Appendix A. For competing carriers, an incumbent LEC must compare the date and time it transmits the invoices to the competing carrier to the date and time the billing cycle closes. For an incumbent LEC's own retail use, LCUG has proposed that an incumbent LEC compare the date and time the customer's bills are produced in electronic format (whether or not they are distributed) to the date and time the billing cycle closes.<sup>112</sup> We seek comment on this proposal for retail use and on our tentative conclusion regarding the appropriate measurement for competing carriers. We also seek comment on whether incumbent LECs should report separately for wholesale bill invoices and unbundled element bill invoices for competing carriers. Finally, we seek comment on whether any other measurements for billing are appropriate.

## 5. General Measurements

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<sup>109</sup> These measurements seek to ensure that an incumbent LEC is complying with the statutory requirements of section 251(c). *See supra* ¶¶ 28, 29. We note that a number of incumbent LECs already report on billing timeliness in some format. *See, e.g.*, SBC Sept. 5 *Ex Parte*, Att. 1 to Exh. A at 1-2 (measures billing timeliness by bill type); Ameritech Nov. 18 *Ex Parte*, Att. A at 4 (measures Average Time to Send Usage and Mean Time to Deliver Invoices).

<sup>110</sup> "Electronic Message Registration" is a system that detects and counts a phone user's completed local calls and computes the number of message units used. *See Newton's Telecom Dictionary*, 11th Edition at 218 (1996). The "electronic message record" is a record of those calls and message units.

<sup>111</sup> "Exchange access usage" refers to interexchange usage by customers. "Alternately billed usage" refers to bill-to-third party, collect call, and credit card usage.

<sup>112</sup> LCUG proposal at 45.

**a. Systems Availability**

91. We tentatively conclude that an incumbent LEC must measure the percentage of time its electronic interfaces for each OSS function are actually operational as compared to the scheduled availability, as noted in Appendix A.<sup>113</sup> We propose that an incumbent LEC calculate this measurement by comparing the total time it provides access to a particular interface during the reporting period to the total time the interface was scheduled to be available during the reporting period. We also propose that an incumbent LEC compare the total time its own systems are available to its service representatives to the amount of time that those systems should have been available during the reporting period. We believe that this measurement will assist in determining whether the incumbent LEC provides nondiscriminatory access to its electronic interfaces. We believe that both prolonged outages and frequent unavailability of electronic access to an incumbent LEC's OSS interfaces may significantly and adversely affect a competing carrier's ability to provide service to end users. As noted in Appendix A, we tentatively conclude that this measurement must be disaggregated by interface type, such as EDI and GUI, as well as by each separate OSS function provided by the incumbent LEC to competing carriers (*e.g.*, pre-ordering, ordering, provisioning, repair and maintenance, and billing). We seek comment on our tentative conclusions regarding systems availability measurements.

**b. Center Responsiveness**

92. We tentatively conclude that an incumbent LEC must measure the average time to answer calls from competing carriers to an incumbent LEC's wholesale service center, as noted in Appendix A.<sup>114</sup> We propose that an incumbent LEC calculate this measurement by tracking the time elapsed from when the service center's call management system is prompted by an incoming call from a competing carrier until the call is answered by an incumbent LEC's service representative.<sup>115</sup> Although the period required for an incumbent LEC representative to answer calls from competing carriers may not have a direct impact on a competing carrier's end user customers, the quality of service a competing carrier is able to provide to its customers depends, at least in part, upon the service it receives from the incumbent LEC. For example, delays in contacting the incumbent LEC's service center can cause delays in a competing

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<sup>113</sup> This measurement seeks to ensure that an incumbent LEC is providing OSS in a manner that is consistent with the statutory requirements of section 251(c). *See supra* ¶¶ 28, 29.

<sup>114</sup> The incumbent LEC's service center is a single point of contact for service representatives of competing carriers to direct their service-related inquiries (*e.g.*, general information regarding ordering forms, status of orders, etc.).

<sup>115</sup> We emphasize that this measurement only pertains to live, person-to-person contacts between carriers.



carrier's ability to serve its own customers. We seek comment on our tentative conclusion to require a measurement for center responsiveness.<sup>116</sup>

### c. Operator Services and Directory Assistance

93. We tentatively conclude that an incumbent LEC must measure the average time it takes its own end user customers and those of competing carriers to access the incumbent LEC's operator services and directory assistance databases or operators.<sup>117</sup> We believe that it is important for incumbent LECs to provide nondiscriminatory access to OS/DA databases and operators because customer perception can be shaped by perceived disparities in the quality of access to OS/DA services provided by a competing carrier and an incumbent LEC. We seek comment on the specific measurement described in Appendix A.

94. Incumbent LECs appear to be able to provide separate measurement results for competing carriers that use dedicated trunks to access the incumbent LEC's OS/DA database or operators.<sup>118</sup> Therefore, we tentatively conclude that incumbent LECs must provide separate measurement results in such instances. We seek comment, however, on whether, for purposes of disaggregation, an incumbent LEC is able to differentiate between OS/DA calls from its own end user customers and customers of competing carriers if all such calls are carried over the same OS/DA trunk groups.

## 6. Interconnection Measurements

95. As previously noted, section 251(c)(2) of the Act requires incumbent LECs to provide interconnection to competing carriers at the same level of quality as used in their own networks.<sup>119</sup> We tentatively conclude that incumbent LECs must measure the quality of interconnection through three different means. As discussed above, we tentatively conclude that incumbent LECs must report separately for interconnection trunks when disaggregating the

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<sup>116</sup> This measurement seeks to ensure that an incumbent LEC is complying with the statutory requirements of section 251(c). *See supra* ¶¶ 28, 29.

<sup>117</sup> This measurement seeks to ensure that an incumbent LEC is complying with the statutory requirements of section 251(c). *See supra* ¶ 30.

<sup>118</sup> This might occur when a competing carrier requests custom routing through dedicated trunks in order to brand the call with the competing carrier's name.

<sup>119</sup> The Commission concluded that section 251(c)(2)(C) "requires an incumbent LEC to provide interconnection between its network and that of a requesting carrier at a level of quality that is at least indistinguishable from that which the incumbent provides itself, a subsidiary, an affiliate, or any other party. . . . [T]his duty requires incumbent LECs to design interconnection facilities to meet the same technical criteria and service standards, such as probability of blocking in peak hours and transmission standards, that are used within their own networks." *See Local Competition First Report and Order*, 11 FCC Rcd at 15614-15, ¶ 224.

ordering and provisioning measurements, as well as the repair and maintenance measurements.<sup>120</sup> We also tentatively conclude, as discussed below, that incumbent LECs must report on two sets of interconnection measurements, one for trunk blockage and one for collocation. These two sets of measurements are intended to reveal the quality of interconnection provided to competing carriers.<sup>121</sup>

**a. Trunk Blockage**

96. We tentatively conclude that incumbent LECs must measure trunk blockage, *i.e.*, blockage on final trunk groups within their networks.<sup>122</sup> Blockage on these final trunk groups prevents end user calls from reaching their final destination. The inability of a competing carrier's end users to complete or receive calls has a direct impact on the customer's perception of the competing carrier's quality of service.

97. We believe that competing carriers' traffic can be blocked at two critical points: (1) interconnection trunk groups (*e.g.*, those trunk groups connecting the incumbent LEC's end offices, access tandems, or local tandems with a competing carrier's network); or (2) common trunk groups<sup>123</sup> located within the incumbent LEC's network behind the point of interconnection (*e.g.*, trunks connecting the incumbent's tandem switch with other points in the incumbent LEC's network). We therefore tentatively conclude that an incumbent LEC measure on blockage on both sets of trunk groups, as set forth in Appendix A.<sup>124</sup> We seek comment on these tentative conclusions.

98. We seek comment on certain general issues associated with measuring trunk blockage. We recognize that inferior service is generally indicated by repeated blockage on the same final trunk groups. We therefore seek comment on whether incumbent LECs should measure whether there is repeated blockage over the same trunk groups for an ongoing period,

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<sup>120</sup> See *supra* ¶ 51.

<sup>121</sup> This measurement seeks to ensure that an incumbent LEC is complying with the statutory requirements of section 251(c). See *supra* ¶ 30.

<sup>122</sup> "Final trunk groups" are those trunk groups that provide the last available path for overflow traffic and may also receive first-route traffic for which there is no alternate route.

<sup>123</sup> Common trunk groups are those transport facilities carrying incumbent LEC, competing carrier, and other carriers' traffic. Competing carrier's traffic over common trunk groups include both calls originating and terminating on the competing carrier's network.

<sup>124</sup> The Commission required Bell Atlantic to report on interconnection trunk blockage and common trunk blockage in the *Bell Atlantic/NYNEX* merger commitments. See *Bell Atlantic/NYNEX Merger Order*, 12 FCC Rcd at 20123, App. D, ¶¶ 19 and 20.

such as three consecutive months.<sup>125</sup> We also seek comment on whether incumbent LECs should report on blockage exceeding a certain blocking standard for both interconnection and common trunk group measurements. In the *Bell Atlantic/NYNEX Merger Order*, for example, the Commission required Bell Atlantic to report on blockage exceeding a blocking standard of B.01 for interconnection trunks and B.005 for common trunks.<sup>126</sup> We seek comment on whether incumbent LECs should measure blockage exceeding these standards for the above measurements.

99. We also seek comment on methods by which parties may evaluate whether incumbent LECs are providing interconnection in compliance with their statutory obligations under section 251(c)(2). With respect to interconnection trunks, we seek comment on the utility of comparing blockage on interconnection trunks and blockage on the incumbent LEC's interoffice trunk groups carrying its retail customers' traffic. In the *Ameritech Michigan 271* proceeding, Ameritech provided data on trunk blockage rates for both groups.<sup>127</sup> The Commission determined that a higher percentage of interconnection trunking groups experienced blockage than did Ameritech's interoffice trunking groups serving its retail customers, suggesting that Ameritech's interconnection facilities did not meet the same service standards as those used within its own network.<sup>128</sup> We seek comment on the value of using a comparison similar to that used in the *Ameritech Michigan 271 Order* for gauging whether interconnection trunks are provided in a nondiscriminatory manner. We also seek comment on which set of interoffice trunk groups incumbent LECs should monitor.<sup>129</sup>

100. As noted above, a competing carrier's ability to provide service to its customers may also be affected by blockage on common trunks located within the incumbent LEC's network behind the point of interconnection. We tentatively conclude that it is necessary to measure common trunk blockage and seek comment on appropriate methods to make such measurements. Specifically, we seek comment on whether incumbent LECs should use the common trunk data report established in BellCore Special Report SR STS-000317, "Common

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<sup>125</sup> The ARMIS Service Quality Report 43-05, for example, already requires incumbent LECs to report on common trunk groups experiencing blockage over a certain threshold for a consecutive three month period. See *ARMIS Revision Order*, ARMIS Quarterly Service Quality Report (FCC Report 43-05) at pp. 5 (Rows 0185, 0186, 0189, 0190), 12, and 13.

<sup>126</sup> See *Bell Atlantic/NYNEX Merger Order*, 12 FCC Rcd. at 20123, App. D, ¶¶ 19 and 20. B.01 and B.005 are engineering standards that measure the percentage of calls blocked greater than one percent and one-half percent, respectively. See *Newton's Telecom Dictionary*, 11th Edition at 84-85 (1996) (definition of "blocking").

<sup>127</sup> *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20671, ¶ 240.

<sup>128</sup> *Id.*

<sup>129</sup> In the *Ameritech Michigan 271* proceeding, Ameritech did not identify which interoffice trunk groups it was measuring. ALTS has proposed measuring blockage over an incumbent LEC's network by measuring trunk groups from incumbent LEC end office to incumbent LEC end office, incumbent LEC end office to local tandem, and incumbent LEC end office to access tandem. See ALTS Jan. 14 *Ex Parte* at 16.

Trunk Transport Group Performance Data," Issue 2, September 1990. While we recognize that this report was intended to provide information about common trunk blockage to interexchange carriers (IXCs), we seek comment on whether this report can provide useful information for competing carriers as well. We also seek comment on whether incumbent LECs generally use this common trunk data report and whether all the measurements in the report are applicable to competing carriers. Additionally, we seek comment on the utility of requiring incumbent LECs to report on blockage on common trunks within their networks that connect to a point of interconnection, as well as on interoffice common trunks that are not connected to a point of interconnection. We seek comment on an incumbent LEC's ability to separately measure and report on blockage over these two types of common trunks (*i.e.*, those trunk groups that connect to a point of interconnection and those that do not) and whether information about these two types of trunk groups will assist a competing carrier in determining whether it is receiving nondiscriminatory interconnection.

