**COMMONWEALTH OF VIRGINIA**

**STATE CORPORATION COMMISSION**

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| **IN THE MATTER OF THE INQUIRY** | **)** | |
| **INTO VERIZON VIRGINIA INC.'S** | **)** | |
| **COMPLIANCE WITH THE CONDITIONS** | **)** | **Case No. PUC02____** |
| **SET FORTH IN 47 U.S.C. § 271 (c)** | **)** | |

# OSS DECLARATION

## ON BEHALF OF VERIZON VIRGINIA INC.

## DECLARANTS:


Kathleen McLean

Beth Cohen

Warren Geller

Paul Haven

Maryellen Langstine

Jonathan Smith

Sean J. Sullivan

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## OSS DECLARATION

1. My name is Kathleen McLean. My business address is 1320 North Courthouse Road, Arlington, Virginia. I am employed by Verizon Services Corp. as Senior Vice President, OSS Policy and Performance Assurance within the Information Technology organization. My responsibilities include assuring the implementation of Operations Support Systems ("OSS") capabilities and system performance measures consistent with Section 271 of the Telecommunications Act of 1996 and other legal and regulatory obligations.

2. Prior to assuming my current responsibilities, I was Vice President for Architecture and Technology and Vice President of Wholesale Systems within the Telecom Group Systems ("TGS") organization at Bell Atlantic. In these capacities, my responsibilities included directly managing the software development teams within Wholesale Systems and program management of all systems development work across TGS in support of the wholesale line of business. Prior to joining Bell Atlantic, I was Vice President, Telecommunications Industry Group at American Management Systems, Inc., an international business and information technology consulting firm.

3. My name is Beth Cohen. My business address is 1310 North Courthouse Road, Arlington, Virginia. I am employed by Verizon Services Corp. as a Director in the OSS Policy and Performance Assurance group within the Information Technology organization. I am responsible for assuring the implementation of OSS capabilities and ongoing system performance consistent with Verizon's 271 obligations, including order flow-through.

4. I joined the Company in 1995 and have held various positions of increasing responsibility in the Information Technology organization developing Wholesale business processes and associated business and system requirements, and managing the software development life cycle for Wholesale pre-ordering and ordering initiatives.

5. My name is Warren Geller. My business address is 1095 Avenue of the Americas, New York, New York. I am employed by Verizon Services Corp. as Director, Wholesale Billing Assurance and Solutions. In this position, I am responsible for the oversight of billing for third party testing as described below and the development of billing requirements for UNE products.

6. Prior to assuming my current responsibilities, I held a variety of positions of increasing responsibility in Engineering, Service Costs, and Product Management.

7. My name is Paul Haven. My business address is 13100 Columbia Pike, Silver Spring, Maryland. I am employed by Verizon Services Corp. as Director, CLEC Operations. In this position, I am responsible for the Verizon maintenance and repair systems utilized by Competitive Local Exchange Carriers ("CLECs").

8. I joined the Company in 1984 and have held various positions of increasing responsibility in information systems and network services. Prior to assuming my current

position, I served as Director, Program One – Network Services and as Director, Network Systems Program Management.

9. My name is Maryellen Langstine. My business address is 999 West Main Street, Freehold, New Jersey. I am employed by Verizon Services Corp. as a Director in the Wholesale Customer Support organization. My responsibilities are to assist the organization in the identification and resolution of customer issues and develop the Verizon response specific to those customer issues. Additionally, I direct activities of the production support team responsible for Line Loss reporting.

10. I have over twenty-two years of telecommunications experience with Verizon, primarily within customer service delivery operations. I have held a variety of positions managing line operations such as central office, installation and maintenance for POTS, Special Services and Special Services test centers. Most recently, I directed a number of Verizon's Customer Service Centers, dedicated to servicing large corporate accounts with accountability for service order negotiation, billing, provisioning and maintenance.

11. My name is Jonathan Smith. My business address is 1095 Avenue of the Americas, New York, New York. I am employed by Verizon Services Corp. as an Executive Director in the Local Interconnection Billing and Wholesale Billing Support organization. In this position I am responsible for the receipt, review and payment of invoices from CLECs for Local Interconnection Traffic and Facilities as well as support for the Wholesale Billing and Collections organization.

12. I have more than twenty-two years of experience in the telecommunications industry as an employee of Verizon and its predecessor companies.

Prior to assuming my present position in August 2001, I have held positions of increasing responsibility in finance, wholesale marketing, billing and collection services, customer services, and outside plant engineering.

13. My name is Sean J. Sullivan. My business address is 125 High Street, Boston, Massachusetts. I am employed by Verizon Services Corp. as a Director in the Wholesale Operations Support organization. In this position, I have the responsibility for reviewing the National Market Centers' ("NMCs", formerly TISOC) performance measurements in order to identify any potential process improvements and/or training issues.

14. I joined the Company in 1984 and have held various positions of increasing responsibility in operations, information services and project management. Prior to assuming my current position, I spent five years in Wholesale Services organization managing systems, process and training initiatives for the former Bell Atlantic service areas.

15. On June 30, 2000 Bell Atlantic Corporation completed its merger with GTE Corporation, creating Verizon Communications. Since Bell Atlantic is now Verizon, we will refer to the company and its affiliates with names including "Verizon," whether we are talking about something that occurred before or after the merger was completed. Any quotations that refer to a Verizon company by its former name will remain unchanged.

16. Our Declaration for the Commonwealth of Virginia State Corporation Commission ("SCC") describes the access which Verizon Virginia Inc. ("Verizon VA") provides to its Operations Support Systems ("OSS") for pre-ordering, ordering and

provisioning, repair and maintenance, and billing for Competitive Local Exchange Carriers ("CLECs") in Virginia pursuant to Section 271 (c)(2)(B)(ii) of the Telecommunications Act of 1996 ("Act"). CLECs operating in Virginia use the common interfaces and gateway systems provided by Verizon throughout the former Bell Atlantic service areas to obtain access to the underlying OSS. Throughout this Declaration, references to "Verizon" apply to Verizon systems, processes and operations in the service areas of the former Bell Atlantic in Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, Washington, DC and West Virginia.

17. These OSS, and the interfaces through which CLECs obtain access to them, support interconnection arrangements, resale of Verizon VA's services, and Unbundled Network Elements ("UNEs"), including the UNE platform ("UNE-P"). Verizon provides application-to-application interfaces for pre-ordering and ordering and an electronic bonding interface for maintenance and repair that enable CLECs to integrate these functions in their own systems. Verizon also provides a web-based Graphical User Interface ("GUI") for pre-ordering, ordering, and maintenance and repair functions. The interfaces through which CLECs obtain access to Verizon's OSS are consistent with industry guidelines and standards where such standards exist. These are the same interfaces that the FCC has reviewed and approved in connection with Verizon's 271 applications for New York[1], Massachusetts[2], Connecticut[3], Pennsylvania[4] and Rhode

[1] *Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of New York*, Memorandum Opinion and Order, 15 FCC Rcd 3953, (1999), ¶¶ 62 - 228 ("*New York Approval Order*").

[2] *Application by Verizon New England Inc., Bell Atlantic Communications, Inc. (d/b/a Verizon Long*

Island[5]. They are also the same interfaces in place in New Jersey and supported for FCC approval by the New Jersey Board of Public Utilities ("BPU")[6] and the Department of Justice[7] in the pending Verizon NJ 271 application; and in place in Vermont and supported for FCC approval by the Vermont Public Service Board ("PSB")[8] and the Department of Justice[9] in the pending Verizon VT 271 application.

18. We also describe the system support and assistance Verizon provides in common to CLECs in Virginia and elsewhere in its former Bell Atlantic service areas. It

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*Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions) and Verizon Global Networks Inc., for Authorization to Provide In-Region, InterLATA Service in Massachusetts,* Memorandum Opinion and Order, CC Docket No. 01-9, FCC 01-130, ¶¶ 43-116 (rel. April 16, 2001) ("*Massachusetts Approval Order").*

[3] *Application of Verizon New York Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization to Provide In-Region InterLATA Services in Connecticut,* Memorandum Opinion and Order, CC Docket No. 01-100, released July 20, 2001, ¶¶ 53 - 56 ("*Connecticut Approval Order*").

[4] *Application of Verizon Pennsylvania Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc. for Authorization to Provide In-Region, InterLATA Services in Pennsylvania*, Memorandum Opinion and Order, CC Docket No. 01-138 Adopted and Released September 19, 2001 (*"PA Approval Order").*

[5] *Application of Verizon Rhode Island Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc. for Authorization to Provide In-Region, InterLATA Services in Rhode Island* Memorandum Opinion and Order, CC Docket No. 01-324 Adopted and Released February 22, 2002 (*"RI Approval Order").*

[6] *In the Matter of the Consultative Report of the Application of Verizon New Jersey, Inc. for FCC Authorization to Provide In-Region, InterLATA Service in New Jersey***,** Docket No. TO01090541 CC Docket No. 01-347.

[7] *Evaluation of the Department of Justice In the Matter of Application by Verizon New Jersey Inc., Verizon Long Distance, Verizon Enterprise Solutions, Verizon Global Networks, Inc., and Verizon Select Services Inc., for Authorization to Provide In-Region, InterLATA Service in New Jersey,* CC Docket No. 01-347, dated January 28, 2002. ("*DOJ Evaluation*").

[8] Comments on Federal Proceeding, *Application by Verizon New England Inc., d/b/a Verizon Vermont for a favorable recommendation to offer InterLATA Services Under 47 U.S.C. §271,* Docket No. 6533, Dated February 6, 2002.

[9] Evaluation of the United States Department of Justice, *In the Matter of Application by Verizon New England Inc, Bell Atlantic Communications, Inc. (d/b/a Verizon Long Distance), NYNEX Long Distance Company (d/b/a Verizon Enterprise Solutions, Verizon Global Networks Inc., and Verizon Select Services Inc., for Authorization to Provide In-Region, InterLATA Services in Vermont,* FCC Docket No. 02-7 (filed February 21, 2002).

includes a Change Management Process for managing the life cycle of changes that affect OSS interfaces and CLEC business practices, and carrier-to-carrier testing procedures for Verizon's application-to-application interfaces. In addition, Verizon provides extensive documentation and training for CLECs along with a help desk, known as the Wholesale Customer Care Center ("WCCC"), that is available 24 hours a day, seven days a week. These are the identical change management and CLEC support functions reviewed and approved by the FCC in connection with Verizon's 271 applications in New York, Massachusetts, Connecticut, Pennsylvania, and Rhode Island and supported for approval by the New Jersey BPU and the Department of Justice in connection with Verizon's pending 271 application for New Jersey and by the Vermont PSB and the Department of Justice in connection with Verizon's pending 271 application for Vermont.

19. There is an Exhibit associated with our Declaration that consists of 14 Attachments labeled 301 through 314.

## I. OVERVIEW

20. In its *"Local Competition Order"*[10], the FCC concluded that "the operation support systems and the information they contain fall squarely within the definition of 'network element' and must be unbundled upon request under section 251(c)(3)" of the Act (*Local Competition Order*, at ¶516). In addition, the FCC concluded that "an incumbent LEC must provide nondiscriminatory access to their operations support systems functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing available to the LEC itself." (*Local Competition Order*, at ¶ 523).

[10] *In re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* First Report and Order, 11 FCC Rcd 15499 (1996).

21. As required by the Act, Verizon provides CLECs with nondiscriminatory access to its OSS, allowing them to offer local service in "substantially the same time and manner" as Verizon. *Local Competition Order* ¶ 518. In complying with the *Local Competition Order*, Verizon has deployed the necessary systems and personnel to provide competing carriers in Virginia with non-discriminatory access to each of the necessary OSS functions, and has adequately assisted competing carriers in understanding how to implement and use all of the OSS functions available to them. Specifically, Verizon has developed an extensive array of systems to meet the pre-ordering, ordering, provisioning, maintenance and repair, and billing needs of competing carriers. The electronic interfaces provided by Verizon enable competing carriers to obtain access to the information and functions in its OSS in substantially the same time and manner as Verizon VA does for its own retail operations. Access to Verizon's OSS is provided for in Virginia in accordance with various interconnection agreements.[11]

22. After the 1996 Act was enacted, as part of the Section 271 process in New York, Verizon and a number of CLECs participated in an extensive collaborative process to address issues relating to development of electronic interfaces and gateway systems through which CLECs would obtain access to Verizon's OSS. Since then, Verizon and the CLECs have participated in additional collaborative proceedings and an ongoing Change Management Process, described below, that have resulted in a single set of interfaces and gateway systems that are common across the former Bell Atlantic service areas.

[11] *See* Attachment 202 of the Checklist Declaration, which provides a matrix showing where various checklist items are found in Verizon VA's illustrative interconnection agreements. Attachment 203 contains copies of the agreements referenced in Attachment 202.

23. For the interfaces and gateway systems described below, Verizon develops and maintains each application as a single set of software for Virginia and other states within the former Bell Atlantic region. The software may be distributed to one or more computers (hardware) to provide sufficient computing capacity to support the workload. *See* Table 1, below. There is one set of Local Service Ordering Guidelines ("LSOG") Business Rules and interface specifications for each of the two supported LSOG versions that cover the entire 14-state region of the former Bell Atlantic service areas.

**Table 1:**

| System | Configuration | Significance to CLECs |
|---|---|---|
| Interfaces | | |
| CORBA | **Software:** one application<br>**Hardware:** servers located in Freehold NJ support the 14 former Bell Atlantic states, including VA, MD, DC, WV. | One set of software/hardware supports the 14 former Bell Atlantic states, including VA, MD, DC, WV.<br>No differences to CLECs. |
| EBI | **Software:** one application<br>**Hardware:** servers located in Fairland MD support the 14 former Bell Atlantic states, including VA, MD, DC, WV. | One set of software/hardware supports the 14 former Bell Atlantic states, including VA, MD, DC, WV.<br>No differences to CLECs. |
| EDI | **Software:** one application<br>**Hardware:** servers located in Blue Hill NY support the 14 former Bell Atlantic states, including VA, MD, DC, WV . | One set of software/hardware supports the 14 former Bell Atlantic states, including VA, MD, DC, WV.<br>No differences to CLECs. |
| Web GUI | **Software:** one application<br>**Hardware:** servers located in Blue Hill NY support the 14 former Bell Atlantic states, including VA, MD, DC, WV. | One set of software/hardware supports the 14 former Bell Atlantic states, including VA, MD, DC, WV.<br>No differences to CLECs. |
| Gateways | | |
| Request Manager | **Software:** one application<br>**Hardware:** servers located in Freehold NJ and Fairland MD support the 14 former Bell Atlantic states, including VA, MD, DC, WV. | One set of software distributed to two hardware complexes. Both complexes support the 14 former Bell Atlantic states, including VA, MD, DC, WV.<br>No differences to CLECs. |
| RETAS | **Software:** one application<br>**Hardware:** servers located in Blue Hill NY support the 14 former Bell Atlantic states, including VA, MD, DC, WV. | One set of software/hardware support the 14 former Bell Atlantic states, including VA, MD, DC, WV.<br>No differences to CLECs. |

24. From an operational and historical perspective, Verizon VA, which was formerly Bell Atlantic Virginia and before that was one of the Chesapeake and Potomac Telephone Companies, shared a common set of back-end operating support systems with Maryland, West Virginia and Washington, DC. The four (4) jurisdictions continue to provide service with a single set of underlying systems, as shown in Table 2 below:

**Table 2**

| Back-end OSSs | | |
|---|---|---|
| BEACON/SOBER | **Software:** one application<br>**Hardware:** mainframe-based: Dallas Texas supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV .<br>No differences to CLECs. |
| CABS | **Software:** one application<br>**Hardware:** mainframe-based: Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |
| CSR Repository | **Software:** one application<br>**Hardware:** mainframe-based: Blue Hill, NY supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs |
| DELPHI | **Software:** one application<br>**Hardware:** servers located in Fairland MD, support VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |
| expressTRAK[12] | **Software:** one application<br>**Hardware:** mainframe-based: Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV. No differences to CLECs. |
| LFACS | **Software:** one application<br>**Hardware:** mainframe-based: Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>Not accessed by CLECs. |
| Livewire | **Software:** one application<br>**Hardware:** servers located in Fairland MD support VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |
| LMOS | **Software:** one application<br>**Hardware:** mainframe-based: Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |
| MARCH | **Software:** one application<br>**Hardware:** mainframe-based: Fairland, MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |
| MLT | **Software:** one application<br>**Hardware:** servers located in Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |
| PHOENIX | **Software:** one application<br>**Hardware:** servers located in Blue Hill NY support the 14 former Bell Atlantic states, including VA, MD, DC, WV. | One set of software/hardware supports the 14 former Bell Atlantic states, including VA, MD, DC, WV.<br>No differences to CLECs. |
| React 2001 | **Software:** one application<br>**Hardware:** servers located in Arlington, VA supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |
| SWITCH | **Software:** one application<br>**Hardware:** mainframe-based: Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>Not accessed by CLECs. |
| StarMEM | **Software:** one application<br>**Hardware:** servers located in Burlington, MA support VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs |
| TIRKS | **Software:** one application<br>**Hardware:** mainframe-based: Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>Not accessed by CLECs. |
| WFA | **Software:** one application<br>**Hardware:** mainframe-based: Fairland MD supports VA, MD, DC, WV. | One set of software/hardware supports VA, MD, DC, WV.<br>No differences to CLECs. |

25. During the month of January 2002, more than 75 competing carriers were recognized by the systems as submitting at least one pre-order or order transaction in

[12] expressTRAK is an integrated ordering and billing system that replaces the legacy Service Order Processor (SOP) and Customer Records Information System (CRIS). Over 95% of billing telephone numbers (BTNs) in Virginia have been converted to expressTRAK.

Virginia via the electronic interfaces provided by Verizon. The Verizon interfaces and gateway systems have been in commercial operation supporting substantial transaction volumes. These interfaces processed over 29 million pre-order transactions and over 10 million order transactions in 2001, of which over 2.1 million pre-order transactions and over 650,000 orders were for Virginia. In January 2002 alone, Verizon processed over 165,000 pre-order transactions and over 62,000 LSRs for Virginia.

26. The Verizon interfaces and gateway systems have also been subject to a comprehensive third-party evaluation by KPMG Consulting ("KPMG") and Hewlett-Packard Consulting ("HPC") under the supervision of this Commission. The Commission engaged KPMG "to conduct an independent, third party test of the readiness of Verizon VA's OSS interfaces, documentation, and processes to support local market entry by the CLECs."[13] KPMG Draft Final Report at 9. The conduct of the KPMG test is discussed below.

27. KPMG has evaluated 545 test points for the purpose of assigning them either a ranking of Satisfied or Not Satisfied (KPMG Draft Final Report at15). With respect to all domains, KPMG has determined that 541 evaluated test points are Satisfied. Two test points were found Not Satisfied and two were inconclusive. The first Not Satisfied test point was TVV4-12 and was related to the Verizon VA performance on the installation trouble measurement for DS1 and DS3 circuit installations. Verizon VA's performance related to this issue for DS1 and DS3 circuits is discussed in the Checklist

[13] References to the "KPMG Draft Final Report" throughout this Declaration are to the draft document entitled Verizon Virginia Inc. OSS Evaluation Project Version 1.0, a copy of which is incorporated by reference in this Declaration as Attachment 301. This report can also be found at http://www.state.va.us/scc/division/puc/oss.htm.

Declaration. The second Not Satisfied test point was PMR3-1-F and was related to metrics replication on the network performance metric. This finding is discussed in the Measurements Declaration. The two inconclusive findings (TVV7-11 and TVV7-12) were the result of sample sizes that were too small to reach a conclusion and do not indicate a problem with Verizon's systems.

28. In summary, Verizon provides CLECs operating in Virginia with nondiscriminatory access to its OSS, allowing them to offer local service in "substantially the same time and manner" as Verizon, as required by the Act. *Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* First Report and Order, 11 FCC Rcd 15499, ¶ 518 (1996). The commercial operations data provided here and in the accompanying Checklist Declaration and Measurements Declaration, supported by KPMG's testing, provides more than a sufficient basis for this Commission to conclude that Verizon provides nondiscriminatory access to its operational support systems to CLECs operating in Virginia, as the FCC has already found for Verizon in New York, Massachusetts, Connecticut, Pennsylvania and Rhode Island.

## II. THIRD PARTY TEST

29. KPMG's test in Virginia was modeled after substantially similar tests it conducted in New York, Massachusetts, Pennsylvania and New Jersey. The Federal Communications Commission ("FCC") found that the KPMG test results constituted "persuasive evidence of Bell Atlantic's OSS readiness" in New York and Massachusetts. *See New York Approval Order*, ¶100, *Massachusetts Approval Order*, ¶46. The FCC also

relied upon the KPMG test conducted in Pennsylvania, but did not specifically address the independent third party test in its order because it was not an issue of controversy. *See Pennsylvania Approval Order* ¶ 12. The New Jersey 271 application, which includes KPMG test results, is currently pending before the FCC.

30. KPMG's Virginia test expanded on the model used in other states in several respects. In the words of KPMG, the scope of the test was expanded "in response to evolution in the industry, experience gained in preceding state tests or regulatory emphasis by the DOJ and the FCC. For example, the scope of the Master Test Plan ("MTP") was expanded to include tests related to Line-Splitting and Line Loss Reporting." KPMG Draft Final Report at 11. The Virginia test also reflected input by the SCC and CLECs: "In formulating our approach to testing, KPMG Consulting solicited input from both the Commission and the CLECs…[because]… it was important to understand the types of activities that had either previously presented problems, or were currently the greatest concern." KPMG Draft Final Report at 12.

31. The Virginia test addressed all stages of a CLEC's relationship with Verizon VA, including the initial establishment of the relationship, the conduct of daily operations, and the maintenance of the ongoing relationship. KPMG Draft Final Report at 10. KPMG included each of the potential service delivery methods a CLEC might use – resale, unbundled network elements, unbundled network element platforms, and combinations of unbundled network elements – in its test. *Id*. The test focused specifically on the five OSS functional areas of pre-ordering, ordering, provisioning, maintenance and repair, and billing. The test also included a review of the support mechanisms provided by Verizon to CLECs operating in Virginia and the development,

implementation and publication of service metrics. KPMG's test was designed to be "representative of an entire CLEC marketplace . . . much broader than that likely to be experienced in the near future by any single CLEC." KPMG Draft Final Report at 15.

32. KPMG employed multiple testing techniques. Transaction-driven system testing was used extensively in the Pre-Order and Order, Provisioning, M&R, and Billing domains. KPMG Draft Final Report at 12. KPMG conducted transaction-driven tests using the application-to-application electronic data interchange ("EDI") interface and the terminal-type, web-based graphical user interface ("GUI"). KPMG Draft Final Report at 10. On behalf of KPMG, Hewlett Packard Corporation – acting as a CLEC Information Technology group - built the interfaces used by KPMG for transaction testing – based on documentation available to all CLECs. KPMG Draft Final Report at 12. KPMG also conducted "evaluations of policies, procedures, guidelines, training, documentation, and work center activities associated with the CLEC/ILEC relationship management process." KPMG Draft Final Report at 10.

33. Beyond test design, CLECs were actively involved in the Commission's KPMG test throughout the process. CLECs operating in Virginia participated in the development of the test cases used by KPMG and also provided live test cases, allowing KPMG to test additional aspects of Verizon's systems. The Commission and KPMG conducted weekly conference calls with the CLECs in order "to allow the CLECs to obtain information concerning test progress and for them to communicate issues of concern about the test." KPMG Draft Final Report at 14.

34. As it did in New York, Massachusetts, Pennsylvania and New Jersey, KPMG sought product and volume forecasts from the CLECs and Verizon VA and

worked with the parties to develop different test scenarios. KPMG Draft Final Report at 10**.** These scenarios described situations in which CLECs operating in Virginia purchase wholesale services and network elements from Verizon VA to be resold or repackaged to the CLECs' end user customers on a retail basis. KPMG designed the scenarios to emulate the actual coverage, mix and types of CLEC transactions Verizon is expected to encounter in Virginia. The forecasts were used to help define the products, services, transactions and volumes that should be included in the test.

35. After the scenarios were developed, KPMG introduced variations into the scenarios to create test situations. As stated by KPMG: "variations of each scenario were executed to test a range of feature/function combinations, and to reach desired transaction volume levels." KPMG Draft Final Report at 13. Variations included the introduction of deliberate errors, the creation of actual troubles, and variations in the types of products included.

36. KPMG used forecast information from CLECs and Verizon VA to project and test future production volumes for pre-order and order transactions. KPMG Draft Final Report at 10: "Verizon VA and CLEC business plans and projections were also reviewed during construction of the MTP." KPMG then generated individual test cases based on the expected volumes. In addition, KPMG developed a "peak" volume test based on 125% -150% of projected volumes, and then assigned stress volumes to a subset of test case types at 150% to 175% of these volumes. KPMG Draft Final Report at TVV2. Similar testing was conducted for the RETAS system. KPMG Draft Final Report at TVV6. KPMG used these "peak" and "stress" tests to analyze the capacity of these

systems to handle loads greatly in excess of then-current volumes and to identify potential choke points, if any, in the systems.

37. KPMG also solicited CLEC participation in the design of the test and the provision of live test cases during the test period. KPMG Draft Final Report at 12. Live CLEC orders allowed KPMG to test processes and order types that require long elapsed times or facilities that were not practical to provide in a test bed environment. KPMG also monitored live CLEC production to assess the performance and service levels experienced by CLECs during the test. *Id.*

38. KPMG analyzed Verizon VA's day-to-day operations and CLEC support and operational management practices, in addition to conducting its tests of the OSS and interfaces. These operational tests analyzed policy development, development of methods and procedures, procedural change management and help desk support in order to determine whether the processes functioned correctly and according to documentation and expectations. KPMG Draft Final Report at 13.

39. KPMG took great care to ensure that its test was representative of the CLEC experience because "it is impossible for any CLEC to totally avoid being recognized by Verizon VA." KPMG Draft Final Report at 14. Accordingly, KPMG noted that:

> We instituted certain procedures to help ensure that KPMG Consulting and HP would not receive treatment from Verizon VA that was different from that received by a real CLEC. For example, we required that all documents given to us be generally available to all CLECs. In addition, the timing and detailed nature of transactions and test calls were not announced in advance to Verizon VA. When visits to Verizon VA facilities were required, minimal advance notice was given. We

also reported problems using the same Help Desk mechanisms used by the CLECs. KPMG Draft Final Report at 14.