101. Finally, we seek comment on whether an incumbent LEC must measure call completion rates to demonstrate that it is satisfying the statutory requirements of section 251(c)(2). In measuring call completion rates, an incumbent LEC would compare the percentage of calls completed by incumbent LEC customers to competing carrier customers, relative to the percentage of calls completed by incumbent LEC customers to other incumbent LEC customers. In the *Ameritech Michigan 271 Order*, the Commission noted that data regarding the rate of call completion would be useful in assessing the quality of interconnection.<sup>130</sup> We seek comment on the utility of using this measurement to gauge the quality of interconnection provided by an incumbent LEC and on the benefits of using the call completion measurement in addition to, or instead of, the trunk blockage measurement. We also seek comment on the additional costs or burdens that such a measurement would impose on incumbent LECs.

#### **b. Collocation**

102. We tentatively conclude that incumbent LECs must measure certain aspects of providing collocation arrangements, as listed in Appendix A. Section 251(c)(6) and our rules require incumbent LECs to provide physical and virtual collocation as a means of interconnection or access to unbundled network elements.<sup>131</sup> Consequently, we tentatively

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<sup>130</sup> See *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20663, ¶ 224, and 20669, ¶ 235.

<sup>131</sup> See 47 U.S.C. § 251(c)(6) and 47 C.F.R. §§ 51.321, 51.323. Physical collocation enables competing carriers to place their equipment in the incumbent LEC's central office, in order to gain access to network elements and/or interconnect with the incumbent LEC's network. Physical collocation also allows competing carriers physical access to their designated space in the incumbent LEC's central office to install, maintain, and repair their equipment. See *Local Competition First Report and Order*, 11 FCC Rcd at 15784-85, ¶ 559 and n. 1361. Under a virtual collocation arrangement, competing carriers can designate equipment for their use in order to gain access to network elements and/or interconnect with the incumbent LEC's network. In contrast to physical collocation, competing carriers do not have physical access to their equipment in a virtual collocation arrangement. *Id.*

conclude that incumbent LECs must provide measurements concerning their provision of collocation facilities to competing carriers, including the response time for initial requests for collocation. We also tentatively conclude that this measurement must be disaggregated between virtual and physical collocation arrangements. The provision of collocation arrangements involves several steps: 1) the initial query by a competing carrier regarding space for collocation, and the incumbent LEC's response to that query; 2) the actual ordering of the collocation arrangement by the competing carrier; and 3) the completion of that arrangement by the incumbent LEC. We tentatively conclude that incumbent LECs must provide the following measurements: 1) Average Time to Respond to a Collocation Request; 2) Average Time to Provide a Collocation Arrangement; and 3) Percentage of Due Dates Missed with respect to the provision of collocation arrangements. We seek comment on the utility of these proposed measurements.

103. We tentatively conclude that the Average Time to Respond to a Collocation Request must be determined by computing the elapsed time from the incumbent LEC's receipt of a request for collocation by a competing carrier to the time the incumbent LEC responds to such a request.<sup>132</sup> The Average Time to Provide a Collocation Arrangement must be calculated from the time that the competing carrier submits an order for a collocation arrangement to the time that the arrangement is made available to the competing carrier. Finally, an incumbent LEC must calculate the Percentage of Due Dates Missed by comparing the number of times it missed a committed date for providing collocation facilities to the total number of confirmed due dates for collocation arrangements during the reporting period. We also tentatively conclude that incumbent LECs must disaggregate these measurements by virtual and physical collocation arrangements. We seek comment on these tentative conclusions.

## V. REPORTING PROCEDURES

104. We also propose model procedures to assist states considering how performance measurements should be reported. These model reporting procedures are intended to facilitate access by competing carriers and states to the measurements produced by the incumbent LECs so that carriers and states can determine whether incumbent LECs are satisfying their statutory obligations pursuant to section 251.<sup>133</sup> This section discusses proposals regarding: (1) who should receive the reports; (2) the frequency of reports; and (3) auditing procedures.

105. In considering these issues, we believe that there are two important objectives. First, an incumbent LEC should provide sufficient information to competing carriers or states so that they can determine whether an incumbent is complying with the nondiscrimination and just

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<sup>132</sup> A response to a request for collocation includes, for example, a determination of space availability, the price for such collocation, and other factors necessary to allow a competing carrier to decide whether to proceed with the order for the collocation arrangement.

<sup>133</sup> See 47 U.S.C. § 251(c)(3) and (c)(4).

and reasonable requirements of section 251.<sup>134</sup> If a competing carrier believes that the reports demonstrate a violation of section 251, the carrier may use the reports as a basis for discussions with the incumbent LEC or to pursue remedial action before a regulatory body or court. At the same time, we are equally mindful of the costs associated with collecting this data and generating these reports. Therefore, the proposed procedures are intended to minimize to the extent possible the costs and burdens associated with complying with the reporting requirements. We seek comment on whether these proposals meet these two objectives. We also seek comment on any other procedures that may enhance access to this information at minimum cost and burden to incumbent LECs.

#### A. Receipt of Reports

106. We seek comment on who should receive these reports from the incumbent LECs on a regular basis. We believe that the main purpose of these performance reports is to permit competing carriers to determine whether they are obtaining access consistent with the requirements of section 251. We further believe that it is the responsibility of the competing carriers to review the reports, assess whether there is discrimination or failure to provide a reasonable opportunity to compete, and determine whether any such discrimination or other problem is competitively significant. Competing carriers can then decide whether to try to resolve the problem through discussions with the incumbent LEC, or whether some other action, such as filing a complaint, is required. We tentatively conclude, therefore, that only those carriers that already obtain services or facilities from the incumbent LEC through an interconnection agreement,<sup>135</sup> or under a statement of generally available terms,<sup>136</sup> should have the opportunity to receive reports. Commenters that believe that other groups of carriers, such as those considering whether to enter the market, should also receive reports should explain why the benefits of their receiving reports outweigh the costs to incumbent LECs.

107. In order to minimize unnecessary costs or burdens for incumbent LECs, we further conclude that an incumbent LEC should provide reports to an individual competing carrier only after receiving a request from the competing carrier for such reports. We believe that this process will enable a competing carrier to obtain readily the performance reports and data that it wants without requiring incumbent LECs to prepare reports unnecessarily for carriers that do not want them.

108. States may also have an interest in reviewing performance reports. With respect to whether state officials should receive a copy of the reports that we propose in this Notice, we tentatively conclude that individual states can best assess whether they wish to receive the reports. Depending upon the competitive developments in their markets, states may want to

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<sup>134</sup> *See id.*

<sup>135</sup> *See* 47 U.S.C. § 252(a)-(b).

<sup>136</sup> *See* 47 U.S.C. § 252(f).

monitor and compare the quality of access that incumbent LECs provide competing carriers. States are therefore in the best position to determine whether they need to review the reports on a regular basis. While this Commission may not need to review reports on a regular basis, we note that the Commission could obtain the reports upon request.

109. Finally, we seek comment on whether reports should be filed with a central clearinghouse so that state commissions, other competing carriers, or the general public can review an incumbent LEC's performance in different states. An individual state might want this information to compare an incumbent LEC's performance in its state with performance in other states. Such comparisons may help those states that wish to establish service quality standards, for example. Competing carriers might also want to compare the services and access to OSS they receive from an incumbent LEC with that provided to competing carriers in other states. We seek comment on the benefits and costs involved in developing such a clearinghouse. We also seek comment on what entity should act as a clearinghouse, *e.g.*, a coalition of regulators (such as NARUC) or another organization.

110. We recognize that parties may be concerned about disclosing confidential measurement results if results particular to an incumbent LEC or to an individual competing carrier are reported broadly. An incumbent LEC may not wish to divulge measurement results relating to the provision of services to itself or to its local exchange affiliates. A competing carrier may also have concerns about the disclosure of its individual measurement results, which will show the manner in which it receives services and facilities from the incumbent LEC and also which services and facilities it receives. A number of competing carriers have proposed, for example, that incumbent LECs report individual competing carrier results only to that competing carrier so that other competing carriers do not obtain competitive information.<sup>137</sup> Under this proposal, other competing carriers and the general public would have access only to aggregate competing carrier measurement results. We seek comment on the need to keep individual competing carrier information confidential and on the proposal that only aggregate measurement results be made available to other competing carriers or to the general public.

111. With respect to incumbent LEC measurement results, we believe that individual competing carriers must have access to incumbent LEC results so that they can make a meaningful comparison with their own data. We seek comment, however, on whether incumbent LEC measurement results should be protected from disclosure to non-requesting competing carriers or to the general public. If regulatory agencies request incumbent LEC and competing carrier measurement results, we ask parties to comment on whether protective measures are necessary and to propose appropriate mechanisms to keep those results confidential. Similarly, we ask parties to comment on whether competing carriers that receive

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<sup>137</sup> See, *e.g.*, MCI Comments at 8; WorldCom Comments at 7; LCUG proposal at 5.

incumbent LEC measurement results should be required to limit their use and disclosure of those results and to propose appropriate mechanisms for guarding against improper use.<sup>138</sup>

### **B. Frequency of Reports**

112. We also seek comment on how frequently incumbent LECs should file performance reports with competing carriers once requested by those carriers. A number of competing carriers have requested that incumbent LECs file performance reports on a monthly basis.<sup>139</sup> We recognize the value of reporting on such a frequent basis, especially while competition is still developing, because monthly reporting would enable competing carriers to detect any discriminatory conduct soon after it occurred. On the other hand, we recognize that there could be significant costs attached to monthly reporting, as opposed to quarterly or less frequent reporting. We, therefore, seek comment on the costs and benefits of requiring monthly reporting, as opposed to reporting on a less frequent basis, such as quarterly. We also seek comment on how quickly an incumbent LEC should provide a performance report after it is requested.

### **C. Auditing Requirements**

113. As part of a performance monitoring mechanism, several competing carriers proposed that competing carriers be given a reasonable opportunity to conduct audits of performance reports.<sup>140</sup> These commenters have stated that periodic auditing of the performance reports is necessary to ensure that incumbent LECs are using appropriate methodologies and are accurately reporting the required measurements.<sup>141</sup> We believe, however, that some audits may be unnecessary or unduly burdensome for the incumbent LEC. We therefore seek comment on the need to conduct such audits as part of a model performance monitoring scheme. We also seek comment on the types of audits that might impose undue burdens. Finally, we seek comment on mechanisms that will permit competing carriers to conduct audits, when necessary,

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<sup>138</sup> The Commission created a Model Nondisclosure Agreement, for example, to be used by parties seeking access to confidential cost models and associated materials filed in support of ONA tariffs. *See In the Matter of Commission Requirements for Cost Support Material To Be Filed With Open Network Architecture Access Tariffs*, Memorandum Opinion and Order, 7 FCC Rcd 1526 (1992).

<sup>139</sup> *See, e.g.*, LCI/CompTel Petition at 12-13; AT&T Comments at 24; Sprint Comments at 10; TRA Comments at 4-5; WorldCom Comments at 6; Excel Comments at 12.

<sup>140</sup> *See, e.g.*, LCUG proposal at 6; AT&T Comments at 28-29; MCI Comments at 8; WorldCom Comments at 9.

<sup>141</sup> *See, e.g.*, MCI Comments at 8.



while protecting incumbent LECs from unduly burdensome or unnecessary audits.<sup>142</sup> In addressing this issue, we ask parties to comment on who should pay for the costs of the audit.

114. In addition to audits, LCUG also proposed that an incumbent LEC should make available, at a competing carrier's request, the raw data underlying a report at the same time it provides the performance report to that competing carrier.<sup>143</sup> The raw data is that data captured by the incumbent LEC, such as the individual stop and start times, that are used to produce the measurement results. The competing carrier could use this data to validate the incumbent LEC's performance measurements or to perform additional statistical tests to determine whether there is a statistically significant difference in the way in which an incumbent LEC provisions itself compared with the way in which it provisions competing carriers.<sup>144</sup> We seek comment on whether model reporting procedures should include providing access to raw data at this initial stage, rather than in the context of an audit. We recognize that there may be additional burdens or costs to the incumbent LEC in providing the raw data to a competing carrier and that incumbent LECs may wish to keep data regarding services and facilities they provide to themselves confidential.<sup>145</sup> We seek comment on the types and magnitudes of these burdens or costs. To the extent that commenters support regular provision of the raw data, they should explain why the advantages of obtaining such data outweigh these costs.

115. Finally, we seek comment on how long the incumbent LEC should retain the underlying data. One party proposed that an incumbent LEC retain the data for two years.<sup>146</sup> We seek comment on whether this is an appropriate period for retention, or whether such a requirement is excessive if a competing carrier is also permitted to obtain the raw data on a regular basis along with the report.