40. The format of the KPMG Draft Final Report is organized around five domains that include Relationship Management and Infrastructure ("RMI"), Pre-Ordering and Ordering, Provisioning, Maintenance and Repair, and Billing. In the RMI domain, KPMG included 6 tests and 85 test points. KPMG determined that Verizon satisfied every test point. KPMG Draft Final Report at 18 and Section III. In the Pre-Ordering and Ordering domain, KPMG conducted 5 tests and included 102 test points. KPMG determined that Verizon satisfied every test point. KPMG Draft Final Report at 18 and Section IV. In the Provisioning domain, KPMG conducted 4 tests and included 80 test points. KPMG determined that Verizon satisfied all but one test point. KPMG Draft Final Report at 18 and Section V. In the Maintenance and Repair domain, KPMG conducted 7 tests and included 77 test points. KPMG determined that Verizon satisfied 75 test points and two were inconclusive. KPMG Draft Final Report at 18 and Section VI. In the Billing domain, KPMG conducted 5 tests and included 75 test points. KPMG determined that Verizon satisfied every test point. KPMG Draft Final Report at 18 and Section VII. These results, and Verizon VA's commercial performance, are discussed in the subsequent sections of this Declaration. (KPMG also measured Verizon VA's ability to generate and accurately report performance metrics, a subject area addressed in the accompanying Measurements Declaration.)

## III. PRE-ORDERING

### A. Systems and Interfaces

41. Verizon retail representatives in Virginia and CLEC employees obtain the same pre-ordering information from the same underlying OSS. This pre-ordering information consists of:

- Customer Service Records ("CSR") - The CSR contains the end user's account information with Verizon VA, including listed name and address, billing name and address, billing and working telephone numbers for the account, a list of all services provided to the end user, and the end user's Pre-subscribed Interexchange Carrier ("PIC") and Local Pre-subscribed Interexchange Carrier ("LPIC"). Verizon makes the CSR available to CLECs in both "unparsed" and "parsed" formats – that is, CLECs using the application-to-application interfaces described below have the ability to retrieve the CSR with information populated into separate fields, allowing them more easily to use the information in their own systems.

- Address Validation - The Address Validation function allows the CLEC to confirm that its customer has provided a valid street address that matches Verizon's records. This function is important to ensure that the proper outside plant facilities will be assigned to the CLEC's order. If a positive match is not made, a message is returned to the CLEC that should prompt it to solicit more information from its customer.

- Telephone Number Selection/Reservation - The Telephone Number Selection/Reservation function provides the CLEC the ability to select and/or reserve a telephone number. A CLEC can use this function to satisfy either a new service request or a number change request from its customer. The CLEC performs the telephone number selection/reservation by choosing the same transaction as is utilized for address validation.

- Product and Service Availability - This function allows the CLEC to retrieve the products and services that Verizon VA provides in the end user's area. This information includes InterLATA and IntraLATA carriers, a list of features and functions available, directory information, calling area information and exchange information.

- Due Date Availability - This function gives the CLEC the ability to query the system for the next available due date in a given geographical area for

orders that will require a technician to be dispatched to the end user's premises. For both retail services and comparable wholesale services, this function is limited to simple order types and service quantities. Due date intervals for other order types are determined by standard "guidelines" that are available on Verizon's Web site. (http://128.11.40.241/east/wholesale/resources/master.htm)

- Loop Qualification for ISDN - This function gives the CLEC the ability to query the system to determine if a loop is has been conditioned for ISDN functionality.

- Loop Qualification for xDSL - This function gives the CLEC the ability to query the system to determine if a loop is qualified for xDSL (Digital Subscriber Line) prior to the submission of an order.

- Directory Listing Request - This function enables the CLEC to retrieve existing listing data for a specific end user. If an end user has multiple listings, the system will respond with a list from which the requestor can select a more specific listing and enter a new request.

- Telephone Number Reservation Maintenance – This function provides CLECs with the ability to modify an existing Telephone Number Reservation. CLECs can cancel a reservation, change an expiration date on an existing reservation, or delete one or more telephone numbers associated with the reservation.

- xDSL Loop Qualification – Extended – This function provides the CLEC with the ability to request a "manual" (on-demand) loop qualification for xDSL before submission of an order. This transaction should only be used after processing an xDSL Loop Qualification inquiry when the response to that inquiry indicates that the loop has not yet been qualified.

- Loop Make Up – This function provides the CLEC with the ability to access loop make up information where such information is available in Verizon's databases. Loop make up information includes loop composition, segment length by gauge, bridge tap quantity and location, load coil quantity and location, and the presence of Digital Single Subscriber Carrier.

42. Once a CLEC operating in Virginia has placed an order, the CLEC representative can use the pre-ordering interface to check the status of the order and obtain a copy of the service order as it exists in the service order processor, giving the

CLEC the same ability to respond to customer inquiries that Verizon VA's retail representatives have.

43. The data made available to CLECs in connection with performance of pre-ordering functions is obtained from the same underlying OSS and databases that Verizon VA uses to serve its retail customers. The principal underlying internal systems that support pre-order functionality are listed below:

- LiveWire – Provides address validation, telephone number selection, telephone number reservation, product and service availability, date due availability, and telephone number reservation maintenance; also used to determine if a loop is qualified for xDSL
- expressTRAK/CSR Respository– Maintains retail customer service records
- PHOENIX – Used to determine if a loop is qualified for ISDN
- Beacon/Sober– Provides directory listing information
- expressTRAK – Service order processing system that provides service order status
- Work Force Administration System ("WFA") – Provides service installation status information
- Loop Facilities Assignment and Control ("LFACS") – Provides loop make-up information where such information exist

A number of these systems support additional functions that are described in other sections of this Declaration.

44. Verizon provides CLECs operating in Virginia with the same three electronic interfaces that CLECs use to obtain access to the pre-ordering OSS throughout the former Bell Atlantic service areas. Two of these are application-to-application (meaning, computer-to-computer) interfaces: Electronic Data Interchange ("EDI") and

Common Object Request Broker Architecture ("CORBA"), and the third is a Web-based Graphical User Interface ("Web GUI"). During the month of January 2002 , 7 CLECs used EDI and over 75 CLECs used the Web GUI to submit pre-ordering transactions in Virginia. Ten CLECs are certified to use CORBA to perform pre-ordering transactions with Verizon, which enables them to use it in Virginia as well as any former Bell Atlantic state.

45. Verizon currently offers two industry standard versions of the Local Service Ordering Guidelines ("LSOG") for each of the pre-ordering interfaces, LSOG version 4 and LSOG version 5. LSOG 4, which corresponds to EDI LSOG Mechanization Specification 4 ("ELMS 4," which maps the LSOG specifications to EDI), was in place in Massachusetts, Connecticut, Pennsylvania, and Rhode Island when the FCC approved Verizon's long distance applications for those states. This is also the LSOG version under review by the FCC in connection with Verizon's pending 271 applications for New Jersey and Vermont and the predominant version used by CLECs at this time. Verizon implemented LSOG 4 in a March 2000 release, and further enhanced it in subsequent releases, pursuant to the Change Management Process described below, which incorporated input from CLECs and allowed them to test each release before it was implemented in production. Once a CLEC has developed an EDI pre-ordering interface, it can extend that interface to perform pre-order transactions in any former Bell Atlantic service area consistent with CLEC connectivity and certification requirements.

46. On October 20, 2001, Verizon implemented LSOG 5, and the corresponding ELMS 5, which are the latest adopted versions of these standards and guidelines. These standards and guidelines are promulgated by the sponsored forums of

the Alliance for Telecommunications Industry Solutions ("ATIS"), which include the Telecommunications Industry Forum ("TCIF") for EDI Service Ordering Guidelines and EDI LSOG Mechanization Specifications, the Ordering and Billing Forum ("OBF") for Local Service Ordering Guidelines, and Committee T1 for network interconnections and interoperability standards.

47. The final specifications for LSOG 5/ELMS 5 were adopted by the ATIS forums in October 2000, with an effective date approximately nine months after publication and an effective implementation date approximately six months after the effective date. For LSOG 5/ELMS 5, this translates to a suggested implementation time frame of July 2001 through January 2002. Using the Change Management Process described below in this Declaration, Verizon began discussing this industry standard release with CLECs in March 2001, well in advance of the October 2001 implementation date. Verizon provided the first draft of business rules in May 2001, and the first draft of technical specifications in June 2001. Verizon published second drafts of business rules and technical specifications in August 2001 and final versions in early September 2001. CLECs provided comments on Verizon's documentation throughout this period as well as during meetings and conference calls held in April, May, June, and August to discuss the LSOG 5 documentation. Following Verizon's own internal testing of the new software, Verizon made the LSOG 5 software available in the CLEC Test Environment on September 24, 2001 for CLECs who wanted to test the new software with their own systems. This was followed by the implementation of LSOG 5 in production on October 20, 2001.

48. During its discussions with CLECs, Verizon asked CLECs about their plans to move to LSOG 5. The CLECs that responded indicated they had no immediate plans to do so, generally targeting late first quarter or second quarter of 2002 for their own implementation of LSOG 5. This is consistent with the fact that no CLECs tested LSOG 5 with EDI or CORBA in the CLEC test environment prior to the October 2001 release. The vast majority of pre-order transactions in Virginia are received in LSOG 4 format (over 163,000 in January 2002, compared to 1,467 LSOG 5 pre-order transactions). Consistent with the Change Management Process described below, Verizon retired LSOG 3/EDI 9 (earlier versions of these industry guidelines) using the phased cut-over approach, which allowed transactions in the "old" format to be submitted up to thirty days after the implementation of the "new" format. This phased cutover approach allowed a grace period to complete the transition off of LSOG 3.

49. Verizon will continue to support LSOG 4 and LSOG 5 pre-ordering transactions as specified in the Change Management Process until it implements a subsequent version, at which time LSOG 4 will be retired. Verizon's support of two versions of the ATIS standards and guidelines enables CLECs to make the transition to a newer version on a schedule that is convenient for them within a reasonable time frame after implementation of a new LSOG version. By way of illustration, LSOG 4 had been available for 20 months before the phase-out of LSOG 3. Attachment 302 to this Declaration illustrates the timeline for Verizon supporting two LSOG versions. The versioning policy employed by Verizon was favorably referenced by the FCC in its approval of both the New York and the Massachusetts 271 applications. *See NY Approval Order* ¶ 110 and *MA Approval Order* ¶ 107.

50. In addition, Verizon provides an application-to-application CORBA pre-ordering interface that is consistent with ATIS standards. Once a CLEC has developed a CORBA pre-ordering interface, it can easily extend that interface to perform pre-order transactions in any other former Bell Atlantic jurisdiction. CORBA, like EDI, is subject to the Change Management process described below.

51. As elsewhere throughout the former Bell Atlantic service areas, Verizon currently offers CLECs operating in Virginia several connectivity options for exchanging electronic transactions with Verizon using application-to-application interfaces: dial-up (asynchronous/bisynchronous), dedicated line, and Internet/Public Network. CLECs decide which connectivity method and utility should be used, based upon their own criteria. To start the process, the CLECs contact the Verizon Connectivity Management team who will guide the CLEC through the connectivity process. Some of the more detailed information along with the benefits associated with each of the connectivity methods can be found in Volume II of the CLEC/Resale Handbooks. The Handbooks are available on Verizon's web site at (http://128.11.40.241/east/wholesale/customer_docs/master.htm)

52. As noted above, EDI and CORBA are application-to-application interfaces – that is, they allow CLECs operating in Virginia to connect their OSS to Verizon's pre-ordering OSS. In addition, they enable CLECs to integrate pre-ordering and ordering functions in their own systems. Verizon worked in collaboration with the CLECs to develop uniform field name and attribute rules to facilitate the integration of the pre-ordering and ordering functions. In approving the New York 271 application, the FCC found that Verizon's pre-ordering and ordering interfaces were "readily integratable"

(*New York Approval Order* ¶¶ 137-138), and several CLECs have done so. In approving the Massachusetts 271 application, the FCC found that "Verizon has shown that it allows competing carriers to integrate successfully pre-ordering information into Verizon's ordering interfaces and the carriers' back office systems." *Massachusetts Approval Order ¶ 52.* This functionality was also validated by the FCC's approval of Verizon PA's 271 application. *Pennsylvania Approval Order ¶ 33.* Moreover, in its Virginia test, KPMG successfully integrated pre-order and ordering functions using data obtained via Verizon's interfaces. KPMG VA Final Report at Test TVV 1-5-1.

53. Verizon also provides the Web GUI for CLECs that choose not to use EDI or CORBA in Virginia. The Web GUI is a graphical user interface – that is, a human-to-machine interface - that a CLEC can access from a personal computer using the Internet, using a dedicated/private line, or using a secure dial-up line. This allows CLECs to obtain electronic access to Verizon's OSS without having to develop their own interface systems and software as they would with an application-to-application interface. The Web GUI allows CLECs to perform the pre-ordering functions described above, including checking the status of orders.

54. Whether a CLEC chooses to use EDI, CORBA or the Web GUI, its pre-order transaction enters a Verizon gateway system that automatically directs the transaction to the appropriate back-end OSS. Verizon VA retail representatives use the same pre-order functions either by logging into the individual backend OSS for specific pre-order transactions or by using a retail negotiation system that directs certain pre-order transactions to the appropriate back end OSS. Accordingly, in these and other respects, Verizon has provided CLECs operating in Virginia with pre-order functionality that is

equivalent to, and in some instances more integrated and more automated than that which Verizon VA's own retail representatives have. Attachment 303 to this Declaration depicts the flow of pre-order queries from CLECs.

**B. Interface Availability**

55. As elsewhere throughout the former Bell Atlantic service areas, Verizon VA and CLECs have access to the same pre-ordering information from the same underlying OSS. The underlying OSS are periodically taken out of service for routine maintenance, upgrades and enhancements. When an underlying OSS is out of service, the specific pre-ordering transactions performed by that OSS are equally unavailable to the CLECs and Verizon VA representatives. The scheduled out-of-service hours for each OSS are listed on the Verizon Wholesale web page at http://128.11.40.241/east/wholesale/html/cd_sys_avail.htm. Similarly, if a particular OSS experiences an unexpected problem, the specific pre-ordering transactions performed by that OSS are equally unavailable to Verizon VA employees and to CLEC employees. Any *difference* in ability to reach the underlying OSS and perform specific transactions, therefore, will be caused by unavailability of the interface by which CLECs obtain access to the OSS, not the availability of the OSS itself. As elsewhere throughout the former Bell Atlantic service areas, Verizon provides CLECs in Virginia with advance notification when outages are planned for the interfaces or for the underlying OSS. Verizon also provides broadcast notification to CLECs when there is an unplanned service interruption, whether it results in an interface outage, response time slow-down, or transaction-specific unavailability. The guidelines for system outage notifications are

documented on the website:

http://128.11.40.241/east/wholesale/html/cd_ind_process.htm.

56. Verizon VA provides Carrier-to-Carrier ("C2C") performance metrics reports of the availability of the pre-ordering interfaces provided to CLECs during both "prime time" (6:00 a.m. to 10:00 p.m. EST, Monday through Saturday, excluding holidays), and "non-prime time" (10:00 p.m. to 6:00 a.m. EST, Monday through Saturday; all day Sunday and holidays). For the maintenance interface, Prime Time is 6:00 a.m. to 12:01 a.m. Monday through Saturday (excluding holidays); and Non-Prime Time is 12:01 a.m. to 6:00 a.m. Monday through Saturday and all day Sunday and holidays. As shown in the Measurements Declaration, during the prime-time hours, EDI and CORBA were consistently available more than the 99.50% standard in November 2001, December 2001, and January 2002. Similarly, the Web GUI availability during prime time was 100%, 99.92%, and 99.83% in November 2001, December 2001, and January 2002, respectively. *See* Measurements Declaration Attachment 401. Non-prime time hours were similarly strong for Web GUI and CORBA. Although there is no performance standard for this measure, Verizon seeks to minimize downtime and, when possible, to schedule the downtime for the least frequently used time periods.

**C. Volumes and Performance**

57. During the last two years, Verizon managed substantial growth in the volume of pre-order transactions across the former Bell Atlantic service areas, beginning in January 2000 with 506,000 transactions per month and increasing to over 2 million transactions in December 2001. In January 2002 there were almost 2.3 million

transactions. Pre-ordering transactions are processed through common interface systems used throughout the former Bell Atlantic service areas. Verizon has processed over 29.2 million pre-order transactions during 2001, with more than 2.1 million in Virginia. In January 2002 in Virginia there were over 165,000 pre-order transactions.

58. Through the March, 2001 reporting month and as of the February 2002 reporting month, the standards for pre-ordering response times (C2C metrics PO-1-01 through PO-1-07) processed through the Verizon interface were (i) "parity [with Verizon retail] plus not more than four seconds" for access to the OSS using the EDI and CORBA access interfaces, and (ii) "parity plus not more than seven seconds" for access to the OSS using Web GUI. The standard for PO-1-04 and PO-1-09 is parity plus not more than ten seconds. During the months of April 2001 through January 2002, the standards for pre-ordering response times (PO-1-01 through PO-1-07) processed through the Web GUI was parity plus not more than four seconds.

59. The difference of a few seconds is intended to allow for mapping and translation of the information into the specific data and transmission formats as well as variations in functionality (for example, the CLECs use a single interface and the Verizon gateway system determines to which underlying OSS the transaction should be sent, while Verizon representatives may be required to access each OSS separately) and security requirements of the interface. The FCC found that allowing for these differences created reasonable and appropriate measures of whether Verizon processed pre-order transactions for CLECs in substantially the same time that it processes its own pre-order transactions. *New York Approval Order* ¶ 146 and *Massachusetts Approval Order* ¶ 53.

60. In the former Bell Atlantic service areas where C2C standards have been established, the Web GUI pre-order performance metrics were established with a standard of retail plus 7 seconds. In other words, for the same type of query, the average response time for pre-order queries sent by CLECs via the Web GUI should take no more than seven seconds longer than for Verizon VA representatives. A different standard was established for the Web GUI because, as a human-to-machine interface, it is required to perform additional processing steps than the application-to-application interfaces. Although the seven-second standard was ratcheted downward in Virginia for a brief period of time, effective in the February report month, the Commission has agreed that seven seconds is the appropriate differential.

61. With respect to the numerous transactions measured in C2C every month, only two transactions – Telephone Number Availability and Reservation ("TNAR") when accessed via EDI and Web GUI and Product and Service Availability ("PSA") -- did not regularly meet the standards in the C2C Guidelines.

62. The reason for the miss in TNAR is that the information and functionality provided to the CLEC via the TNAR transaction is different and greater than that measured in the C2C comparison transaction. *See* Measurements Declaration. In the TNAR wholesale transaction, the system performs two activities for the CLEC: address validation and telephone number reservation. The C2C wholesale measurement captures the time for both activities. In the corresponding retail transaction, the retail representative also conducts both activities, but the reported C2C retail measurement *only captures the time used for the telephone number reservation portion of the transactions*. Thus, there is a disparity in the functionality involved only because the retail

measurement value understates the time involved in performing the identical functions. This disparity has been recognized by the CLEC industry as well. As part of the collaborative process in Virginia, Verizon and the CLECs have agreed that the two (2) retail transactions should be combined for analysis purposes. Upon implementation of the SCC ordered C2C Guidelines, this issue will be resolved. Accordingly, the Measurements Declaration compares the retail transaction response times with and without the Address Validation function. Parity is apparent when viewing comparable wholesale and retail functionality. However, even with the disparity built into the reported measurements, the TNAR transaction "missed" the 4-second C2C standard by no more than 1.82 seconds in any month from November through January 2002 – clearly not a competitively significant difference. *See* Measurements Declaration Attachment 401.

63. In addition to TNAR, the PO 1-04 metric, Average Response Time – Product and Service Availability ("PSA") missed the 4-second C2C standard in December and January for EDI, CORBA and Web GUI. At the request of CLECs, this wholesale transaction was developed in June 2000 to combine the equivalent of six retail transactions into a single wholesale response. To allow for the additional processing steps in the wholesale transaction, the response time standard has been established in other states, including New York, Connecticut, Massachusetts, and Rhode Island at parity with retail plus not more than 10 seconds. This performance standard becomes effective in Virginia in February 2002. Verizon VA's December and January results meet this standard.

64. Verizon follows a comprehensive capacity management process to ensure that its systems have sufficient capacity to handle current and projected volumes. Capacity management is an ongoing process. On a regular basis, Verizon collects key system performance data such as CPU utilization, memory utilization, and transaction volumes. Verizon analyzes the performance data and identifies any servers that are exceeding pre-defined utilization thresholds. Verizon also extrapolates from existing performance data to anticipate future utilization based on predicted transaction workload. Based on the utilization data and the predicted future needs, Verizon develops specific action plans for additional system tuning, application architecture changes, and infrastructure upgrades for hardware and system software components.

65. Moreover, in the year 2001, monthly order volume across the former Bell Atlantic states increased approximately 30% to over 900,000 LSRs in a single month and pre-order volume nearly doubled to a monthly rate of over 2.5 million transactions. The range of volume experienced in production also demonstrates the ability of the systems to handle volatility. For example, during November 2001, December 2001, and January 2002, the EDI systems processed as few as 157 orders and more than 55,000 orders in a single day. Verizon has managed these increased volumes and volatility while simultaneously providing strong, consistent system performance results in Virginia, further demonstrating that Verizon's capacity management process is working well in a live, commercial environment.

## IV. ORDERING

### A. Systems and Interfaces

66. The ordering process involves the submission by a CLEC to Verizon of a request for service (a Local Service Request – "LSR" – or an Access Service Request – "ASR"), the review and checking of this request, the routing to appropriate systems which process Virginia requests, and the entry of that request into the service order processing system (the underlying OSS). As part of the ordering process, CLECs receive an acknowledgement that the order has been received. For order types submitted using an LSR, CLECs also receive a confirmation that the order has entered the service order processor (generally called a Local Service Request Confirmation – "LSRC", but sometimes referred to as a Firm Order Confirmation – "FOC") or a reject notifier with an error ("ERR") message, a Provisioning Completion Notifier ("PCN") indicating that the provisioning of the order has been completed, and a Billing Completion Notifier ("BCN") indicating that the billing records changes associated with a provisioned order have been completed.

67. As elsewhere throughout the former Bell Atlantic service areas, Verizon provides CLECs in Virginia a choice of two interfaces for submitting resale and UNE LSRs (including LSRs for UNE-platform, DSL loops and line sharing) – EDI and the Web GUI. During the month of January 2002, 14 carriers used EDI and over 50 CLECs used the Web GUI to submit LSRs to Verizon for Virginia. The order status notifiers described above are returned to CLECs over the same interface the CLEC used to submit the LSR.

68. Verizon currently offers two industry standard versions of the Local Service Ordering Guidelines ("LSOG") for each of the ordering interfaces. The first is LSOG 4, which is associated with ELMS 4 for EDI and was in place when the FCC approved Verizon's applications for Massachusetts, Connecticut, Pennsylvania, and Rhode Island. This is also the LSOG version under review by the FCC in connection with Verizon's pending 271 applications for New Jersey and Vermont. Verizon's implementation of LSOG 4 with ELMS 4 for the ordering interface followed the same Change Management Process as was used to implement LSOG 4/ ELMS 4 for pre-ordering. LSOG 4 was introduced in March 2000. By the end of November 2001, all CLECs in Virginia were using LSOG 4 to submit LSRs.

69. The second supported format version for ordering, like pre-ordering, is now LSOG 5 with ELMS 5 for EDI, which are the latest adopted versions of these standards and guidelines. As discussed above under pre-ordering, Verizon followed the Change Management Process in its implementation of LSOG 5, which provided an opportunity for input and comments on documentation from CLECs and allowed them to test the release before it was implemented in production. As provided for in the OSS Change Management Process, Verizon used the phased cutover approach to retire the "old" LSOG 2 format. This phased cutover approach allowed a 30 day post-release period during which CLECs could continue to submit LSRs in the "old" format. For the LSOG 2 to LSOG 4 transition, this was followed by a second 30-day period to allow the "pipeline" of LSRs and notifiers to be completed. During this second 30-day period, no new or supplemental LSRs (except supplemental orders to cancel an earlier order) could be submitted in the "old" format. At the conclusion of this period, the "old" format was

fully retired. LSOG 2 was fully retired on December 15, 2001. Although CLECs had indicated no immediate plans to move to LSOG 5, Verizon has received over 7,000 production LSRs in LSOG 5 format in the former Bell Atlantic service areas during the time between implementation on October 20, 2001 and January 31, 2002, of which 67 were in Virginia. As with pre-ordering, Verizon will continue to support LSOG 4 and LSOG 5 ordering transactions as specified in the Change Management Process until it implements a subsequent version of the industry guidelines, at which time LSOG 4 will be retired.

70. As noted above, EDI is an application-to-application interface. CLECs that use EDI for ordering and pre-ordering, therefore, have the ability to integrate those functions in their own systems and several CLECs have done so. Similarly, CLECs using CORBA for pre-ordering and EDI for ordering have integrated these functions in their own systems. Attachment 304 to this Declaration is a diagram depicting the process flow of CLEC orders.

71. Verizon has established the necessary OSS capabilities to support unbundled DSL orders in Virginia as UNE Loops and in line-sharing and line-splitting arrangements. These OSS capabilities are detailed in Attachment 305 to this Declaration.

72. For ordering certain arrangements, like interconnection trunks that resemble access-type services, Verizon provides Connect:Direct as a file transmission method for CLECs in Virginia and throughout the former Bell Atlantic service areas. Connect:Direct is a well-established method for exchanging information within and between telecommunications carriers, and has traditionally been used by Verizon to receive ASRs from Interexchange Carriers ("IXCs"). CLECs may order interconnection

trunks and other access-type services by submitting an ASR over Connect:Direct, or using the Web-based Carrier Services Gateway ("CSG") system, (which is also provided to IXCs), or by faxing their orders.

73. During 2001, Verizon processed more than 650,000 LSRs in Virginia and over 10.3 million LSRs in the former Bell Atlantic service areas. In January 2002, Verizon processed over 62,000 LSRs in Virginia and over 850,000 LSRs in the former Bell Atlantic service areas. In its Virginia analysis, KPMG tested Verizon's ability to process normal, peak and stress order volumes and found that it satisfied all of the test criteria. KPMG Draft Final Report at TVV 2-1-1 through 2-8-3. Those tests, together with the commercial volume of orders that Verizon already is handling, confirms that Verizon provides nondiscriminatory order processing to CLECs operating in Virginia.