## VI. EVALUATION OF PERFORMANCE MEASUREMENTS

116. As noted above, we believe that performance measurements and reporting requirements are necessary to ensure that incumbent LECs provide interconnection and access to OSS functions and OS/DA in compliance with the statutory requirements of section 251 of the

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<sup>142</sup> AT&T has proposed, for example, that incumbent LECs be able to limit the number of audits conducted by a competing carrier and require that competing carriers coordinate audits. *See* AT&T Comments at 28-29.

<sup>143</sup> LCUG proposal at 5.

<sup>144</sup> *See* Appendix B for discussion of statistical analysis of data. In that discussion, we also seek comment on how the data should be formatted to facilitate statistical testing.

<sup>145</sup> *See also supra* ¶¶ 110, 111, discussing confidentiality concerns associated with the disclosure of an individual competing carrier's and incumbent LEC's measurement results.

<sup>146</sup> *See* AT&T Comments at 29 and Reply Comments at 17.

Communications Act.<sup>147</sup> As a practical matter, we expect that various parties will use the information contained in the performance measurement results as bases for determining whether an incumbent LEC is in compliance with the applicable statutory standards. For example, competing carriers may review the measurements to determine whether the incumbent LEC is providing access in a nondiscriminatory manner. In making this determination, parties will inevitably evaluate the results of these measurements using some preestablished set of criteria to determine whether the statutory requirements have been satisfied.

117. Although few parties raised the issue in the initial round of comments, several carriers have recently raised questions about how regulators and competing carriers can use the data generated by performance measurements to evaluate whether an incumbent LEC has adhered to its statutory obligations.<sup>148</sup> We seek comment on whether we should recommend use of a uniform evaluation process that relies on objective criteria. We seek comment on whether such an approach will inject more consistency and predictability into determining whether an incumbent is meeting its statutory obligations. We believe that bringing more consistency and predictability to the evaluation process is supported by the pro-competitive goals of the 1996 Act and would benefit both incumbent LECs and competing carriers.

118. As described above, incumbent LECs must comply with various statutory requirements in their provision of interconnection and access to OSS functions and operator services and directory assistance.<sup>149</sup> We believe that a number of methods for evaluating performance measurements could be used to make an objective determination as to whether an incumbent LEC is meeting these statutory requirements. In particular, the few parties that have addressed this issue have proposed using statistical analysis or performance benchmarks as evaluation methodologies.<sup>150</sup>

119. We seek comment on the use of statistical analysis as a method for evaluating an incumbent LEC's compliance with the statutory requirements. In particular, we discuss the merits of different forms of statistical analysis in Appendix B. We ask that commenters review the discussion in Appendix B and respond to the questions contained in that appendix. Among other issues raised in Appendix B, we seek comment on whether statistically significant differences that exist between an incumbent LEC's measurement results and the measurement results for competing carriers should necessarily indicate that an incumbent LEC is not meeting its statutory obligations. If not, we seek comment on what additional criteria could be used to

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<sup>147</sup> For a discussion of these statutory requirements, *see supra* ¶¶ 28, 29, 30.

<sup>148</sup> *See, e.g.*, Letter from Amy G. Zirkle, MCI, to Magalie Roman Salas, Secretary, FCC (filed Nov. 21, 1997) (MCI Nov. 21 *Ex Parte*); Letter from Frank S. Simone, AT&T, to Magalie Roman Salas, Secretary, FCC (filed Feb. 3, 1998) (AT&T Feb. 3 *Ex Parte*).

<sup>149</sup> For a discussion of these statutory requirements, *see supra* ¶¶ 28, 29, 30.

<sup>150</sup> *See, e.g.*, AT&T Feb. 3 *Ex Parte* (proposing use of statistical analysis); MCI Nov. 21 *Ex Parte* (proposing use of performance standards).

determine when statistically significant differences indicate noncompliance with statutory obligations.

120. If statistical analysis is used in evaluating an incumbent LEC's performance, we seek comment on whether the incumbent LEC should perform the statistical analysis. We recognize that parties' comments may depend upon the ability to audit such calculations.<sup>151</sup> For example, if competing carriers can audit the calculations, they may be willing to have an incumbent LEC perform the analysis. We therefore seek comment on the utility of permitting auditing of any statistical analysis regardless of which party conducts the analysis.

121. A possible use of statistical analysis in evaluating an incumbent LEC's performance in meeting the statutory requirements is to set a threshold standard for judging whether an incumbent LEC's performance warrants further regulatory scrutiny, (*i.e.*, to establish a "safe harbor"). For example, if an incumbent LEC's performance meets a specified threshold (*i.e.*, falls within the safe harbor range), one could conclude that insufficient evidence of discrimination existed to justify further inquiry. Regulatory bodies could then devote their resources to enforcement actions where incumbent LEC performance did not fall within the threshold. Such a procedure would give incumbent LECs a safe harbor, with the assurance that they would not be subject to further regulatory review with respect to measurements which fell within the threshold range. We also seek comment on the utility of establishing such safe harbor schemes, and whether any of the statistical tests described in Appendix B should be used to establish such safe harbors.

122. In addition to the use of statistical analysis, we also seek comment on the utility of performance benchmarks or standards in evaluating an incumbent LEC's adherence to its statutory obligations. Specifically, we seek comment on the situations in which performance benchmarks should apply.<sup>152</sup> We also seek comment on any other methodologies that would further our goal of injecting more consistency and predictability into determining whether an incumbent is meeting its statutory obligations.

123. Finally, we note that some OSS functions and related activities have a retail analog which allow a direct comparison between the performance an incumbent LEC provides to itself and the performance it provides to competing carriers.<sup>153</sup> Other OSS functions and related

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<sup>151</sup> We also seek comment in Part V.C. *infra*. on the ability to audit the data and methodologies underlying the performance measurements.

<sup>152</sup> In Part VII.A. *infra*, we tentatively conclude that it is premature to develop specific standards until after we have considered how they might be used and have reviewed actual data.

<sup>153</sup> In the *Ameritech Michigan 271 Order*, the Commission concluded that the OSS functions associated with pre-ordering, ordering, and provisioning of resold services, and repair and maintenance for both resold services and unbundled network elements all have retail analogs. *Ameritech Michigan 271 Order*, 12 FCC Rcd at 20619, ¶ 140.

activities have no direct retail analog and therefore do not allow such a direct comparison. We seek comment on what methods for evaluation should apply to each of these situations.

## VII. OTHER ISSUES RAISED BY PETITIONERS

124. In developing model rules, we tentatively conclude that it is not appropriate at this time to undertake certain additional actions requested by petitioners. These additional actions include establishing performance standards, technical standards for OSS interfaces, and remedial measures for non-compliant incumbent LECs. For the reasons discussed below, we decline to pursue these measures at present and seek comment on this tentative conclusion.

### A. Performance Standards

125. Several competing carriers, including LCUG, urge the Commission to initiate a rulemaking to establish performance standards or benchmarks.<sup>154</sup> In discussing possible evaluation criteria above,<sup>155</sup> we sought comment on the merits of using performance standards to evaluate whether incumbent LECs comply with their obligations under section 251.<sup>156</sup> Although we believe that it is appropriate to consider how performance standards might be used, we tentatively conclude that it is premature at this time for us to propose specific standards. We understand that several states are considering performance standards and encourage states in these efforts. Nevertheless, we do not believe that we have developed a sufficient record to consider proposing performance standards at this time. There is little in the current record to explain how such standards would be used as a method of evaluating compliance with statutory requirements. Moreover, any model performance standards should be grounded in historical experience to ensure that such standards are fair and reasonable. Because our present record lacks the necessary historical data, we believe that it would be premature for us to develop standards at this point. We tentatively conclude, therefore, that we should postpone consideration of performance standards until parties have had the opportunity to consider how they would be used and have been able to review actual performance data over a period of time. We seek comment on this tentative conclusion.

### B. Technical Standards

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<sup>154</sup> LCUG has urged the Commission to develop performance standards that would apply whenever a reasonable incumbent LEC analog does not exist. *See* LCUG proposal at 5. MCI has also asked the Commission to develop performance standards that would apply to all OSS functions, whether or not a retail analog exists, as a means of determining whether an incumbent LEC is providing "just and reasonable" access. *See* MCI Nov. 21 *Ex Parte*.

<sup>155</sup> *See supra* Part VI.

<sup>156</sup> Section 251(c)(2), (3), and (4), 47 U.S.C. § 251(c)(2), (3), (4), require that the incumbent LEC provide nondiscriminatory and just and reasonable access.

126. Certain competing carriers also ask the Commission to consider establishing technical standards for OSS interfaces. These carriers argue that, without standardized OSS interfaces, they must develop multiple interface systems, involving great cost and administrative complexity, in order to communicate with the wide variety of legacy systems and interfaces used by the incumbent LECs. Several competing carriers ask that the Commission immediately undertake a rulemaking to establish technical standards.<sup>157</sup> Others ask the Commission to take action only if industry fora do not make progress in establishing OSS standards.<sup>158</sup>

127. We tentatively conclude that it is not necessary at this time for us to address the issue of uniform technical standards for OSS interfaces. We agree that access to OSS through the use of standardized interfaces could facilitate entry into local markets, and we urge incumbent LECs and industry fora to establish uniform standards for such gateway systems as quickly as possible. We note, however, that certain industry bodies, in particular the committees working under the aegis of the Alliance for Telecommunications Industry Solutions (ATIS), are already developing guidelines for electronic interfaces. In fact, most of the commenters, including LCI and CompTel, have recommended that the Commission rely on these committees' efforts to formulate standards for OSS interfaces before initiating action to develop standards. There is little evidence in the record of delay on the part of these committees. To the contrary, ATIS-sponsored committees, such as the Electronic Data Interchange (EDI), Electronic Communications Implementation Committee (ECIC), and Ordering and Billing (OBF) Committees have made significant progress in developing guidelines for electronic OSS interfaces.<sup>159</sup>

128. We therefore tentatively conclude that, at least for the time being, these committees provide the appropriate fora to develop guidelines for electronic interfaces. Participants in these groups already have the necessary technical expertise on these issues. Moreover, these committees are open to all industry participants. Incumbent LECs and competing carriers, therefore, should be able to participate in developing OSS interface standards that are mutually satisfactory and technically and financially feasible. We welcome comment, however, on any concerns associated with relying on industry bodies to create industry standards.<sup>160</sup>

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<sup>157</sup> See, e.g., ACSI Comments at 7; Excel Comments at 14-15; MidCom Reply Comments at 3-5.

<sup>158</sup> See, e.g., LCI/CompTel Petition at 22; AT&T Comments at 34-35; Bell Atlantic/NYNEX Comments at 2-3; BellSouth Comments at 20; CompTel Comments at 8; GTE Comments at 4-5; LCI Comments at 6; ITTA Comments at 5-6; MCI Comments at 14; Sprint Comments at 2-3.

<sup>159</sup> These committees have already established an ordering interface standard for most resale and unbundled network element categories, a maintenance and trouble reporting interface standard, and a standard for the billing interface. ATIS's committees are also in the process of developing a standard for a pre-ordering interface. See ATIS, Summary of Industry Guidelines for Operations Support Systems Functions (March 11, 1998).

<sup>160</sup> Midcom has stated, for example, that not all segments of the industry can or do participate in formulating standards in industry fora. Smaller carriers, such as Midcom, may not have the resources to participate. Midcom

129. We recognize that compliance with industry standards developed through ATIS is voluntary and that not all incumbent LECs may readily comply with these standards. We seek comment on whether, under the model rules, incumbent LECs should implement these technical standards for OSS interfaces within a certain time from the finalization of a standard through the ATIS committees. This would mean that an incumbent LEC would need to provide OSS interfaces meeting the ATIS standards for those requesting carriers that choose to use them. In the *Bell Atlantic/NYNEX Order*, for example, the Commission required Bell Atlantic/NYNEX to "undertake all commercially reasonable efforts" to implement each technical standard or guideline adopted through ATIS for OSS interfaces within six months from its final adoption through ATIS.<sup>161</sup> We seek comment on whether our model rules should impose a similar deadline on all incumbent LECs. With respect to existing industry standards, we also seek comment on whether we should recommend, as part of the model rules proposed herein, that these standards be implemented within a certain time, such as six months, from the time that a state adopts the model rules.<sup>162</sup> We seek comment on whether a six-month implementation period is feasible, or whether some other time frame for complying with existing and future standards would be more suitable.