**B. Order Flow-Through and Reject Rates**

74. The vast majority of resale and UNE LSRs are submitted electronically through the EDI and Web GUI interfaces. Many of these LSRs are designed (i.e., systems have been developed and enhanced to automatically process specific order and product types) to flow-through Verizon's interface and gateway systems to the service order processor without manual intervention, and continue automatically into the provisioning systems. Lists of the types of order scenarios (Generic Flow-Through Scenarios) and products (USOC In Scope Tables) designed to flow-through in Virginia and the other former original Bell Atlantic service areas are available to the CLECs on Verizon's Wholesale web site at http://128.11.40.241/east/business_rules/business_rules.htm. There are exceptions to the types of order scenarios and products designed to flow-through based largely on their

complexity and the quantity of lines that determine the need to check if facilities are available to process the LSR. Many of the exceptions to the most common order scenarios and products are identified on the Generic Flow-Through Scenarios list.

75. Flow-through is defined as the process where an LSR submitted through the EDI or Web GUI interface is routed to the gateway systems and then to the service order processor where it is confirmed, without the assistance of a representative in the NMC. That LSR must pass a series of edits applied in the interfaces, in the gateway systems, and in the service order processor before it can be confirmed, and when that process completes automatically, that LSR has flowed through. An initial edit pass verifies that the appropriate forms have been submitted by the CLEC for the order scenario requested and that all the required fields for that scenario are populated. The LSR is then reviewed to ensure that conditions identified in the business rules for that scenario are met. Once the LSR passes these edits, other systems and databases are accessed to derive additional data and edit information on the LSR against Verizon's back-end OSS.

76. There are several reasons why an LSR might not pass these edits and therefore would not flow-through. In some cases, the order scenario or specific product on the LSR may not be designed to flow-through. In other situations, LSRs may be submitted with incorrect information as defined by the business rules. In still other cases, the data to be derived based on the back-end OSS may not be accessible or available, or the information provided on the LSR may not match the data in the back-end OSS. When the request does not pass the edits, the LSR is either queried back to the CLEC or it is sent to the NMC for manual processing.

77. Verizon VA reports on several measurements that monitor the flow-through and reject performance levels for both Resale and UNE (including Loop, Local Number Portability ("LNP"), and Platform). The OR 3-01 ("Reject") metric measures the percent of orders it receives that are rejected or "queried" back to the CLEC. The care with which a CLEC prepares its LSRs can have a substantial effect on the rate at which LSRs are rejected. While the overall "reject rate" was 24.92% (Resale) and 23.52% (UNEs) in January 2002, the variation in results among individual carriers shows that their LSRs vary considerably in the quality of their preparation. For example, the "reject rates" for resellers submitting 100 or more Resale LSRs in Virginia during January 2002 range from 13.34% to 77.33%. Similarly, the "reject rates" for CLECs submitting 100 or more UNE LSRs in Virginia during January 2002 range from 8.93% to 68.88%.

78. The OR 5-01 ("Total Flow-Through") metric measures the percentage of valid orders (orders not rejected or queried) received through the electronic ordering interfaces that are processed directly into the SOP without manual intervention in that month. The total flow-through rate for Resale was 72.87% in November 2001, 78.93% in December 2001, and 78.68% in January 2002. During this same period, the total flow-through rate for UNE was 53.43%, 51.24%, and 45.35% in November 2001, December 2001, and January 2002, respectively. Verizon continues to review and analyze ordering activity to identify further opportunities for flow-through. This metric counts all valid orders and, therefore, provides the best measure of mechanized flow-through performance. *See* Measurements Declaration.

79. Verizon VA also reports on a subset of CLEC orders in Metrics 5-02 (simple orders) and in Metric OR 5-03 ("achieved flow-through"). The latter metric is intended to be a calculation of the number of the LSRs that did flow-through as a percent of the number of LSRs marked as eligible to flow through in that month. The achieved rates for Resale are 84.51% in November, 91.89% in December 2001 and 89.85% in January 2002 and ranging from 62.41% to 73.42% during those same months for UNEs. *See* Measurements Declaration Attachment 401.

80. Importantly, the total flow-through rate (OR 5-01) for resale and UNE in Virginia in January 2002 is comparable to the rate in New York, Massachusetts, Pennsylvania, and Rhode Island at the time of their 271 state proceedings. *See* Attachment 306.

81. Total flow-through that is observed on actual production is dependent on several factors. One of those factors is the volume and mix of order scenarios and products requested, some of which are designed to flow-through and some are not. CLECs in Virginia are submitting between 62,200 and 64,000 LSRs each month in all modes of entry (Resale, UNE Loop, UNE Platform). For the period November 2001 to January 2002, resale activity represents approximately 23% of the overall activity mix, with UNE Loop approximately 72%, and UNE Platform (UNE-P) approximately 5%. The same types of mass market UNE orders that CLECs submit in high volumes in other states such as New York, Massachusetts, and Pennsylvania are designed to flow through in Virginia as well. As a result, if CLECs do begin to submit high volumes of such orders in Virginia, they will flow through and the UNE flow through rate in Virginia will increase.

82. Another factor that affects the level of total flow-through is the number of times that CLECs operating in Virginia change and cancel their LSRs *after submission* to Verizon. For the period of November 2001 through January 2002, approximately 27% of all LSRs received from CLECs doing business in Virginia were cancellations or changes to the LSRs they previously submitted. Although an LSR may be of the type that is designed to flow-through, some of the CLEC "supplements" to LSRs do not flow-through if the original version of the LSR has reached the service order processor. Instead, these are routed to the NMC to ensure that the CLEC's change request is properly completed according to the revised request.

83. The factors mentioned above are seen when comparing the differences in the flow-through rates experienced by individual CLECs with more than 100 LSRs in January 2002. As an example, one Reseller experienced a flow-through rate of 9.45% in January 2002, while another had a flow-through rate of 91.26% in the same month. Similarly, CLECs purchasing UNE products experienced a range of flow-through rates from 22.41% to 53.58% in January 2002. Moreover, in its approval of Verizon PA's 271 application, the FCC noted that "some competing carriers in Pennsylvania attain much higher flow-through rates than others. Because all competing carriers interface with the same Verizon system, we find, on this record, that it would not be appropriate to attribute this wide range of results entirely to Verizon." *See PA Approval Order ¶ 49.*

84. Although the achieved flow-through metric (OR 5-03) can be affected by the same factors that affect the total flow-through rate, there are other factors affecting this metric. An LSR designed to flow-through is marked as eligible to flow-through based on the initial edit passes. Errors resulting from the process to derive or validate

information against the back-end OSS can cause the LSR to fall to the NMC for manual processing and may be counted as misses toward the flow-through achieved metric. In the Virginia test, KPMG confirmed that Verizon's systems are capable of flowing through the order scenarios that are designed to flow-through. KPMG Draft Final Report at TVV 3-2, 3-3 and 3-4.

85. In its effort to increase the number of the LSRs that flow-through the systems, Verizon analyzes LSRs that do not flow-through to identify and determine whether CLEC education or system enhancements are appropriate. To assist CLECs in increasing the quality of their LSR preparation, Verizon began conducting monthly CLEC education workshops in November 1999. Each month, Verizon analyzes system-generated "error codes" – reasons why LSRs were rejected or failed to flow-through. The monthly workshops focus on the CLEC errors, and address the most prevalent error types that are rejected to the CLECs. They also address other areas related to ordering that CLECs have indicated are of particular interest. These topics have included LSR examples for particular features, a loop qualification transaction overview, and specific loop and number portability ordering scenarios and Directory Listings. The educational packages developed for these sessions are sent out to all CLECs based on the Verizon Change Management distribution list one week prior to the session. The workshop material is posted on the Verizon Web site at http://128.11.40.241/east/wholesale/industry_conf_education/master.htm.

86. In addition, to help CLECs perform their own analyses of the causes that prevent their LSRs from flowing through, Verizon will create a report of flow-through errors by individual CLEC and by mode-of-entry. This information is made available to

CLECs requesting it through Change Management. The objective is to help CLECs manage their ordering processes more effectively and reduce errors, both of which will ultimately reduce the number of LSRs rejected and increase their flow-through rates.

### C. Order Processing And Status Notices

87. Orders requiring manual handling by the NMC are automatically directed by the system to the appropriate work group based on order type. There, the NMC representative processes any orders that are not designed to flow-through or that fail to flow-through as the result of an error. In addition, the NMC representative reviews those orders, and if a discrepancy or omission is uncovered that requires input from the CLEC, the representative sends a query to the CLEC for clarification or additional information.

88. There is one NMC operations center responsible for receiving and processing the Virginia wholesale orders for Ported Numbers, Unbundled Loops, and Unbundled Loops associated with Ported Numbers that require Verizon manual assistance. This center – the Falls Church NMC - employs more than 120 full time Service Representatives to process orders. There is also a NMC operations center in Chesapeake, Virginia where approximately 200 people are trained to handle the DSL and Line Sharing orders for Virginia. In addition, there is a NMC in Silver Spring, Maryland which handles Resold Services, UNE-Platform and UNE products ordered via an Access Service Request ("ASR"), such as DS1, DS3 and interoffice facilities ("IOF") products. There are over 140 people trained in the processing of these orders at the Silver Spring center.

89. Verizon returns confirmations and reject notices to the CLECs operating in Virginia on a timely basis. As explained in the Measurements Declaration, the

Virginia C2C Guidelines establish a benchmark for returning order confirmations or rejections for mechanized flow-through orders, whether Resale or UNE, of 2 hours; a benchmark for order confirmations or rejections for manually handled orders for Resale or UNE POTS with fewer than six lines of 24 hours; and for Resale or UNE POTS with six lines or more of 72 hours. *See* Measurements Declaration. The standard set by the Guidelines is 95% of notices returned within the benchmark timeframe.

90. Verizon VA's on time performance results for confirmations and rejects for UNEs has been consistently good for the three-month period November 2001 through January 2002. In November 2001, December 2001, and January 2002, Verizon VA's on-time performance exceeded 95% overall for UNE orders collectively and across most of the order type subcategories. *See* Measurements Declaration Attachment 401. An analysis of these months demonstrates that Verizon VA's average LSRC/Reject timeliness for UNEs was 98% for November 2001, 98.45% for December 2001, and 98.69% for January 2002. *See* Attachment 307.

91. Verizon VA's on time performance for confirmations and rejects for Resale has also been strong. In November 2001, December 2001, and January 2002, Verizon's on-time performance in Virginia exceeded 95% overall for resale orders collectively and across most of the order types. *See* Measurements Declaration Attachment 401. An analysis of these months demonstrates that Verizon VA's average LSRC/Reject timeliness for resale was 97.63% for November, 98.49% for December, and 99.32% for January 2002. *See* Attachment 307.

92. Verizon also processes orders accurately for Virginia. As explained in the Measurements Declaration, the Virginia C2C Guidelines set forth several measures of the

accuracy with which orders requiring manual intervention from Verizon VA are processed: Percent Accuracy-Opportunities; Percent Accuracy-Orders, and Percent Accuracy-LSRC.

93. Verizon VA has demonstrated strong performance in the Percent Accuracy-Opportunities measure for the entire period from November 2001 through January 2002 for both UNE and Resale. UNE accuracy results were achieved at 99.71%, 98.35%, and 99.69% levels, respectively, for these months. Resale accuracy results were at 99.70%, 99.71%, and 98.89% levels, respectively.

94. In terms of Percent – Accuracy Orders, Verizon has also demonstrated strong performance for the entire period from November 2001 through January 2002 for both UNE and Resale. UNE accuracy results were achieved at 97.30%, 97.56%, and 97.61% levels, respectively, for these months. Resale accuracy results were at 97.21%, 96.86%, and 91.04% levels, respectively.

95. To maintain this high level of performance, the Wholesale Services organization reviews the results of service order accuracy measurement throughout the month. The findings of this analysis are shared with the managers of the various NMCs. If the results indicate a training issue within a particular center or with an individual representative, the appropriate retraining is provided.

96. As indicated by the C2C results, wholesale orders in Virginia are handled timely and accurately.

### D. Jeopardy and Completion Notifiers

97. Jeopardy Notifiers: The process Verizon uses to inform CLECs of orders that are in jeopardy in Virginia is the same as the process approved by the FCC in New York, Massachusetts, Connecticut, Pennsylvania, and Rhode Island. *See*, e.g., *Massachusetts Approval Order* ¶ 83. Verizon provides CLECs operating in Virginia with electronic access to Open Query System ("OQS") reports, which are generated by the Work Force Administration ("WFA") system for both provisioning and maintenance, to notify CLECs that an order (or maintenance) appointment may be in jeopardy. Verizon posts OQS reports three times each day. Verizon retains the reports for approximately 30 days so that CLECs can check on earlier reports if desired. The OQS reports Verizon provides to CLECs in Virginia were agreed to in negotiations during collaborative proceedings in New York. Verizon now provides the same reports throughout the former Bell Atlantic footprint.

98. As Verizon explained in the New York, Massachusetts, Connecticut, Pennsylvania, and Rhode Island Section 271 proceedings, except in very rare circumstances, Verizon's retail representatives only take incoming calls. They do not call customers with respect to jeopardies. If a customer calls a retail representative to ask about the status of an order, the representative must first check the status of the order in the service order processor or WFA. In most cases, this provides sufficient information for the representative to answer a customer question. If the representative needs additional information, he or she must call the dispatch center.

99. Verizon VA's dispatch center is responsible for scheduling technicians to perform both installations and maintenance and repair work each day. For retail orders, the dispatch center will also call Verizon VA retail customers when an appointment has been missed to reschedule the appointment. The dispatch center gets an OQS report from WFA late in the day showing which orders have been completed, which are in jeopardy of being missed for Verizon reasons, and which are in jeopardy of being missed for subscriber reasons, e.g., the customer not being available when the technician required access to the premises. (The OQS report contains status information that has been transmitted by Verizon VA technicians during the day to WFA.) The dispatch center then tries to call the customers whose appointments were missed for Verizon reasons or for subscriber reasons to schedule a new appointment.

100. The process for CLECs parallels the process followed by retail representatives. If a CLEC needs additional information beyond that available through the OQS reports (which are generated from WFA), its representative can check the order status in the service order processor or the installation status (from WFA) through the pre-ordering interfaces. Maintenance orders can be "statused" through the Web GUI or Electronic Bonding Interface ("EBI") described in the Maintenance and Repair Section of this Declaration. If further information is needed, the CLEC can call the Regional CLEC Coordination Center ("RCCC") or Regional CLEC Maintenance Center ("RCMC") for provisioning or maintenance, respectively. These support centers can call the dispatch center foreman, if needed. Therefore, the CLEC has access to the same status information as Verizon VA retail representatives do.

101. Because the CLECs do not want Verizon to call their customers, the dispatch center does not call CLEC customers to reschedule the appointment. Instead, Verizon must rely on the CLECs to reschedule any missed appointments for their end users. Therefore, Verizon VA provides CLECs with OQS reports (which are generated by WFA) for both provisioning and maintenance three times each day. These reports include any status information transmitted by the Verizon technician during the day to WFA, including the identity of any orders that the technician knows will not be completed that day. The information transmitted by the technician is available to the CLEC with the next update. The OQS reports show (separately for resale and unbundled elements, and separately for provisioning and maintenance) orders that have been completed, orders that are in jeopardy of being missed for Verizon reasons, and orders that are in jeopardy of being missed for subscriber reasons.

102. Based on the OQS process, the FCC concluded that Verizon makes order status and jeopardy information available to CLECs in a nondiscriminatory manner in both New York and Massachusetts. *See New York Approval Order* ¶ 184 ("[w]e conclude that the order status and jeopardy information system created by Bell Atlantic [Verizon NY] for wholesale orders is nondiscriminatory because it allows competing carriers to access order status and "jeopardy" information, to the extent that it is available, in substantially the same time and manner as Bell Atlantic's retail operations can access such information."); *see also Massachusetts Approval Order* ¶ 85. The processes for providing this information in Virginia are identical.

103. In the *New York Approval Order*, the FCC specifically rejected the CLEC argument that Verizon's OQS system was discriminatory because it did not "actively

provide electronic jeopardy notices…" stating that "we do not require Bell Atlantic to establish a system for creating and delivering jeopardy notifications to competing carriers that is superior to the system Bell Atlantic has for its own retail representatives or customers." *See New York Approval Order* ¶ 185. Nevertheless, in order to further assist its CLEC customers, Verizon made available an Electronic Jeopardy Notification through the EDI and Web GUI interfaces in October 2000. As CLECs were informed through Change Management, Verizon implemented the Electronic Jeopardy Notification in accordance with the Ordering and Billing Forum ("OBF") industry guidelines for Electronic Jeopardy Notifications that were introduced with LSOG 4. Verizon prepared an Electronic Jeopardy Notification document, the most recent version of which was published in December 2001. On January 24, 2002, Verizon conducted an information session to review the document and answer CLEC questions on electronic jeopardy notification as part of its Change Management meetings. The document is available on the Verizon wholesale web site at: http://128.11.40.241/east/wholesale/customer_docs/master.htm. On February 13, 2002 Verizon conducted a workshop for CLECs on notifiers, including jeopardy notifications. The presentation materials from this workshop are available on Verizon's web site at: http://128.11.40.241/east/wholesale/industry_conf_education/2002_workshop_presentations.htm.

104. Jeopardy notification for order types submitted on ASRs follow a different process than those submitted on LSRs. Jeopardies from ASR orders are communicated via phone call by a RCCC representative.

105. In addition, as discussed in the Checklist Declaration, Verizon follows the same coordination process in Virginia, as was approved by the FCC in New York, Massachusetts, Connecticut, Pennsylvania, and Rhode Island, for orders involving Hot Cuts, including calls to the CLEC prior to and on the due date**.** *See, e.g., New York Approval Order*, ¶¶ 291 - 309. As KPMG noted in its Virginia Report, the procedures include steps to be taken if either Verizon or the CLEC misses the due date. KPMG Draft Final Report at PPR 11-1 through 11-7. KPMG found that Verizon consistently followed the Hot Cut procedures. KPMG Draft Final Report at TVV 4-14.

106. Completion Notifiers. Verizon provides two types of completion notifiers to CLECs operating in Virginia – provisioning completion notifiers ("PCNs") and billing completion notifiers ("BCNs"). When a Verizon VA technician completes work steps for an order requiring physical work either in the field or in the central office, he or she notifies WFA, the administrative system that assigns jobs and manages the work force. For most orders requiring physical work, WFA updates the service order processor to show that the work has been completed. For orders requiring no physical work, such as feature/translation changes, the service order processor is automatically updated during overnight processing. The service order processor in turn notifies the gateway system as each order is completed. The gateway system accumulates completion information on all of the service orders generated by each LSR. When the gateway system has been notified that all service orders associated with an LSR have completed, the gateway system creates the completion notifier, which is then transmitted to the CLEC via the interface used to submit the originating LSR.

107. The C2C Guidelines establish multiple measures to assess the timeliness of Verizon VA's performance in providing PCNs to CLECs. OR-4-05, Work Completion Notice - % on Time, measures the percent of PCNs that are sent at or before noon the business day after SOP completion for PONs received via EDI and Web GUI. It is a "backward-looking" measure, meaning the event is captured in the C2C report in the month the PCN is generated, and evaluated against the earlier SOP completion date/time to determine if it was timely. The other PCN metric is OR 4-10, % SOP to Provisioning Completion Within 2 Business Days for PONs received via the EDI interface. This is a "forward-looking" measure, meaning the event is captured in the C2C report in the month of SOP completion and then evaluated against the later PCN generation date/time to determine if it was timely. Stated another way, it is reported in the month that the PCN is due.

108. Due to the current time stamp limitation noted in the Metrics Declaration (*See* Metrics Declaration discussion of OR 4), Verizon performed special studies for the OR 4-05 and OR 4-10 metrics for the period November 2001 through February 2002. The special studies use work completion date/time as a substitute for SOP Completion date/time. Because work completion occurs before SOP completion, these are conservative measures (more stringent to Verizon VA) which maximize elapsed time. The special study for OR 4-05 (which measures a longer interval than that required by the C2C Guidelines), shows that Verizon VA's performance for resale in November was 91.05%, in December was 91.68%, in January was 94.49% and in February was 97.30%. The performance standard for this metric when it measures SOP Completion to PCN was 97% by noon the next business day for the months of November 2001 through January

2002, but changed to 95% by noon the next business day in February 2002. For UNE, the special study results for OR 4-05 averaged 82% for the period November 2001 through February 2002. Verizon identified an error condition affecting some UNE orders where valid values for fictitious BTNs (for circuits in UNE loop accounts) had not been populated in the appropriate table. As the error condition required manual correction, there was a delay between work completion and posting in the SOP. Verizon implemented a system fix on March 4, 2002 by updating the appropriate table and eliminating the error condition.

109. Because OR 4-05 is a "backward looking" measure, misses from earlier months are reflected in the month the PCN is generated rather than in the month it was due. The "forward-looking" measure OR 4-10 counts the misses in the month the PCN is due and therefore is a better indicator of current performance on current orders. Again using the OR 4-10 special study (which measures a longer interval than that required in the C2C Guidelines), Verizon's resale performance in November was 96.45%, in December was 97.9%, in January was 95.83% and in February was 99.12%. The performance standard for this metric when it measures the shorter interval of SOP Completion to PCN is 95% in 2 business days. For UNE, the special study results also show strong performance with November at 90.14%, December at 91.76%, January at 95.00% and February at 97.49%.

110. The C2C metrics that report BCN timeliness are OR 4-02, Completion Notice % on Time and OR 4-09, % SOP to Bill Completion Within 3 Business Days. OR-4-02 measures the percent of BCNs that are sent on or before noon the business day after Bill completion for PONs received via EDI and Web GUI. It is a "backward-

looking" measure, meaning the event is captured in the C2C report in the month that the BCN is generated, and then evaluated against the earlier Bill completion date/time to determine if it was timely.

111. Due to the current time stamp limitation described in the Metrics Declaration, (*See* Metrics Declaration discussion of OR 4) this metric as reported in the C2C reports is measuring an interval longer than that required by the C2C Guidelines. Nevertheless, Verizon's results for resale are strong: 91.56% in November, 96.68% in December, and 95.03% in January. The performance standard for this measure becomes 95% with the February 2002 data month. For the same period of time, UNE results averaged 85.35%. The same error condition that affected UNE results in OR 4-05 also affected UNE results for this measure. As noted above, on March 4, 2002, Verizon implemented a system fix to eliminate this condition.

112. The other BCN metric, OR 4-09, is calculated for PONs received via the EDI interface. This is a "forward-looking" measure, meaning the event is captured in the C2C report in the month of SOP completion and then evaluated against the BCN generation date/time to determine if it was timely. Stated another way, it is reported in the C2C report in the month that BCN is due and is therefore a better indication of current performance on current order activity. Again using the special study (which measures a longer interval than that required in the C2C Guidelines) Verizon's resale performance in November was 90.48%, in December was 95.64%, in January was 93.54% and in February was 95.93%. The performance standard for this metric when it measures the shorter interval of SOP Completion to BCN is 95% in 3 business days. For

UNE, the special study results also show strong performance with November at 90.09%, December at 92.78%, January at 95.61% and February at 98.41%.

113. Verizon VA's overall performance demonstrates that, even when measured using longer intervals than required by the C2C Guidelines, it meets the requirements for timely PCNs and BCNs.

## V. PROVISIONING

114. Provisioning is a complex process requiring that multiple tasks be coordinated and completed before the service requested can be turned over to the customer. For instance, a single service order for the installation of a simple access line may require switch translations for feature activation, local facility and central office facility assignment, installation requirements, E911 system updates, call screening updates, maintenance system updates and billing requirements. There are no separate provisioning "interfaces" provided to CLECs, since the information required for provisioning is generally obtained from the CLEC when an order is submitted. As discussed above, Verizon provides provisioning status notices to CLECs operating in Virginia over the ordering interfaces.

115. Verizon uses the same systems and processes to provision orders both for its retail customers and for CLECs in Virginia. The primary internal Verizon systems that support provisioning functionality in Virginia are:

- Service Order Analysis and Control ("SOAC") – Acts as the central control system for other provisioning systems. SOAC analyzes the service order and creates and distributes messages for all affected provisioning systems in order to complete the provisioning process.

- Loop Facilities Assignment and Control ("LFACS") – Inventories, maintains and assigns outside plant local loop facilities. For instance, LFACS responds to requests from SOAC for the assignment of facilities on new lines.

- Memory Administration for Recent Change History ("MARCH") – Formats the switch translations and sends a message to turn on dial tone or to add, delete or change features on a telephone line.

- SWITCH – Inventories, maintains and assigns central office facilities. For example, it assigns the central office facilities that connect the outside plant to the central office switch.

- Trunk Inventory Record Keeping System ("TIRKS") – Maintains inventory of interoffice transmission facilities, trunking facilities, and special services and interoffice trunking circuits and is the primary support system for the processing of those facilities and services.

- Work Force Administration System ("WFA") – Provides dispatch requirements to technicians.

Attachment 308 to this Declaration depicts the flow of both CLEC and retail orders through the provisioning process.

116. The provisioning systems and processes used for most CLEC orders in Virginia are the same as those used for provisioning Verizon VA's retail orders. This includes all Resale, UNE platform, and new UNE loop orders other than data loops. As described in the Checklist Declaration, for provisioning loop orders to CLECs that have no retail analogue, Verizon and the CLECs have developed specific provisioning processes. These orders include coordinated Hot Cuts, which involve physically disconnecting an end user's loop from the Verizon VA switch and connecting it to the CLEC's transmission equipment, and DSL loops. The systems that support these provisioning processes, however, are the same as those that support other order types.

117. Provisioning results for the various checklist items are discussed in detail in the Checklist Declaration. We note here that KPMG evaluated the methods and procedures, processes, and systems used by Verizon VA to provision both retail and wholesale orders. KPMG found that both the design of the methods, processes and systems, and the actual handling of orders, was nondiscriminatory. KPMG Draft Final Report at PPR10 and PPR11.

## VI. MAINTENANCE AND REPAIR

### A. Systems and Interfaces

118. Verizon provides two electronic interfaces through which CLECs operating in Virginia and throughout the former Bell Atlantic service areas can obtain access to Verizon's maintenance and repair OSS – the Web GUI and the Electronic Bonding Interface ("EBI"). More than 20 CLECs used the Web GUI for trouble administration in Virginia in the months of November 2001 through January 2002, while more use the same Web GUI OSS for maintenance and repair in other states. By contrast, 2 CLECs used EBI for Virginia. EBI is complex and expensive to implement, so it is expected that only the largest CLECs will use this interface option, although Verizon offers it to all CLECs.