### C. Enforcement Mechanisms

130. We also tentatively conclude that it is premature to propose model enforcement mechanisms for violations of OSS requirements. Most competing carriers proposed that the Commission consider monetary penalties and injunctive measures for incumbent LECs that fail to comply with OSS reporting requirements or performance standards.<sup>163</sup> We do not think that proposing model enforcement mechanisms is appropriate since our focus, at this initial stage, is on issuing guidelines for performance measurements and reporting procedures.

## VIII. SMALL AND MIDSIZED LECs

131. We seek comment on whether the proposed model performance measurements and reporting requirements will impose particular costs or burdens on small, rural, or midsized incumbent LECs. We seek comment on any modifications that should be considered in issuing guidelines in this area. We recognize, for example, that the proposed reporting requirements may require incumbent LECs to modify existing computer systems to collect the necessary data. We also recognize there may be a certain level of expense involved in generating performance measurements and statistical analyses, if applicable. We therefore seek comment on the

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Reply Comments at 3-5.

<sup>161</sup> *Bell Atlantic/NYNEX Merger Order*, 12 FCC Rcd at 20071-72, ¶ 183.

<sup>162</sup> *Id.*

<sup>163</sup> *See, e.g.*, ALTS Comments at 16; AT&T Comments at 31-32; LCI Comments at 10; MCI Comments at 11; Pilgrim Comments at 9-10; WorldCom Comments at 12-13.

expenses involved with the proposed guidelines and the particular burdens they would impose on small, rural, or midsized LECs, if any. We also seek comment on how the proposed model rules should be modified to take into account any particular concerns of these LECs. For example, certain incumbent LECs may believe that the proposed guidelines should be tailored to meet circumstances relating to the areas in which small, rural or midsized LECs are located.

## **IX. PROCEDURAL MATTERS**

### **A. Ex Parte Presentations**

132. This matter shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.<sup>164</sup> Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented is generally required.<sup>165</sup> Other rules pertaining to oral and written presentations are set forth in Section 1.1206(b) as well.

### **B. Initial Paperwork Reduction Act Analysis**

133. This Notice contains either a proposed or modified information collection. As part of its continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this Notice, as required by the Paperwork Reduction Act of 1995, Public Law No. 104-13. Public and agency comments are due at the same time as other comments on this Notice; OMB comments are due 60 days from date of publication of this Notice in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

### **C. Initial Regulatory Flexibility Certification**

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<sup>164</sup> See Amendment of 47 C.F.R. § 1.1200 et seq. Concerning Ex Parte Presentations in Commission Proceedings, GC Docket No. 95-21, Report and Order, 12 FCC Rcd 7348, 7356-57, ¶ 27 (citing 47 C.F.R. § 1.1204(b)(1)) (1997).

<sup>165</sup> See 47 C.F.R. § 1.1206(b)(2), as revised.

134. As required by the Regulatory Flexibility Act (RFA),<sup>166</sup> the Commission has prepared the present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in the Notice of Proposed Rulemaking (NPRM) on Performance Measurements and Reporting Requirements for Operations Support Systems, Interconnection, and Operator Services and Directory Assistance. Written public comments are requested on the IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the NPRM provided below in Part IX. D. The Commission will send a copy of the NPRM, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.<sup>167</sup> In addition, the NPRM on Performance Measurements and Reporting Requirements for Operations Support Systems, Interconnection, and Operator Services and Directory Assistance and IRFA (or summaries thereof) will be provided in the Federal Register.<sup>168</sup>

135. *Need for and Objectives of the Proposed Rule.* We are issuing the NPRM specifically seeking comment on and presenting tentative conclusions on proposed performance measurements and reporting requirements intended to measure whether an incumbent LEC is providing nondiscriminatory access to operations support services (OSS), interconnection, and operator services and directory assistance (OS/DA). We also seek comment on the use of performance standards and other methods to evaluate whether an incumbent LEC is complying with its statutory obligations under section 251. Finally, although we do not set forth proposals in this area, we seek comment on issues related to OSS interface standards and remedial provisions. Based on the comments received in the NPRM, we may issue new rules.

136. *Legal Basis.* The legal basis for any action that may be taken pursuant to the NPRM is contained in sections 1, 2, 4, 201, 202, 222, 251, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154, 201, 202, 222, 251, and 303(r).

137. *Description and Estimates of the Number of Small Entities Affected by the Notice of Proposed Rulemaking.* 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 our rules.<sup>169</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."<sup>170</sup> For the purposes of this order, the RFA defines a "small business" to be the same as a "small business concern"

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<sup>166</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. ¶ 601 *et seq.*, has been amended by the Contract with America Advancement Act of 1996, Pub. L. No. 104-131, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

<sup>167</sup> See 5 U.S.C. § 603(a).

<sup>168</sup> See *id.*

<sup>169</sup> 5 U.S.C. §§ 603(b)(3), 604(a)(3).

<sup>170</sup> 5 U.S.C. § 601(6).



under the Small Business Act, 15 U.S.C. § 632, unless the Commission has developed one or more definitions that are appropriate to its activities.<sup>171</sup> 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).<sup>172</sup> The SBA has defined a small business for Standard Industrial Classification (SIC) category 4813 (Telephone Communications, Except Radiotelephone) to be an entity that has no more than 1,500 employees.<sup>173</sup>

138. Although affected incumbent local exchange carriers (ILECs) may have no more than 1,500 employees, we do not believe that such entities should be considered small entities within the meaning of the RFA because they either are dominant in their field of operations or are not independently owned and operated, and are therefore by definition not "small entities" or "small business concerns" under the RFA. Accordingly, our use of the terms "small entities" and "small businesses" does not encompass small incumbent LECs. Out of an abundance of caution, however, for regulatory flexibility analysis purposes, we will separately consider small ILECs within this analysis and use the term "small incumbent LECs" to refer to any incumbent LECs that arguably might be defined by SBA as "small business concerns."<sup>174</sup>

139. *Total Number of Telephone Companies Affected.* 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.<sup>175</sup> This number contains a variety of different categories of carriers, including local exchange carriers, interexchange carriers, competitive access providers, cellular carriers, mobile service carriers, operator service providers, pay telephone operators, PCS providers, covered SMR providers, and resellers. It seems certain that some of those 3,497 telephone service firms may not qualify as small entities because they are not "independently owned and operated."<sup>176</sup> For example, a PCS provider that is affiliated with an interexchange carrier 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 telephone service firms are either small entities or small incumbent LECs that may be affected by this order.

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<sup>171</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 5 U.S.C. § 632).

<sup>172</sup> 15 U.S.C. § 632.

<sup>173</sup> 13 C.F.R. § 121.201.

<sup>174</sup> 13 C.F.R. § 121.210 (SIC 4813).

<sup>175</sup> 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*).

<sup>176</sup> 15 U.S.C. § 632(a)(1).

140. *Local Exchange Carriers.* Neither the Commission nor the SBA has developed a definition of small providers of local exchange services. The closest applicable definition under the SBA's 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 we are aware appears to be the data that we collect annually in connection with the Telecommunications Relay Service (TRS).<sup>177</sup> According to our most recent data, 1,371 companies reported that they were engaged in the provision of local exchange services.<sup>178</sup> Although it seems certain that some of these carriers are not independently owned and operated, or have more than 1,500 employees, or are dominant we are unable at this time to estimate with greater precision the number of LECs that would qualify as small business concerns under the SBA's definition. Consequently, we estimate that fewer than 1,371 small providers of local exchange service are small entities or small ILECs that may be affected by this order.

141. *Description of Projected Reporting, Recordkeeping and Other Compliance Requirements.* We are seeking comment on requiring all incumbent LECs to report on all the measurements set forth in Appendix A. These proposed measurements seek to measure access provided by an incumbent LEC to all five OSS functions, as well as to interconnection and OS/DA. We also seek comment on how often incumbent LECs should provide these measurements, whether and for how long they should retain the measurement data, and whether the incumbent LEC should perform any statistical analysis of the measurement data. Finally we seek comment on reporting procedures, including: (1) whether an incumbent LEC must report separately on performance to itself, any local exchange affiliate, competing carriers in aggregate, and individual competing carriers; (2) whether an incumbent LEC should only provide performance monitoring reports to an individual competing carrier after receiving a request from the competing carrier for such reports on a regular basis; (3) how frequently an incumbent LEC should provide performance monitoring reports; (4) whether to accord confidential treatment to individual competing carrier information and incumbent LEC retail information; (5) whether an incumbent LEC should make available upon the request of a competing carrier or regulator raw data underlying a report; and (6) whether competing carriers should be entitled to ask for and obtain audits of the data underlying performance reports.

142. *Steps Taken to Minimize Significant Economic Impact on Small Entities and Significant Alternatives Considered.* In Part VIII of the NPRM, we seek comment on the expenses involved with the proposed reporting requirements and the particular burdens they would impose on small, rural, or midsized LECs, if any. In Part VIII, we also seek comment on possible alternatives to these proposed measurements and reporting requirements. We note that certain incumbent LECs might propose ways in which the Commission should tailor its proposals to meet circumstances relating to the areas in which small, rural or midsized LECs are located.

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<sup>177</sup> Federal Communications Commission, *Telecommunications Industry Revenue: TRS Fund Worksheet Data*, Figure 2 (*Number of Carriers Paying into the TRS Fund by Type of Carrier*) (Nov. 1997).

<sup>178</sup> *Id.*

143. *Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rule.*  
None.

#### **D. Comment Filing Procedures**

144. Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on or before June 1, 1998, and reply comments on or before June 22, 1998. To file formally in this proceeding, you must file an original and four copies of all comments, reply comments, and supporting comments. Please note, however, that comments and reply comments may be filed electronically, as described below. If you want each Commissioner to receive a personal copy of your comments, you must file an original and nine copies. Comments and reply comments should be sent to Office of the Secretary, Federal Communications Commission, 1919 M Street, N.W., Room 222, Washington, D.C., 20554, with a copy to Janice Myles of the Common Carrier Bureau, 1919 M Street, N.W., Room 544, Washington, D.C., 20554. Parties should also file one copy of any documents filed in this docket with the Commission's copy contractor, International Transcription Services, Inc., 1231 20th Street, N.W., Washington, D.C., 20036. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center, 1919 M Street, N.W., Room 239, Washington, D.C., 20554.

145. Comments and reply comments must include a short and concise summary of the substantive arguments raised in the pleading. Comments and reply comments must also comply with section 1.49 and all other applicable sections of the Commission's rules.<sup>179</sup> We also direct all interested parties to include the name of the filing party and the date of the filing on each page of their comments and reply comments. All parties are encouraged to utilize a table of contents, regardless of the length of their submission.

146. Parties are also strongly encouraged to submit comments and reply comments on diskette. These diskettes may be used to post parties' comments on the Internet. Such diskette submissions would be in addition to and not a substitute for the formal filing requirements addressed above. Parties submitting diskettes should submit them to Janice Myles of the Common Carrier Bureau, 1919 M Street, N.W., Room 544, Washington, D.C., 20554. Such a submission should be on a 3.5 inch diskette formatted in an IBM compatible form using WordPerfect 5.1 for Windows software. The diskette should be submitted in "read only" mode. The diskette should be clearly labeled with the party's name, proceeding, Docket No., type of pleading (comment or reply comments), date of submission, and filename with the "\*.wp" extension. The diskette should be accompanied by a cover letter.

147. You may also file informal comments or an exact copy of your formal comments electronically via the Internet. To file electronic comments in this proceeding, you may use the electronic filing interface available on the FCC's World Wide Web site at

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<sup>179</sup> See 47 C.F.R. § 1.49.

<<http://dettifoss.fcc.gov:8080/cgi-bin/ws.exe/beta/ecfs/upload.hts>>. Only one copy of electronically-filed comments must be submitted. Further information on the process of submitting comments electronically is available at that location and at <<http://www.fcc.gov/e-file/>>.

## **X. ORDERING CLAUSES**

148. Accordingly, IT IS ORDERED that, pursuant to Sections 1, 2, 4, 201, 202, 222, 251, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 152, 154, 201, 202, 222, 251, and 303(r), a NOTICE OF PROPOSED RULEMAKING IS ADOPTED.

149. IT IS FURTHER ORDERED that the Commission's Office of Public Affairs, Reference Operations Division, SHALL SEND a copy of this NOTICE OF PROPOSED RULEMAKING, including the Initial Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration, in accordance with the Regulatory Flexibility Act, *see* 5 U.S.C. § 605(b).

April 17, 1998

**Separate Statement  
of  
Commissioner Susan Ness**

*Re: Performance Measurements and Reporting Requirements for Operational Support Systems, Interconnection, and Operator Services and Directory Assistance*

I am pleased that the Commission is at long last responding to the requests from LCI, Comptel, and the National Association of Regulatory Utility Commissioners for a rulemaking on performance measures for operational support systems ("OSS") of incumbent local exchange carriers ("ILECs").