119. Nearly all CLECs opt to use the Web GUI interface rather than EBI for performing maintenance and repair functions electronically. The Web GUI provides access to a platform called Repair Trouble Administration System ("RETAS"). CLECs are able to perform the following maintenance and repair tasks or functions: i) Test (for both resold POTS, UNE-platform and Special Services at DS1 and lower); ii) Create

Trouble Ticket; iii) obtain Trouble Status; iv) Modify Trouble Ticket; v) Request Cancellation of Trouble Ticket; vi) request Trouble Report History; and vii) Trouble Ticket Service Recovery (POTS). These are the same maintenance and repair tasks or functions available to Verizon VA retail representatives in Virginia, and are the same functions made available in New York, Connecticut, Massachusetts, Pennsylvania, and Rhode Island. Attachment 309 to this Declaration is a diagram of the maintenance and repair process flow.

120. Electronic bonding has been used since the 1980s for maintenance and trouble reporting for exchange access service. Standards supporting some local service functions using EBI, including Mechanized Loop Testing, have been adopted by the industry. The EBI that Verizon implemented in the former Bell Atlantic areas including Virginia supports local services and local service circuit types consistent with industry standards where they exist. Where a standard has not been adopted by the industry, such as Trouble Report History, the function is not available in EBI.

121. The primary internal systems that Verizon uses to support maintenance and repair functionality for CLECs operating in Virginia are:

- Mechanized Loop Testing ("MLT") – performs automatic testing of POTS lines
- DELPHI – integrated test and analysis system which interacts with MLT, React 2001 and RETAS
- Work Force Administration System ("WFA") – coordinates and tracks the installation and maintenance activities for an entire circuit from the receipt of a work request to the completion of the request
- Loop Maintenance Operations System ("LMOS") – automates the record keeping system for the repair operation

- StarMem – a specialized application that allows automatic feature updates to switches when a feature (such as Call Waiting or Call Forwarding) ordered by and billed to the customer is not active on the customer's line

- React 2001 System – Provides for special services remote testing

The MLT, DELPHI, WFA, LMOS and React 2001 systems are used in common for retail and CLEC customers alike, while the Service system provides the same functions for retail that StarMem provides for wholesale. These are the same OSS that the FCC reviewed and approved in operation in Pennsylvania as part of its *PA Approval Order*. Further, all but one of these OSS are also the same systems that the FCC reviewed and approved in operation in New York, Massachusetts, Connecticut, and Rhode Island. The exception is the React 2001 system used in Virginia, Pennsylvania and the other original Bell Atlantic service areas (New Jersey, Delaware, Maryland, Washington DC and West Virginia) to provide the same functionality that the SARTS system provides in New York, Massachusetts, Connecticut, and Rhode Island. The React 2001 system was reviewed by the FCC and approved in operation as part of its *PA Approval Order*.

122. Verizon VA reports system availability for maintenance and repair for both Web GUI and EBI in accordance with the C2C Guidelines. With respect to the Web GUI, prime-time system availability has exceeded 99.5% for each month November 2001 through January 2002, with November at 99.96%, December at 99.93%, and January at 99.85%, respectively. *See* Measurements Declaration Attachment 401. System availability for the Electronic Bonding interface was 100% during those same months. *Id.*

### B. Systems Functionality

123. When a CLEC representative receives a trouble report on a resale or UNE-platform service and determines, after discussion with the customer, that the problem may be in the Verizon network, he or she creates a mechanized line test request using the Web GUI. Verizon's loop maintenance operating system then electronically tests the line and provides the results to the CLEC. For stand-alone UNE loops, Verizon's loop maintenance operating system is unable to perform the line test, because the loop is not connected to the Verizon VA switch. In such cases, the CLEC that provides the switching for the customer's service must conduct the line test.

124. Once the CLEC representative determines where the problem is located, he or she creates a trouble ticket request. A recent enhancement enables the CLEC representative to determine the current available appointment date and time while they are talking with their customer, prior to submitting a trouble ticket. Once a ticket is sent, Verizon processes the request, and returns a trouble ticket number and the current available appointment date and time. If the trouble ticket is a switch feature type of trouble, RETAS will attempt to perform an automatic feature fix by updating the switch translations if they do not match the billing records. CLEC representatives can also check the status of a trouble ticket using the Web GUI, modify or close out a pending trouble ticket, and check the history of trouble tickets on a line. The CLEC may also request implementation of temporary service recovery alternatives (call forwarding, make line busy) to reroute service to another properly functioning end user line for an open trouble ticket on a POTS line that is in a pending "dispatch-out" status.

125. The EBI allows CLECs to connect their systems directly to Verizon's maintenance and repair OSS. The interface allows CLECs to create, modify, close, and cancel trouble tickets, obtain the status of trouble tickets, and conduct mechanized loop testing for POTS, including UNE platform.

**C. Volumes and Performance**

126. The volume of RETAS maintenance transactions across the former Bell Atlantic service areas has grown from about 40,000 transactions a month in January 2000 to an average of over 121,000 transactions per month for the most recent three months (November 2001 through January 2002). Verizon has kept ahead of this growth. CLECs have used the RETAS interface to perform an average of 1,936 maintenance transactions per month for Virginia customers during the November 2001 through January 2002 time period (1,512 mechanized loop test requests, 135 requests for trouble ticket history, 283 creation of trouble reports, 2 status, and 4 cancellations).

127. Verizon's maintenance and repair OSS and interfaces enable CLECs operating in Virginia to provide service in substantially the same time and manner as Verizon VA does. The Virginia C2C Guidelines establish a performance standard for maintenance and repair transactions processed through RETAS of retail plus not more than seven seconds for Web GUI and not more than four seconds for EBI. In the period from November 2001 through January 2002, the response times for all Web GUI and EBI M&R transactions were consistently better than the standard. *See* Measurements Declaration Attachment 401.

128. Although the Web GUI and EBI are both available for reporting troubles, some CLECs submit troubles by calling the RCMC and having the RCMC staff enter the ticket on their behalf. The RCMC is staffed around the clock and has sufficient resources to handle all repair calls.

129. KPMG verified Verizon's ability to provide nondiscriminatory maintenance and repair services to CLECs operating in Virginia. KPMG evaluated Verizon systems, performance, processes, documentation, network surveillance, work center operations and work coordination used for the delivery of CLEC maintenance and repair services for CLECs operating in Virginia and did not find any that were unsatisfactory. KPMG Draft Final Report at 18 and Section VI.

## VII. BILLING

### A. Systems and Interfaces

130. The billing systems and procedures that Verizon uses to accumulate and provide CLECs operating in Virginia with usage billing information, including access records, are the same billing systems that Verizon VA uses for its retail customers and for interexchange carriers. The billing process is shown in the diagram that is Attachment 310 to this Declaration. Additional functionality was added to the existing systems to accommodate the billing of new usage rate elements and non-recurring and recurring charges to CLECs, and to produce the wholesale bill. The primary Verizon internal systems used to provide the billing functions to CLECs operating in Virginia are:

- expressTRAK – provides billing for retail products, resale products, UNE-platform, UNE-ports and UNE-loops; and

- Carrier Access Billing System ("CABS") – provides billing for access services for transport and other carrier settlement functions and the remaining unbundled elements such as interoffice facilities, shared transport, and collocation.

131. Verizon provides two types of billing information to CLECs, which are described below. The first is information that Verizon provides to CLECs to enable them to bill their own end user customers. This information is the usage data for calls made by the CLECs' end users, which Verizon provides to CLECs on Daily Usage Files ("DUF"). The second type of information is the wholesale bill that Verizon renders to the CLEC for the products and services that Verizon has sold to the CLEC. This is the bill that Verizon uses to receive payment from the CLEC. This bill is not intended to provide billing data to be used by the CLEC to bill its own end user customer. To bill its own customer, a CLEC should use the usage data provided by Verizon in the DUF and the information in the CLEC's own internal billing and customer service records that is the basis for the CLEC's recurring and nonrecurring charges to its customers.

132. Daily Usage Files: Call usage, if appropriate for the type of call, is recorded at the central office switch. In each switch, Verizon and CLEC usage data are captured at the same time, on the same medium and delivered to the data center in the same way. Usage processing systems identify and direct the usage to downstream processes. CLECs are provided with usage messages that may be used in the billing of their end-user customers. As stated above, to render bills to their end-user customers, CLECs combine usage information provided by Verizon with information from their own records and systems concerning the products and services they have sold to their end users, and the prices of those products and services. The CLECs receive usage via the

DUF, which contain Exchange Message Interface ("EMI") records that provide the billing details for individual messages. Verizon follows the industry-accepted EMI format specifications for message exchange issued by OBF. CLECs can receive the DUF via Connect:Direct file transfer or magnetic tape/cartridge. In 2001, Verizon created more than 137 million EMI records for CLECs in Virginia alone.

133. Verizon's Wholesale Billing Assurance group conducts testing of the DUF to ensure adherence to the OBF EMI standards. Over the course of these tests, thousands of calls have been placed and compared to expected results developed using the OBF EMI standards. This testing also included validation of usage charges on the bill, as compared to records generated on the DUF.

134. Carrier bills: Verizon also renders bills to CLECs for the unbundled network elements and resold services that the CLECs purchase from Verizon. As stated above, expressTRAK and CABS are the primary systems used to render these bills. In January 2002, Verizon produced more than 350 wholesale expressTRAK bills and more than 250 wholesale CABS bills in Virginia.

135. Verizon bills CLECs operating in Virginia for unbundled elements and resold services using the same systems and end user formats that Verizon uses to bill its end user customers. Billing data in these end user formats is available to CLECs on paper and on CD-ROM for use with the SimpleView bill viewing application. The paper bill has historically been the "bill of record" – i.e., the official bill to the CLEC for payment of amounts due and for submitting claims for disputed amounts. In addition, Verizon provides an industry-standard electronic billing format for CLECs, consistent with Telcordia's CABS Billing Output Specification ("BOS") Bill Data Tape ("BDT"),

which is available for Transport, Resale, UNE, and UNE-P. BOS BDT is discussed in section C below.

**B. Billing Performance**

136. Based upon extensive testing and review, KPMG has verified Verizon VA's ability to provide nondiscriminatory billing to CLECs. KPMG's evaluation of the Billing domain included tests of both billing procedures and actual bills generated by the CABS and expressTRAK systems. KPMG evaluated the billing work center and help desk support for CLECs, the process for producing and distributing the DUF, the process for producing and distributing carrier bills, and the process for CLECs to return usage if they believe it is erroneous. KPMG Draft Final Report at 367-416.

137. KPMG also reviewed the accuracy and timeliness of both the DUF and the carrier bill. Verizon rendered bills to KPMG, acting as a CLEC, for the products and services KPMG purchased from Verizon as part of the KPMG test. During the KPMG test, KPMG reviewed the carrier bill in the Verizon end-user format, which KPMG received on paper. KPMG validated the bills sent to it just as a CLEC would – that is, KPMG compared the charges on the bill to the products and services it had ordered, and to the prices it expected to be charged for those items, to determine whether the charges on the bill were correct. KPMG also compared the usage charges on the bill and on the DUF to the calls it had made on the lines on its account to see if the bill appropriately reflected that usage. KPMG Draft Final Report at TVV 8-1 through 8-6. KPMG also reviewed Verizon's preparation of the DUF for CLECs operating in Virginia, and noted

that it was satisfied as to all test points. KPMG Draft Final Report at PPR 13-1 - 13-12, and Tests TVV 8-1 - 8-6.

138. In all, KPMG evaluated 75 test points in its Billing test. KPMG reported that it was Satisfied with Verizon's performance for every Billing test point. KPMG Draft Final Report at 367-416.

139. Verizon VA performance is also measured by metrics that are included in the C2C Guidelines adopted by the Commission on August 11, 2000. As discussed in the Measurements Declaration, these billing metrics have been substantially revised effective for the February 2002 data month. Specifically, the Commission has eliminated some measurements based on industry consensus (BI-3-03 and BI-4 through BI-8), and added a measure of billing accuracy (BI-3-02). As described in the Measurements Declaration, elimination of BI-3-01 has been proposed in the revised Guidelines filed by Verizon VA on February 22, 2002. Verizon VA will continue to report the timeliness of availability of DUF data (BI-1-02). The C2C Guidelines set a performance standard of 95% within 4 business days, and Verizon VA has exceeded this standard for every month during the period of November 2001 through January 2002, with results consistently above 98.7%. Measurements Declaration Attachment 401. Verizon VA will also continue to report its timeliness in providing carrier bills to CLECs (BI-2-02). Results reported for the months of November 2001 through January 2002 show that Verizon VA has exceeded the performance standard of 98% within 10 business days. *Id.* As noted in the Measurements Declaration, these results did not include paper bills for the legacy system that has been replaced by expressTRAK. Beginning in the February 2002 data month,

legacy system bills will be included in performance results until the conversion to expressTRAK is complete.

### C. BOS BDT

140. As stated above, Verizon provides an industry-standard electronic billing format for CLECs, consistent with Telcordia's CABS Billing Output Specification ("BOS") Bill Data Tape ("BDT"), which is available for Transport, Resale, UNE, and UNE-P. Verizon implemented version 36 of the BOS BDT format in October 2001. There are now over 90 CLECs receiving bills in Virginia, and 24 of them receive their bills in BOS BDT format. Although the option to treat the BOS BDT as the "Bill of Record" is not currently available in Virginia, CLECs can use the BDTs they receive to analyze their bills from Verizon. Until Verizon offers CLECs the option to designate the BDT as its "bill of record," CLECs can obtain both paper and the BDT at no additional charge for the second medium.