A primary objective of the Telecommunications Act of 1996 was to facilitate the emergence of competition for local communications services. The Act is designed to facilitate new entrants' use of different entry strategies, including resale, unbundled network elements, and facilities competition. Each of these strategies depends heavily on the computer systems, databases, and personnel of the ILECs. That's what "OSS" is all about.

Appropriate measurements and reporting requirements can be of considerable value in promoting successful access to OSS. This is an area where detail matters; significant disparities in any one of multiple areas of performance can seriously undermine the prospects for competition. For example, if a competitive local exchange carrier ("CLEC") can successfully order unbundled loops, ports, etc., but its new customers are less likely to be identified accurately in E911 databases, it is reasonable to expect that the CLEC may be impeded in its efforts to compete -- to say nothing of the untoward effects on the customers who do switch carriers. Or, if dial-tone service is cut over promptly from the ILEC to the CLEC, but interim number portability is commonly cut over at a different point in time, incoming calls will go astray, and again competition and consumers will suffer.

OSS measurements can capture these problems. They can assist ILECs in self-assessments, so that corrective actions can be taken before disputes arise. Alternatively, when disputes do arise, appropriate measurement data may make it easier to distinguish isolated incidents from recurrent problems.

I affirmatively support the notion of proposing guidelines or model rules instead of binding FCC rules, and I am grateful to Commissioner Powell for his leadership in advocating this approach. Guidelines express a spirit of partnership with the state commissions. This proceeding will establish a detailed record upon which the states and the FCC can proceed in

a cooperative fashion. OSS measurement guidelines should enable states to act rapidly, as now is the time when such measurements will prove to be most useful.

Measurement guidelines will enable the state commissions and the FCC to use a common framework to monitor what are, typically, regional rather than single-state systems and databases. Guidelines will also provide state commissions with the flexibility to address state-specific circumstances and needs.

It should be noted that we also have chosen at this time not to propose performance or technical standards. Carriers, in the first instance, and state commissions, in arbitrations or rulemakings, are free to establish minimum tolerance levels of performance as they see fit.

The approach we are taking today preserves this Commission's option to consider the need for national rules at a later time, if the record or experience evidences a need to do so. OSS performance, after all, is not just a matter of state interest. It relates to the *national* interest in promoting competition and, more particularly, to the ILECs' obligation, under *federal* law, to provide just, reasonable, and nondiscriminatory interconnection, unbundled network elements, and resale. But I am happy to undertake this task in a less prescriptive manner. I urge the state commissions to participate in this proceeding, separately or in combination, so that the resulting OSS measurement guidelines will be as useful as possible, and therefore likely to be widely adopted.

I also hope parties will suggest ways in which OSS performance data can be collected and evaluated on a comparative basis. In the absence of national rules for measurements and reporting, are there still means by which it will be possible to compare a carrier's performance in one state against its performance in another state? How about the performance of one carrier in one state against the performance of a different carrier in another state? Benchmarking can be a valuable way of identifying individual carriers' shortcomings. Would it make sense for OSS measurement reports to be filed with the FCC as well as with the state commissions? Or could another organization, such as NARUC, collect the data and benchmark OSS performance? I look forward to interested parties' comments on these issues.

April 16, 1998

## **DISSENTING STATEMENT OF COMMISSIONER HAROLD FURCHTGOTT-ROTH**

*Re: Performance Measurements and Reporting Requirements for Operations Support Systems, Interconnection, and Operator Services and Directory Assistance. CC Docket No. 98-56.*

I dissent from today's decision to initiate a Notice of Proposed Rulemaking into the type of performance measures and accompanying reporting requirements that should be used in evaluating an incumbent local exchange carrier's Operations Support System (OSS). I have serious reservations about the propriety of initiating this proceeding at this time, and I believe that the approach outlined here is far too regulatory.

I share my colleagues' concerns about competition and the possible effect of operation support systems on competition. I have confidence that current statutes, and Sections 251 and 252 of the Act in particular, are sufficient to address these concerns. I fear that this NPRM corrodes rather than reinforces the robust structure of the Act. This NPRM is written with the best of intentions, but I fear the consequences are large, bad, and unintended.

### **Free Markets Do Not Rely on Regulation**

In the best of worlds, consumers--by selecting higher quality services at lower prices from among competing providers--decide which businesses may enter and survive in a market and which may not. In this best of worlds, decisions between business and consumers and between businesses and other businesses are based not on regulatory constructs but upon contracts. Individuals are free to choose terms and conditions of contracts to suit their needs. One of the many great advantages of contracts over regulation is that, with contracts, individuals can obtain the specific terms and conditions to meet their specific needs rather than rely on the few generally available offerings for terms and conditions under regulation.

For most of the past century, regulators rather than consumers, made choices both about who may enter a market and about the terms and conditions of commerce. And regulators practically always chose a single provider, no competition, and narrowly regulated terms and conditions. Even where competition and private contracts were viable, regulators often insisted on using regulation rather than contract to manage transactions in telecommunications markets.

### **Section 252 Can Address OSS Issues**

The Telecommunications Act of 1996 changed the regulatory framework by removing statutory and regulatory barriers to entry. Throughout the Act are concepts of competition, deregulation, and a reliance on private contracts. Section 252, for example, establishes specific forms of contracts, interconnection agreements, as the basis for various forms of commerce

between and among telecommunications carriers. These contracts were and are to be negotiated between private parties, with State mediation and arbitration available. Contracts negotiated under Section 252 are not entirely free from regulation, but neither are they so rigid in structure that they cannot include provisions of interest to the contract parties such as OSS.

I have seen no evidence with respect to OSS that the process of negotiating private contracts with State arbitration under Section 252 is not working. To the extent that OSS is of interest to a party, it can negotiate those terms in an interconnection agreement. To the extent a party cannot successfully negotiate terms and conditions for OSS privately, it can seek State arbitration.

Has this process broken down? Perhaps there are instances, but in each case it is the State, rather than the FCC, that would seem to have the logical jurisdiction to remedy those disputes under Section 252. Even the most casual of conversations with any State Commissioner reveals that OSS issues are closely monitored and addressed by the States. There seems little clear evidence that the Section 252 process has failed either generally or specifically for the purposes of OSS.

### **FCC jurisdiction is questionable**

Even if, hypothetically, the Section 252 process has failed to address adequately OSS issues, the jurisdiction of the FCC to remedy those grievances is questionable at best. The majority proposes to institute this NPRM under Section 251. I have serious doubts regarding the timing of this initiative. It has been more than two years since the Telecommunications Act of 1996 passed and -- as the majority recognize -- several states have already commenced proceedings to develop performance measures. To the extent this guidance was requested, an earlier proceeding would have been more helpful and in compliance with the statutory time-frames.

The Commission is initiating this proceeding under Sections 251(c)(3) and (c)(4) of the Act. But the Commission's previous implementation of section 251 was successfully challenged in court. In light of the Eighth Circuit's decision in *Iowa Utilities v. FCC*,<sup>1</sup> I have reservations about the Commission's general authority to adopt any rules or regulations regarding performance measures or standards for OSS, and to initiate this proceeding at this time.<sup>2</sup> Moreover, the Eighth

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<sup>1</sup> *Iowa Utilities v. FCC*, 120 F.2d 753 (8th Cir. 1997), writ of mandamus issued sub nom. *Iowa Utilities Bd. v. FCC*, No. 96-3321 (8th Cir. 1998), petition for cert. granted Nos. 97-826, 97-829, 97-830, 97-831, 97-1075, 97-1087, 97-1099, 97-1141 (U.S. Jan. 26, 1998).

<sup>2</sup> The Eighth Circuit expressly held that the Commission's authority to prescribe and enforce regulations to implement section 251 is confined to six areas; section 251(c)(3) is not one of those enumerated sections and it is not clear that any of the six would provide sufficient authority for these OSS measurements and reporting requirements.



Circuit held that section 251(d)(1) "operates primarily as a time constraint, directing the Commission to complete expeditiously its rulemaking regarding [ ] the areas in section 251." *Iowa Utilities v. FCC*, 120 F.3d at 794. Section 251(d)(1) instructs the Commission that "[w]ithin 6 months of the date of enactment" it "shall complete all action necessary to establish regulations to implement the requirements of this section [251]". 47 USC section 251(d)(1). It has been more than more than two years since the Telecommunications Act of 1996 passed. It is questionable whether we have the authority to proceed with this Rulemaking under Section 251 at this time.

Moreover, even if the Commission had acted within the Statutory time framework of Section 251, it is questionable whether the specific details of this NPRM, national measures, standards, terms, and conditions set by a federal commission, are necessary or consistent with the combined language of Sections 251 and 252. Reading between the lines, I might easily argue that the Commission has the authority to construct national rules for OSS; but other reasonable people might reasonably observe that the phrase "operations support system" is not found in the Act, much less any reference to Commission authority to impose national rules.

Finally, sections 251 and 252 frequently refer to one another. Section 252 establishes a framework for private negotiations with State mediation and arbitration available. Presumably, there is a direct means for States, through the arbitration process, to impose OSS measures, rules, and standards as they see fit. Consequently, OSS may not be an issue in search of statutory jurisdiction.

### **Even If the FCC Has Jurisdiction, this NPRM Is Excessively Regulatory**

Even if the FCC had jurisdiction to make national rules for OSS, the approach taken in this NPRM hardly seems deregulatory. There are a total of 30 measures proposed, page upon regulatory page of measures. Is each one of these truly necessary? Do these endless pages of measures add glory or insult to the deregulatory structure of the Telecommunications Act of 1996? Surely the proposed list is a broad-ranging shopping list of possible ideas rather than a central core of measures.

Even if the list of measures were small and concise, their mere compilation begs the question: for what purpose will they be used? There are but two possible answers: standard-setting regulation and litigation. It is not clear which of the two answers would harm competition more, but it is clear that each will have corrosive effect.

Under the public interest standard, regulations should be economically efficient -- that is, the ultimate benefits of any Commission regulation should exceed its costs. These costs include the burdens associated with the requisite gathering and maintaining of accurate information, and any accompanying reporting requirements. In almost all circumstances, truly efficient regulation relies on relatively few and very simple measures. I am concerned by both the sheer number and the level of detail contained in the proposed performance measures.

This NPRM is tedious with detail. Is it really necessary to measure more than nine aspects of average response time for the pre-ordering phase alone? Do we really need to know the average reject notice interval, the average FOC notice interval, the average jeopardy notice interval, the percentage of orders in jeopardy, *and* the average completion notice interval for resale residential POTS, resale business POTS, resale specials, unbundled loops (with and without number portability), unbundled switching, unbundled local transport, combination of UNEs *and* interconnection trunks? And all this later information only satisfies one sub-category of the Ordering and Provisioning category. I fear that the proposed 12 page list of measurements and reporting requirements is too costly and far too long to be useful for efficient regulation.

I support the item's request that parties identify the difficulties in obtaining and collecting the information for a particular measurement, and whether such difficulties outweigh the benefits of reporting this information. I would go further, however, and encourage parties to comment on the sheer number of measurements, the extent to which these measures are redundant, and the level of detail proposed. In addition, I specifically ask that parties include the express costs associated with providing each portion of this information. I also encourage all parties to focus their comments on which measures would be most helpful if no more than a few were ultimately adopted in a Commission white paper. Such a focus might be particularly important in light of the fact that, under Section 251, these measures and reporting requirements would apply to all local exchange carriers -- both large and small.

What does the majority indicate about the necessity of these detailed rules? That they are necessary to replicate market forces: "In a competitive environment market forces will tend to ensure that wholesalers provide quality service to their buyers. Here, where competition is largely absent, performance measures and reporting requirements may increase incumbent LECs' incentive to comply with their statutory obligations." NPRM at 9. But any form of regulation -- no matter how detailed -- is an imperfect surrogate for full-fledged competition.

### **Even if NPRM Were not Excessively Regulatory, Threat of Litigation Will Stifle Competition**

Given the questions regarding our authority to regulate in this area raised by the *Iowa Utilities v. FCC* decision, I believe the Commission will face significant legal and political opposition as we attempt to define and possibly to establish national OSS standards before the courts have resolved these jurisdictional questions.

The prospect of legal challenges alone would not be sufficient to dissuade me from a position that otherwise has merit, but the legal challenges in this particular instance will have a debilitating effect on the removal of barriers to entry in telecommunications markets. No one should be so naive as to believe that the national measures proposed in this NPRM will not be the subject of intense litigation. I cannot predict the outcome of that litigation, but I can and do fear the shadow that that litigation will cast over efforts of new entrants to enter telecommunications markets.

There are tens of thousands of local exchanges in the United States. For each of these local exchanges, each measure proposed today provides the basis for litigation for each interconnection agreement over any arbitrary period of review. The number of combinations is literally uncountable.

The measures proposed today provide endless fields for future litigation. Any economist or statistician in the world can approach a telecommunications carrier and its eager lawyers and propose to find a deficiency in the OSS measures (interpreted as standards) of a carrier to which it is interconnected. The likelihood of finding such a deficiency is practically 100 percent. In the unlikely event that all measures are satisfactory today, one only needs to wait until tomorrow or next week or the week after to find a deficiency.

I count among my friends many economists, statisticians, and lawyers. Each has enormous opportunities for employment today without the FCC substantially expanding those prospects through this NPRM.

Make no mistake: both the threat and the reality of litigation will stifle entry into all telecommunications markets. Intense and long-lasting litigation will surround this rulemaking. That litigation will cast a shadow over all past interconnection agreements, over interconnection agreements made between now and any final court resolution of the Commission's rulemaking, and over all Section 271 applications in the same time period.<sup>3</sup> Even the threat of such litigation could cause potential entrants in many markets to pause and wonder whether the increased uncertainty created by such potential litigation raises the cost of entry too much.

Moreover, agreement-specific litigation will surround each and every interconnection agreement that fall outside of the specific measures proposed in this NPRM; similar litigation will cloud those interconnection agreements that follow the proposed measures but which inevitably have specific measures that are deemed unsatisfactory.

All of these prospects may be good for economists, statisticians, and lawyers, but are they good for businesses and consumers?

In the end, under this NPRM, it will be courts rather than consumers or even regulators who will be the final arbiters of who may enter and survive in a telecommunications market, and who may not. I have complete confidence in the courts, but they should not be burdened with making day-to-day decisions about matters that the market through competition and contracts can handle flawlessly and costlessly.

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<sup>3</sup> Although the Commission bases its authority to issue OSS performance measures on section 251 -- not section 271 -- of the Act, the adoption of such measures inevitably will affect proceedings under section 271 and, in my view, would be inconsistent with the statute's limitation on the Commission's authority to expand the checklist. *See* 47 U.S.C. § 271(d)(4).

### **An Informal Paper Would Be Preferable to an NPRM**

To the extent that the Commission ultimately adopts a white paper that outlines purely voluntary standards, some but not all of my concerns would be allayed. While still too regulatory in approach, at least no State would be compelled to adopt all of the national performance measures and reporting requirements outlined here. Thus, to the extent that they were voluntary, states could follow as much or as little of these regulations as they see fit. Nor would the Commission be bound by these proposed measures or reporting requirements. Presumably, the risk of litigation with a white paper would be substantially reduced.

But if the goal of this proceeding is merely the adoption of model guidelines that States may choose to follow as they wish, then why has the Commission proceeded with an NPRM as opposed to a Notice of Inquiry? Because the Commission may use the experience and record in this proceeding to "adopt nationally, legally binding rules in this area." NPRM, at 13.

Measures that are mere suggestions, although not binding, might be helpful particularly to some states that have not initiated their own proceeding. These guidelines may also be helpful to both the CLECs and the ILECs as common measures to use in the negotiation and arbitration process. To the extent that we can provide such suggestions and guidance, I am supportive. As recent events regarding the free airtime issue demonstrate, however, the legal distinction between an NPRM and an NOI is meaningful both politically and legally. Indeed, the benefit of proceeding with an NOI, instead of an NPRM, would be that the Commission could not adopt binding performance measures and reporting requirements as a result of that process. I remain concerned, however, that in initiating this NPRM we have expressly reserved the possibility of implementing national regulations; an action that may lead to further protracted legal challenges that will only overshadow subsequent Commission decisions.

### **Conclusion**

For all of the above reasons, I cannot support this NPRM. I share my colleagues' commitment to competition and to the Act. I believe the Act has robust language that can accommodate a wide range of unforeseen circumstances without requiring the Commission to rush in to pass new rules at every moment. This NPRM is too regulatory. It is not necessary. It will lead to endless litigation. It will not help consumers. For OSS, I believe that we should let the Act, the States, and private parties resolve the issues without having the Commission leap in with a regulatory rulemaking.

April 17, 1998

**SEPARATE STATEMENT OF COMMISSIONER MICHAEL K. POWELL**

*Re: Performance Measurements and Reporting Requirements for Operations Support Systems, Interconnection, and Operator Services and Directory Assistance (CC Docket No. 98-56).*

I write separately to underscore my support for (1) affirmatively proposing that this *Notice* result in model rules regarding performance measurements and reporting procedures that states may voluntarily adopt and (2) creating a thorough record for the purpose of crafting a comprehensive set of these measurements and procedures.

Adoption of performance measurements and reporting procedures as optional model rules is consistent with my goal of promoting regulatory efficiency. It is clear that moving to model rules is the most expeditious means for deploying sorely needed guidance to the markets and the States. In particular, given the questions regarding our authority to regulate in this area raised by the Eighth Circuit's decision in *Iowa Utilities v. FCC*, 120 F.3d 753 (8th Cir. 1997), I believe the Commission would engender significant legal and political opposition if we attempted to impose binding national rules before the courts resolve those jurisdictional questions. At the same time, I believe it is critical that the Commission respond to states and carriers that have requested guidance regarding performance measurements well before the courts are likely to reach our jurisdiction. Guidance in this area that comes months or years late will be of little use in moving the analysis already begun by the carriers, the Justice Department and some forward-thinking States to the next level. Thus, by creating a thorough record with the intention of issuing model rules regarding performance measurements in the near term, we are more likely to achieve timely, well-reasoned results and pro-competitive outcomes than we would if we attempted to impose binding national rules at this time.

In addition, by empowering the States and eliminating the potential for conflict with existing State policies, I believe the model rule approach more appropriately recognizes and, indeed, celebrates the marriage between the States and the Commission in giving birth to the pro-competitive, deregulatory environment mandated by the Act. In so doing, we shed further the misperception that somehow States will not "do the right thing" in promoting competition unless we essentially force them to. While I believe that seeking comment in this area via another procedural vehicle (such as a Notice of Inquiry) would have been more consistent with the Commission's commitment to adopt optional, rather than binding, rules, I applaud that commitment and hope that it heralds an important advance in the tenor and tactics of the agency.

Likewise, I support the creation of performance measurements and reporting procedures because they are consistent with my views about how the Commission may promote competition most effectively. As the *Notice* itself points out, performance monitoring reports should reduce the need for regulatory oversight by encouraging self-policing among carriers. Further, the information collected in these reports will hopefully afford regulators the courage to shift the

focus of their activities from prospective, prophylactic regulation to vigorous enforcement, as in the antitrust law context.

Of course, performance measurements and reporting procedures that are unnecessarily detailed would impose undue burdens on incumbent local carriers without commensurate benefits for competition. Thus, I support the goal stated in the *Notice* of balancing these benefits and burdens, and I would endorse wholeheartedly the adoption of less detailed or burdensome measurements and reporting procedures than are proposed here if doing so would still promote competition and achieve the statutory requirement of nondiscrimination.

In closing, I wish to thank the able staff of the Common Carrier Bureau, as well as the industry, for their diligence over the last several months in contributing to the proposals and questions contained in the *Notice*. I firmly believe that, if we continue to work hard and to be mindful of some of the considerations identified here and in the *Notice* itself, we will ultimately enable the American consumer to reap substantial rewards in the form of deregulation and enhanced competition.

April 17, 1998

**Separate Statement of Commissioner Gloria Tristani**

*Re: Performance Measurements and Reporting Requirements for Operations Support Systems, Interconnection, and Operator Services and Directory Assistance, Notice of Proposed Rulemaking*

This Notice of Proposed Rulemaking asks whether the Commission should adopt non-binding model rules regarding performance measurements for incumbent LECs' back office systems. I support this item because I believe performance measurements are needed to enable state regulators and new entrants to evaluate whether incumbent LECs are fulfilling their duty under the Telecommunications Act of 1996 to treat their competitors in a non-discriminatory fashion.

Although this item proposes to adopt no federal rules, it is a very positive step in promoting local telephone competition. Competitors clearly need access to incumbent LECs' back office systems in order to have a fair chance to compete. If new competitors cannot be responsive to their existing and potential customers the same way as incumbents, competitors will be at a severe disadvantage. It is particularly important that a new competitor not be condemned for bad service that is actually due to inadequate access to the incumbent LEC's OSS. Publicity of a new competitor's poor service could permanently damage its ability to compete, and competitors should not be harmed in this way if the fault lies with the incumbent LEC, not the new competitor.

Performance measurements also promote competition by facilitating enforcement. Performance measurements will enable regulators to easily detect anticompetitive behavior. In the newly competitive local market, regulators will be called upon to arbitrate disputes between competing carriers. The availability of performance measurements will allow regulators to resolve complaints quickly. And the threat of effective enforcement is likely to encourage self-policing, the best regulation of all.

But to get there, we will need state commissions to put performance measurements in place. I know that state commissions share my commitment to promoting competition in the local telephone market, and I hope they share my belief that nondiscriminatory OSS access is essential to bringing about that competition. The National Association of Regulatory Utility Commissioners recently asked the FCC to give the states guidance on OSS performance measurements. This Notice responds to the states' request, and I am particularly pleased that this item proposes *non-binding model rules*. I believe this approach represents genuine progress in the way the FCC works with state commissions. The model rules we adopt in this docket should be of considerable assistance to states interested in adopting their own OSS performance measurement requirements.

Finally, I want to commend the staff of the FCC's Common Carrier Bureau staff for their outstanding and tireless effort to produce this Notice. Their hard work in understanding OSS technology has enabled us to propose model rules in a clear, understandable fashion. I look forward to working with the staff and my colleagues to produce model OSS guidelines in the near future.

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## APPENDIX A

Appendix A sets forth the proposed performance measurements discussed in Part IV of this Notice. The performance measurements are divided into the following general categories: I. Pre-Ordering; II. Ordering and Provisioning; III. Repair and Maintenance; IV. Billing; V. General Issues (including OS/DA); and VI. Interconnection. Each proposed performance measurement contains subsections on the proposed Measurement, Categories, and Exclusions. The Measurement subsection identifies the measurement and the formula to be used for calculating the measurement. The Categories subsection provides a list of the categories to be used in disaggregating the data for the performance measurement. Finally, the Exclusions subsection lists any items that should be excluded from the performance measurement. In reading this Appendix, parties should also refer to Part IV of the Notice for any further clarifications or explanations for a proposed measurement.

### I. PRE-ORDERING

#### Measurement

##### **Average Response Time**

$$\frac{[\sum[(\text{Query Response Date \& Time}) - (\text{Query Submission Date \& Time})]]}{\text{Number of Queries Submitted in Reporting Period}^1}$$

#### Categories

##### Competing Carriers

##### Incumbent LECs

- ! Due Date Reservation
- ! Feature Function Availability
- ! Facility Availability
- ! Street Address Validation
- ! Service Availability
- ! Appointment Scheduling
- ! Customer Service Records
- ! Telephone Numbers
- ! Rejected Query Notices

- ! Due Date Reservation
- ! Feature Function Availability
- ! Facility Availability
- ! Street Address Validation
- ! Service Availability
- ! Appointment Scheduling
- ! Customer Service Records
- ! Telephone Numbers
- ! Rejected Query Notices

#### Exclusions

! None

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<sup>1</sup> A query is defined as an individual request for data.

**II. ORDERING/PROVISIONING**

**A. Order Completion Measurements**

**Measurement**

**1. Average Completion Interval**

For incumbent LECs:

$$\frac{[\sum[(\text{Completion Date \& Time}) - (\text{Order Submission Date \& Time})]]}{\text{Total Number of Orders Completed in Reporting Period}}$$

For competing carriers:

$$\frac{[\sum[(\text{Date and Time of Notice of Completion}) - (\text{Order Submission Date \& Time})]]}{\text{Total Number of Orders Completed in Reporting Period}}$$

**2. Percentage of Due Dates Missed**

$$\frac{[\text{Number of Orders Not Completed within Incumbent LEC Committed Due Date and Time During Reporting Period}]}{\text{Total Number of Orders Scheduled for Completion in Reporting Period}} \times 100$$

**Categories**

**Competing Carriers**

**Incumbent LECs**

- ! Resale Residential POTS
  - dispatch
  - non-dispatch
- ! Resale Business POTS
  - dispatch
  - non-dispatch
- ! Resale Specials
  - dispatch
  - non-dispatch
- ! Unbundled Loops
  - w/ interim number portability (INP)
  - w/o INP
- ! Unbundled Switching
- ! Unbundled Local Transport
- ! Combinations of UNEs
  - dispatch
  - non-dispatch
- ! Interconnection Trunks

- ! Retail Residential POTS
  - dispatch
  - non-dispatch
- ! Retail Business POTS
  - dispatch
  - non-dispatch
- ! Retail Specials
  - dispatch
  - non-dispatch

**Exclusions**

- ! Canceled orders
- ! Initial order when supplemented by competing carrier
- ! Incumbent LEC orders associated with internal or administrative use of local services

**B. Coordinated Customer Conversions****Measurement****Average Coordinated Customer Conversion Interval**

$$\frac{[\sum[(\text{Completion Date and Time for Cross Connection of an Unbundled Loop}) - (\text{Disconnection Date and Time of an Unbundled Loop})]]}{\text{Total Number of Unbundled Loop Orders for Reporting Period.}}$$
**Categories**

Competing Carriers

Incumbent LECs

! Unbundled Loops w/ Number Portability	N/A
! Unbundled Loops w/o Number Portability	

**Exclusions**

! Unbundled loop orders where there is no existing subscriber loop
! Delays due to competing carrier following disconnection of unbundled loop

**C. Order Status Measurements**

**Measurement**

<p><b>1. Average Reject Notice Interval</b></p> <p><math display="block">\frac{[\sum[(\text{Date and Time of Order Rejection}) - (\text{Date and Time of Receipt of Order})]]}{\text{Number of Orders Rejected in Reporting Period}}</math></p> <p><b>2. Average FOC Notice Interval</b></p> <p><math display="block">\frac{[\sum[(\text{Date and Time of FOC}) - (\text{Date and Time of Receipt of Valid Order})]]}{\text{Number of Orders Confirmed in Reporting Period}}</math></p> <p><b>3. Average Jeopardy Notice Interval</b></p> <p><math display="block">\frac{[\sum[(\text{Date and Time of Scheduled Due Date on FOC}) - (\text{Date and Time of Jeopardy Notice})]]}{\text{Number of Orders in Jeopardy in Reporting Period}}</math></p> <p><b>4. Percentage of Orders Given Jeopardy Notices</b></p> <p>Number of Orders Given Jeopardy Notices in Reporting Period/Number of Orders Confirmed in Reporting Period</p> <p><b>5. Average Completion Notice Interval</b></p> <p><math display="block">\frac{[\sum[(\text{Date and Time of Notice of Completion}) - (\text{Date and Time of Completion of Work})]]}{\text{Number of Orders Completed in Reporting Period}}</math></p>
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**Categories**

Competing Carriers

Incumbent LECs

<ul style="list-style-type: none"> <li>! Resale Residential POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Resale Business POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Resale Specials                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Unbundled Loops                         <ul style="list-style-type: none"> <li>- w/ interim number portability (INP)</li> <li>- w/o INP</li> </ul> </li> <li>! Unbundled Switching</li> <li>! Unbundled Local Transport</li> <li>! Combinations of UNEs                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Interconnection Trunks</li> </ul>	<ul style="list-style-type: none"> <li>! Retail Residential POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Retail Business POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Retail Specials                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> </ul>
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**Exclusions**

! Average FOC Notice Interval - Rejected orders

**D. Held Order Measurement**

**Measurement**

**Average Interval for Held Orders**

$$\frac{[\sum[(\text{Reporting Period Close Date}) - (\text{Completion Date on FOC})]]}{\text{Number of Held Orders for Reporting Period}}$$

**Categories**

**Competing Carriers**

**Incumbent LECs**

<ul style="list-style-type: none"> <li>! Resale Residential POTS                             <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Resale Business POTS                             <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Resale Specials                             <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Unbundled Loops                             <ul style="list-style-type: none"> <li>- w/ interim number portability (INP)</li> <li>- w/o INP</li> </ul> </li> <li>! Unbundled Switching</li> <li>! Unbundled Local Transport</li> <li>! Combinations of UNEs                             <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Interconnection Trunks</li> </ul>	<ul style="list-style-type: none"> <li>! Retail Residential POTS                             <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Retail Business POTS                             <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Retail Specials                             <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> </ul>
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**Exclusions**

- ! Orders cancelled by competing carrier
- ! Order activities of incumbent LEC that are associated with its internal or administrative use of local services

**E. Installation Troubles Measurement**

**Measurement**

**Percentage of Troubles in 30 days for New Orders**

[New Service Orders Receiving Trouble Reports ≤ 30 Days of Order Completion/Number of New Service Orders Completed in Month] X 100

**Categories**

**Competing Carriers**

**Incumbent LECs**

- ! Resale Residential POTS
  - dispatch
  - non-dispatch
- ! Resale Business POTS
  - dispatch
  - non-dispatch
- ! Resale Specials
  - dispatch
  - non-dispatch
- ! Unbundled Loops
  - w/ interim number portability (INP)
  - w/o INP
- ! Unbundled Switching
- ! Unbundled Local Transport
- ! Combinations of UNEs
  - dispatch
  - non-dispatch
- ! Interconnection Trunks

- ! Retail Residential POTS
  - dispatch
  - non-dispatch
- ! Retail Business POTS
  - dispatch
  - non-dispatch
- ! Retail Specials
  - dispatch
  - non-dispatch

**Exclusions**

- ! None

**F. Order Quality Measurements**

**Measurement**

<p><b>1. Percentage of Order Flow Through</b></p> <p>[Number of Orders Electronically Processed Through the Gateway and Accepted Into the Incumbent LEC's Legacy Systems Without Manual Intervention/Number of Orders Submitted in Reporting Period] x 100</p> <p><b>2. Percentage of Rejected Orders</b></p> <p>[Number of Orders Rejected Due to Error or Omission/Number of Orders Submitted in Reporting Period] x 100</p> <p><b>3. Average Submissions per Order</b></p> <p><math display="block">\frac{[\sum[(\text{Number of Orders Accepted for Provisioning}) + (\text{Number of Orders Rejected})]}{\text{Number of Orders Accepted for Provisioning in Reporting Period}}</math></p>
---

**Categories**

Competing Carriers

Incumbent LECs

<ul style="list-style-type: none"> <li>! Resale POTS</li> <li>! Resale Specials</li> <li>! UNEs</li> <li>! UNE Combinations</li> </ul>	<ul style="list-style-type: none"> <li>! Retail POTS</li> <li>! Retail Specials</li> </ul>
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**Exclusions**

<ul style="list-style-type: none"> <li>! For Percent Flow-Through: Rejected Orders</li> </ul>
---



**G. 911 Database Update and Accuracy**

**Measurement**

**1. Percentage of Accurate 911 and E911 Database Updates**

[Number of Database Updates Completed Without Error During Reporting Period/Total Number of Updates Completed During Reporting Period] x 100

**2. Percentage of Missed Due Dates for 911 and E911 Database Updates**

[Number of Updates Completed by Committed Due Date During Reporting Period/Total Number of Updates Scheduled to be Completed During Reporting Period] x 100

**OR Average Time to Update 911 and E911 Databases**

$$\frac{[\sum[(\text{Completion Date \& Time}) - (\text{Update Submission Date \& Time})]]}{\text{Total Number of Updates Completed in Reporting Period}}$$

**Categories**

Competing Carriers

Incumbent LECs

! All Competing Carrier customer records

! All Incumbent LEC customer records

**Exclusions**

! None

**III. REPAIR AND MAINTENANCE**

**Measurement**

<p><b>1. Average Time to Restore</b></p> <p><math display="block">\frac{[\sum[(\text{Date and Time Trouble Ticket Resolution Notification Returned to Competing Carrier}) - (\text{Date and Time Trouble Ticket Logged with Incumbent LEC})]}{\text{Number of Trouble Tickets Resolved in Reporting Period}}</math></p> <p><b>2. Frequency of Troubles in 30-Day Period</b></p> <p><math display="block">\frac{[\text{Number of Trouble Tickets Received in 30-Day Period}]}{\text{Number of Service Access Lines in Service At End of Reporting Period}} \times 100</math></p> <p><b>3. Frequency of Repeat Troubles in 30-Day Period</b></p> <p><math display="block">\frac{[\text{Total Number of Repeat Trouble Reports}]}{\text{Total Number of Trouble Tickets Received in 30-Day Period}} \times 100</math></p> <p><b>4. Percentage of Customer Troubles Resolved Within Estimated Time</b></p> <p><math display="block">\frac{[\text{Number of Trouble Tickets Resolved by Estimated Date and Time}]}{\text{Number of Trouble Tickets Resolved Within Reporting Period}} \times 100</math></p>
--

**Categories**

Competing Carriers

Incumbent LECs

<ul style="list-style-type: none"> <li>! Resale Residential POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Resale Business POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Resale Specials                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Unbundled Loops                         <ul style="list-style-type: none"> <li>- w/ interim number portability (INP)</li> <li>- w/o INP</li> </ul> </li> <li>! Unbundled Switching</li> <li>! Unbundled Local Transport</li> <li>! Combinations of UNEs                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Interconnection Trunks</li> </ul>	<ul style="list-style-type: none"> <li>! Retail Residential POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Retail Business POTS                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> <li>! Retail Specials                         <ul style="list-style-type: none"> <li>- dispatch</li> <li>- non-dispatch</li> </ul> </li> </ul>
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**Exclusions**

- ! Trouble tickets that are cancelled by the competing carrier
- ! Incumbent LEC trouble reports associated with internal or administrative use of local services
- ! Instances where the customer requests a ticket be "held open" for monitoring

For Frequency of Repeat Troubles only:

- ! Subsequent trouble reports on maintenance tickets that have not been reported as resolved (or closed)

**IV. BILLING**

**Measurements**

<p><b>1. Average Time to Provide Usage Records</b></p> <p>For competing carriers:  <math display="block">\frac{[\sum[(\text{Date and Time Usage Records Transmitted}) - (\text{Date and Time Usage Records Recorded})]]}{\text{Number of Usage Records Transmitted in Reporting Period}}</math></p> <p>For incumbent LECs:  <math display="block">\frac{[\sum[(\text{Date and Time Usage Records Reformatted to an EMR (or equivalent) format}) - (\text{Date and Time Usage Records Recorded})]]}{\text{Number of Usage Records Transmitted in Reporting Period}}</math></p> <p><b>2. Average Time to Deliver Invoices</b></p> <p>For competing carriers:  <math display="block">\frac{[\sum[(\text{Date and Time Invoices Transmitted}) - (\text{Date and Time Bill Cycle Closes})]]}{\text{Number of Invoices Transmitted during Reporting Period}}</math></p> <p>For incumbent LECs:  <math display="block">\frac{[\sum[(\text{Date and Time Invoices Produced in Electronic Format}) - (\text{Date and Time Bill Cycle Closes})]]}{\text{Number of Invoices Produced Electronically during Reporting Period}}</math></p>
---

**Categories**

Competing Carriers

Incumbent LECs

<p><b>1. Average Time to Provide Usage Records</b></p> <ul style="list-style-type: none"> <li>! End user usage records</li> <li>! Access usage records</li> <li>! Alternately billed usage records</li> </ul> <p><b>2. Average Time to Deliver Invoices</b></p> <ul style="list-style-type: none"> <li>! Wholesale bill invoices</li> <li>! Unbundled element bill invoices</li> </ul>	<p><b>1. Average Time to Provide Usage Records</b></p> <ul style="list-style-type: none"> <li>! End user usage records</li> <li>! Access usage records</li> <li>! Alternately billed usage records</li> </ul>
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**Exclusions**

<ul style="list-style-type: none"> <li>! None</li> </ul>
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**V. GENERAL****A. Systems Availability Measurement****Measurement****Percentage of Time Interface is Available**

[Number of Hours OSS Functionality is Available to Competing Carriers During Reporting Period/Number of Hours OSS Functionality was Scheduled to be Available During Reporting Period] x 100

**Categories**

Competing Carriers

Incumbent LECs

! Interface Type  
- OSS function

! OSS Function

**Exclusions**

! None

**B. Center Responsiveness****Measurement****Average Time to Answer Competing Carrier Calls**
$$\frac{[\sum[(\text{Date and Time of Call Answer}) - (\text{Date and Time of Call Receipt})]]}{\text{Total Calls Answered by Center}}$$
**Categories**

Competing Carriers

Incumbent LECs

! All Competing Carrier Calls

! N/A

**Exclusions**

! None

**C. OS/DA****Measurement****Average Time to Answer**

$$\frac{[\sum[(\text{Date and Time of Response from Incumbent LEC OS/DA database/operator}) - (\text{Date and Time of Call to Incumbent LEC OS/DA database/operator})]]}{\text{Total Number of Calls to Incumbent LEC OS/DA Database/Operator}}$$
**Categories**

Competing Carriers

Incumbent LECs

! All Competing Carrier Calls

! All Incumbent LEC Calls

**Exclusions**

! None

**VI. INTERCONNECTION**

**A. Trunk Blockage Measurements**

**Measurements**

<p><b>1. Percent Blockage on Interconnection Trunks</b></p> <p>Final Interconnection Trunk Groups Blocked During Reporting Period/Total Number of Interconnection Trunk Groups</p> <p><b>2. Percent Blockage on Common Trunks</b></p> <p>Final Common Trunk Groups Blocked During Reporting Period/Total Number of Common Trunk Groups</p>
--

**Categories**

Competing Carriers

Incumbent LECs

! Interconnection Trunks	! Common Trunks
! Common Trunks	

**Exclusions**

! None
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**B. Collocation Measurements**

**Measurements**

<p><b>1. Average Time to Respond to a Collocation Request</b></p> <p><math display="block">\frac{[\sum[(\text{Request Response Date and Time}) - (\text{Request Submission Date and Time})]]}{\text{Count of Requests Submitted in Reporting Period}}</math></p> <p><b>2. Average Time to Provide a Collocation Arrangement</b></p> <p><math display="block">\frac{[\sum[(\text{Date and Time Collocation Arrangement is Complete}) - (\text{Date and Time Order for Collocation Arrangement Submitted})]]}{\text{Total Number of Collocation Arrangements Completed During the Reporting Period}}</math></p> <p><b>3. Percent of Due Dates Missed With Respect to the Provision of Collocation Arrangements</b></p> <p><math display="block">[\text{Number of Orders Not Completed within ILEC Committed Due Date During Reporting Period} / \text{Total Number of Orders Scheduled for Completion in Reporting Period}] \times 100</math></p>
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**Categories**

Competing Carriers

Incumbent LECs

! Physical collocation	N/A
! Virtual collocation	

**Exclusions**

! Orders cancelled by competing carrier
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## APPENDIX B

1. The application of statistical analysis to performance measurement data may be useful in determining whether an incumbent LEC is meeting the statutory requirements with respect to its provision of OSS, interconnection, and OS/DA. Statistical analysis can help reveal the likelihood that reported differences in a LEC's performance toward its retail customers and competitive carriers are due to underlying differences in behavior rather than random chance. We seek comment on whether specifying a preferred statistical methodology would assist in evaluating an incumbent LEC's performance. We also seek comment on whether a uniform statistical methodology would assist in comparing the performance of incumbent LECs across regions. We note that designating specific statistical methods for evaluating an incumbent LEC's performance may limit the use of other analyses that might be more appropriate or that might generate more insight. We seek comment on this issue.

2. To the extent that the Commission recommends use of specific statistical methodologies for the evaluation of an incumbent LEC's performance, we seek comment on which statistical tests the Commission should recommend. As a general matter, we believe that simple statistical tests that are widely understood and generally accepted would most likely be perceived as fair and lead to the least disagreement concerning the interpretation of the statistical results. Consequently, we propose the use of conventional statistical techniques for determining whether there exist statistically significant differences between the incumbent LEC's performance when providing service to its own retail customers and its performance toward competing carriers.

3. As an initial matter, we seek comment on whether conventional statistical tests should be performed to determine whether observed differences in the means, that is, the averages, of various performance measurements between an incumbent LEC's own retail customers and competing carriers are likely to reflect actual differences in performance. The t-test is a generally accepted test for the equality of two means.<sup>1</sup> If, for instance, the incumbent LEC's average order completion interval was five days for service to its retail customers and 6.2 days for service to a competing carrier, a t-test would reveal whether it was likely that the difference between the two measured averages reflected a true difference in the experience of the two recipients of service, and would provide a measure of the likelihood that the observed difference in service did not occur by chance.<sup>2</sup> We seek comment on whether a one-tailed test would be appropriate for determining whether an incumbent LEC's performance in provisioning

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<sup>1</sup> A pooled-variance t-test is generally considered to be an appropriate test of the equality of two means, or averages, provided that the population variances are the same for the two samples. R. Ramanathan, *Introductory Econometrics with Applications* 56 (1992) (Ramanathan). If the variances are different, however, a separate-variance t-test is considered more appropriate. If an incumbent LEC is discriminating against the competing carrier, the incumbent LEC's discriminatory actions may introduce additional variance into the data for the competing carrier. This suggests that a separate-variance test should be used. Tests of the equality of variances can be performed to determine which form of t-test would be more appropriate.

<sup>2</sup> If, for instance, the hypothesis that the means are equal were rejected at the .05 level, that would mean that the probability was less than 5 percent, or one chance in twenty, that the incumbent LEC's performance was actually no worse toward competitive carriers than toward its own customers.

network elements and resold services to competing carriers was worse than its performance toward its own retail customers.<sup>3</sup> We request comment on the above analysis, and, in particular, on whether some version of the t-test would be appropriate for use when evaluating an incumbent LEC's performance. We also seek comment on which version of the t-test would be most appropriate.

4. We seek comment on whether other analyses of the incumbent LEC's performance measurements, in addition to a comparison of averages, may be useful or necessary. We recognize that variability of response times, for instance, may affect the competitiveness of a competing carrier, but may not be reflected in a comparison of average times from the performance measurements. For example, an incumbent LEC might complete 50 percent of its own orders in four days and the remaining 50 percent in six days. At the same time it might complete 50 percent of the competing carrier's orders in one day and the remaining 50 percent in nine days. The average order completion interval would be five days in both cases, but the competing carrier would face very long completion intervals in half of all cases, while the incumbent LEC would never have completion intervals more than one day above the average. The likelihood of long completion intervals, in turn, may affect the competing carrier's ability to offer service to its own customers. To test statistically for differences in variability of service to a LEC's customers, a test of the equality of variances might be used.<sup>4</sup> In addition, it might be desirable to apply a test that considers what percentage of the time completion intervals exceed a certain value. A test of the equality of the proportions of each sample that exceed a given value would capture both differences in variance and disproportionate numbers of large values in the competing carrier sample.<sup>5</sup> We request comment on whether these tests should be used in addition to tests of the equality of means.

5. The statistical techniques described above require a minimum sample size, approximately thirty observations, to be reliable. We seek comment on whether the performance data reported by incumbent LECs in the manner described in Section IV are likely to contain a sufficient number of observations for each measurement to allow use of the statistical techniques described above. To the extent that particular measures are likely to contain too few data points to permit use of these techniques, we seek comment on whether the tests can be adjusted adequately to deal with smaller samples, or whether the use of other methods, such as tests based on the Student-t distribution, or nonparametric techniques, might be more appropriate.<sup>6</sup> Commenters should also indicate whether they believe that any other assumptions associated

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<sup>3</sup> A one-tailed test is appropriate when the direction of the expected difference is known. In this case, observers are only interested in the case in which competing carriers receive worse service than the incumbents' retail customers, not that in which they receive better service.

<sup>4</sup> Ramanathan at 57.

<sup>5</sup> H. Costis, *Statistics for Business* 402 (1972).

<sup>6</sup> See J. Freund & F. Williams, *Elementary Business Statistics: The Modern Approach* 292-95 (1964).

with the statistical methods described above might not be met by the performance measurement data, and what the appropriate statistical methodology would be in such instances.

6. In an *ex parte* submission AT&T proposed using three criteria to determine incumbent LEC compliance with nondiscrimination obligations.<sup>7</sup> The first of these is the maximum number of comparisons failing the statistical test for nondiscrimination. AT&T proposes that the conventionally accepted 95 percent confidence level be used as the threshold for acceptable performance on individual tests, and that performance would be considered nondiscriminatory if no more than 5 percent of comparisons failed to meet this standard. The second criterion is the maximum number of repeating measurements failing the test. AT&T proposes that the standard should be that no more than 0.25 percent of measurements should fail the test in two or more consecutive months. The third criterion is that no extreme differences occur between the results for the incumbent LEC and those for the competing carrier. A difference greater than three standard deviations would be considered an extreme difference.<sup>8</sup> BellSouth in another proceeding has argued that the appropriate standard for assessing whether the data demonstrate nondiscrimination is that monthly results for the competing carrier should lie within three standard deviations of the average of the incumbent LEC's monthly performance, and that the results for one of the entities should not be higher than those for the other for three consecutive months.<sup>9</sup>

7. We request comment on AT&T's and BellSouth's proposed approaches to the use of statistical tests in evaluating performance data. We note that the threshold value for repeated tests of the same measurement appears to be based on an assumption that the observations would be independent in the absence of discriminatory behavior. We seek comment on whether that is a reasonable assumption. We note that repeated failures may reflect some unsolved technical problem rather than deliberate discrimination. Nevertheless, repeated poor performance on one crucial measurement, whatever the cause, may have a greater effect on competing carriers than scattered failures. We note also that, even if statistically significant differences appear between results for the incumbent LEC and the competing carrier, these differences may be too small to have any practical competitive consequence and may not justify a legal conclusion that the incumbent LEC has discriminated against the competing carrier.<sup>10</sup> We seek comment on

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<sup>7</sup> See AT&T, Performance Measurements - Implementation Considerations, Feb. 3, 1998 at 2-3.

<sup>8</sup> The standard deviation is a measure of the spread or dispersion of a distribution of data about the mean. The probability that a normally distributed random variable lies within three standard deviations in either direction from its mean is 99.74 percent. J. Kmenta, *Elements of Econometrics* 61, 88 (1971).

<sup>9</sup> Application by BellSouth for Provision of In-Region, InterLATA Services in Louisiana, Appendix A, Vol. 5, Tab 13, Affidavit of William N. Stacy at 12-13.

<sup>10</sup> The Wisconsin Public Utility Commission points out that small differences can be found to be statistically significant when sample sizes are large, and that additional steps needed to process orders of competing carriers may result in "expected and acceptable" differences in processing times. Comments of the Wisconsin Public Utility Commission at 4-5.

whether threshold values of the absolute difference, or the percentage difference, in averages of performance measures should be used in addition to measures of statistical significance. We also seek comment on whether the tests of equality of variances or equality of proportions discussed above would be appropriate for use in conjunction with the tests proposed by AT&T and BellSouth.

8. We recognize that other, more complex forms of statistical analysis, including multivariate and time series analysis, boot strap methods, and the use of extreme value statistical theory and the collective risk model, are available and might more accurately detect the presence of discrimination than the simple tests we propose. We request comment on the desirability of using such techniques, and on whether additional data collection, beyond that contemplated in Part V.C, would be necessary to allow use of these techniques.

9. We also seek comment on whether the form in which an incumbent LEC makes the data available to other parties and to regulators, whether it be through an audit or along with the performance report, should be specified. Data should be presented in a form that permits easy and thorough statistical analysis. Continuous data, for example, might provide more information and permit more precise analysis than data reported in intervals. We seek comment on whether the data should be provided in a computer file, rather than on paper, to facilitate analysis by recipients.

**APPENDIX C**  
List of Commenters

1. Aliant Communications Co.
2. American Communications Services, Inc.
3. Ameritech Operating Companies
4. Association for Local Telecommunications Services
5. AT&T Corp.
6. ATX Telecommunications Services, Ltd.
7. Bell Atlantic and NYNEX
8. BellSouth Corporation
9. Competition Policy Institute
10. Competitive Telecommunications Association
11. Excel Communications, Inc.
12. General Communication, Inc.
13. General Services Administration
14. GST Telecom, Inc.
15. GTE Service Corporation
16. Hyperion Telecommunications, Inc.
17. Independent Telephone & Telecommunications Alliance
18. Kansas City Fibernet, Inc. and Focal Communications Corporation
19. KMC Telecom, Inc. and RCN Telecom Services, Inc.
20. LCI International Telecom Corp.
21. MCI Telecommunications Corporation
22. Midcom Communications, Inc.
23. National Association of Regulatory Utility Commissioners
24. National Telecommunications and Information Administration (NTIA)
25. Network Logic, LLC
26. Pacific Bell, Nevada Bell, and Southwestern Bell Telephone Company
27. People of the State of California and the Public Utilities Commission of the State of California
28. Pilgrim Telephone, Inc.
29. Southern New England Telephone Company
30. Sprint Corporation
31. Telco Communications Group, Inc.
32. Telecommunications Resellers Association
33. Teleport Communications Group Inc.
34. Time Warner Communications Holdings Inc.
35. United States Telephone Association
36. USN Communications, Inc.
37. US ONE Communications Corporation
38. U S WEST, Inc.
39. WinStar Communications, Inc.
40. Wisconsin Public Service Commission

41. WorldCom, Inc.