141. Verizon has implemented a BOS BDT internal Quality Review and Adjustment Process to ensure that the BOS BDT bill balances internally and that it matches the paper bill (which KPMG found to be accurate) before it is released to the CLEC. This process, initially introduced in Pennsylvania, was introduced in Virginia with the December 1, 2001 bill cycle. A flow diagram of this process is included as Attachment 311. The value of the balancing records inserted in the Virginia BDTs is currently very low. For example, in January and February 2002, the absolute value of balancing records as a percentage of total current charges was less than one percent in both months. Moreover, the need for the insertion of balancing records has diminished as

corrective actions have been implemented. Verizon has developed and enhanced the software to produce BOS BDT formatted wholesale bills, including addressing areas identified by Verizon internal review and feedback from the CLECs. Verizon continues to review and refine the BOS BDT formatted wholesale bills in Virginia.

## VIII. CLEC SYSTEM SUPPORT

142. Verizon has designed and implemented an extensive array of support services for CLECs to use in entering and participating in the local telecommunications market throughout its service areas, including Virginia. These are the same support mechanisms favorably referenced by the FCC in approving the Section 271 applications of Verizon New York and Massachusetts. *See NY Approval Order* ¶¶ 101-127 and *MA Approval Order* ¶¶ 102-116. Indeed, Verizon's compliance with its obligations in these areas was not even contested before the FCC and, therefore, is not discussed separately in the FCC's *PA Approval Order* (¶ 12) or *RI Approval Order (¶ 58).* The Wholesale Customer Support organization is led by a Vice President and has a professional staff of approximately 200 employees. This organization provides a wide range of technical services to assist CLECs. For example, the Change Management process, which is described in more detail below, ensures that CLECs receive timely information concerning interface changes. The Wholesale Customer Care Center, also described below, ensures that systems issues are resolved as quickly as possible. In addition, specialized teams work closely with individual CLECs to address specific needs. For example, teams assist CLECs in establishing connectivity and security for transactions with Verizon and provide ongoing support for connectivity changes; they assist CLECs

with pre-order and ordering questions, such as how to format an LSR for a specific situation; they ensure that appropriate training and workshops are available to meet CLEC needs; they provide special assistance to small CLECs; and they assist with special projects such as the transition from LSOG 2 to LSOG 4.

143. During its independent third-party test in Virginia, KPMG evaluated Verizon's processes that support establishing and maintaining relationships between CLECs and Verizon in Virginia in its Relationship Management and Infrastructure ("RMI") domain. The KPMG test included, *inter alia*, OSS Change Management; Interface Development, Account Establishment and Management, and Help Desks and CLEC Training. KPMG was satisfied with Verizon's performance in Virginia for every test point. KPMG Draft Final Report at Section III.

### A. OSS Change Management

144. Verizon and the CLECs have jointly developed an OSS Change Management Process for managing the life cycle of system changes throughout the former Bell Atlantic areas. This is the same OSS Change Management Process that the FCC has repeatedly determined satisfies the requirements of Section 271. *NY Approval Order* ¶¶ 111-112; *MA Approval Order* ¶¶ 102-113. The process is designed to accommodate changes requested by CLECs, changes requested by Verizon, emergency changes, and changes required by standards bodies or regulatory authorities. The OSS Change Management Process is administered by the Verizon Wholesale Customer Support organization. This organization receives requests from CLECs for systems changes and works with CLECs to define requirements and prioritize system changes. It

also oversees publication of the documentation of system changes through the business rules, technical guides, and other documentation as required. In addition, Verizon's Wholesale Customer Support organization provides notice to CLECs operating in the former Bell Atlantic service areas of items that are important to the industry, including notification of planned interface outages and upcoming system changes. It also sponsors workshops on topics that are important to the industry, such as help desk processes, CLEC-to-CLEC migrations, flow-through, and others. A copy of the OSS Change Management Process is available on the Verizon Web site at http://128.11.40.241/east/wholesale/html/cd_ind_process.htm.

145. To manage the process of changing OSS and CLEC interfaces effectively, Verizon adopted a regular schedule of "CLEC-affecting" software releases. "CLEC-affecting" releases are those that change Verizon's side of the CLEC interface or are likely to require changes to the CLEC's side of the interface. Beginning at the end of 1999, Verizon targeted three releases a year for CLEC-affecting software changes in February, June and October. The releases incorporate changes initiated by Verizon or the CLECs as well as changed regulatory requirements or from changes in the industry standards. For these releases, Verizon developed a published, predictable software release schedule that provides advance notice and planning to Verizon and CLECs for changes that affect the interfaces between the companies. This schedule conforms to the notification time lines of the OSS Change Management process and provides for a CLEC test period prior to production implementation. Attachment 312 provides a summary of the key activities that occur in each phase of software development, and a diagram illustrating a typical software development life cycle.

146. With each new planned CLEC-affecting release, Verizon produces draft detailed business rules and technical specifications describing those changes. These draft specifications are shared by electronic mail with over 700 individual CLEC users that participate in the OSS Change Management Process. The OSS Change Management Process specifies the time frames for Verizon to provide specifications to the CLECs and for the CLECs to provide comments to Verizon for each type of change. In the case of changes in industry standards or guidelines, Verizon and the CLECs jointly develop a schedule for distribution of draft specifications and/or business rules, receipt of CLEC comments on the documentation, and distribution of final documentation. This schedule provides additional opportunity for CLEC comment and input on draft specifications.

147. Verizon designs and develops the new software and conducts internal tests to verify that it functions properly. For CLEC-affecting releases, the schedule provides for a 30-day CLEC test period before the pre-order and order interface software is migrated into production. This means that, for each of these releases, the software is made available for application-to-application testing by the CLECs starting in January, May and September, respectively. CLECs have the ability to test the new software with their own systems using the CLEC Test Environment ("CTE") and process described below. As the CLECs review and test the new software release, they communicate any problems they may encounter to Verizon. Verizon investigates and determines the appropriate resolution of any issues. Following the test period, the new software is implemented in the production environment. Verizon periodically synchronizes the software in the CLEC Test Environment with the production software, enabling CLECs to continue testing their own software in the CTE.

148. Verizon supports two industry standard versions of each pre-order and order interface and its associated guidelines – the current version and the latest prior version – a policy known as "versioning." This policy provides CLECs with an extended period of time to comply with new industry standards and guidelines. For example, although LSOG 4 was implemented March 1, 2000, for pre-ordering and ordering, Verizon continued to enable CLECs to use LSOG 2 for ordering and LSOG 3 for pre-ordering over an extended time frame to facilitate their transition to LSOG 4. LSOG 2 and LSOG 3 were prior versions of the industry guidelines for the various ordering and pre-ordering transactions, respectively, and were phased out following the implementation of LSOG 5, as described above. Verizon will continue to support LSOG 4 for pre-ordering and ordering, along with the new version, LSOG 5, until it implements a subsequent version of these standards and guidelines.

149. The OSS Change Management Process also includes a framework for setting priorities among requested system changes. Working with the CLECs, Verizon introduced a process where change requests affecting CLEC interfaces and business processes, whether initiated by Verizon or by the CLECs, are assigned priorities based on agreed criteria. New change requests are discussed with CLECs at the monthly OSS Change Management meeting, and priorities are voted on. In addition, Verizon provides status updates on pending change requests. The priority assigned to a change request as a result of this process is a key factor in scheduling work on the change requests.

150. The software releases in 2000/2001 demonstrate the variety of changes that Verizon manages and schedules through the OSS Change Management Process. These releases contained regulatory mandates for metrics and order flow-through,

industry standard changes for the introduction of LSOG 5, initiatives resulting from CLEC collaborative sessions on interface uniformity, CLEC-initiated changes for fielded completion notifiers, and Verizon-initiated upgrades and repairs to interface systems and back-end OSS.

151. Verizon has implemented Virginia measurements of its performance in providing timely notices to CLECs pursuant to the OSS Change Management Process. The Measurements Declaration discusses those measures in more detail. The reported results in Virginia confirm that Verizon adheres to the OSS Change Management Process. In November 2001, December 2001, and January 2002, Verizon met the OSS Change Management time frames for 100% of the notices provided to CLECs. In addition, KPMG evaluated the OSS Change Management process in Virginia. KPMG's tests included a review of the process, documentation, and Verizon's performance. KPMG was satisfied on all test points. KPMG Final Report at PPR1.

152. The OSS Change Management forum is also used by Verizon and CLECs to discuss various systems-related topics of interest to the CLEC community across the former Bell Atlantic service areas. Discussion topics have included Jeopardy Notifications, Help Desk procedures, Pending Order processing, and other issues of mutual interest to CLECs and Verizon. Although changes to back-end OSS are not subject to the same business rules and specification requirements as apply to interface software releases, Verizon uses the OSS Change Management forum to discuss such changes that are of interest to CLECs or that may affect the business rules and technical specifications for interfaces.

### B. Carrier-to-Carrier Testing

153. The Verizon test environment and processes for CLECs in Virginia are the same as those used in New York, Massachusetts, Connecticut, Pennsylvania, and Rhode Island where long distance authority has been granted by the FCC. *See NY Approval Order, MA Approval Order, CT Approval Order, PA Approval Order and Rhode Island Approval Order.* Verizon provides a stable CLEC Test Environment and test procedures to assist CLECs in testing the interaction of their systems and interfaces with Verizon's application-to-application pre-ordering and ordering interfaces and OSS. Information concerning Carrier-to-Carrier testing, including the CLEC test environment, test procedures, and sample test transactions can be found on the Verizon web site at http://128.11.40.241/east/wholesale/cte/cte.htm. The CLEC Test Environment (CTE) is a physically separate test environment that matches the actual production OSS and interfaces environment for pre-ordering and ordering, up to and including the service order processor. In new entrant testing, CLECs can use the procedures and test environment to certify their software for entry into the local services market or to verify that new types of orders that they have not previously used are entered and processed appropriately. In new release testing, CLECs use the testing environment and procedures to validate the continuity of interface capability and/or new functionality when Verizon introduces new software releases that affect the CLEC application-to-application interfaces for pre-ordering and ordering.

154. As part of the test procedures, Verizon established a formal set of test transactions and data – the "test deck" – which is a cross-section of the frequently used

pre-order and order scenarios. The test deck demonstrates for each release that the code is in the CLEC test environment and is ready for CLECs to begin testing and, subsequently, that the release has been successfully migrated to the production environment. The test deck is executed in both the test environment and in production to demonstrate the functional match of these environments. Verizon publishes full documentation of the test deck, including transaction inputs, results expected, and results actually obtained when executed. Verizon solicits and incorporates feedback from CLECs on the test deck and works with CLECs to identify additions or modifications to the test deck as appropriate for each release. Verizon provides test decks for LSOG 4 and LSOG 5 in New York, Massachusetts, Pennsylvania, New Jersey, and the former C&P region (Maryland, Virginia, Washington D.C., and West Virginia ("MDVW")). The test decks are available on Verizon's web site at http://128.11.40.241/east/wholesale/html/cd_regression_qbv.htm.

155. Each test deck requires substantial maintenance and oversight in order to ensure its accuracy and adequacy for testing. Verizon maintains at least one test deck for each regional area using the same front end (interfaces and gateway systems) and back-end systems. The regional test deck established in the former C&P jurisdictions is used for all four jurisdictions because the front and back-end systems are the same. CLECs in Virginia can use this test deck to test their own interfaces to be certain that their software can create and transmit data compatible with Verizon interfaces.

156. Importantly, CLECs are not limited to testing the specific transactions or using the Verizon test data and accounts provided in the Verizon test decks. CLECs can submit test plans and conduct tests containing other transactions to satisfy their unique

market or ordering patterns. Verizon provides dedicated test coordinators to work with CLECs on both new entrant and new release testing. The test coordinator assists the CLEC in developing a test plan that reflects the business needs of the CLEC, the functionality it intends to use, and the set-up of test data and accounts in the CTE. The test coordinator also oversees the execution of the test and validates results with the CLEC.

157. In addition, the CLEC testing procedures provide for specified times when the new software is introduced to the CLEC test environment and when subsequent changes or fixes are made in the test environment to ensure a stable environment for CLEC testing before a new release is implemented in production. During new release testing, changes to the software are explained in regularly- scheduled conference calls with the CLECs throughout the CLEC test period. Finally, the procedures set out time frames and processes for CLEC testing, notification to Verizon of problems the CLECs encounter, fixes of the software defects by Verizon, and re-testing by CLECs.

158. In 2002, the February release was put into the CLEC test environment on January 18, 2002, and made available for CLEC testing on January 21, 2002. All scenarios in the MDVW test deck ran successfully for both pre-order and order during the testing period. *See* Attachment 313. In addition to Verizon's testing, 12 CLECs submitted their own test plans for the February release. This represents hundreds of CLEC test cases in addition to Verizon's testing.

159. KPMG conducted an extensive test of the CLEC Test Environment and the test procedures during its evaluation of Verizon VA's OSS. Acting as a CLEC, KPMG used the test environment to test both LSOG 2 and LSOG 4 during the VA testing

period. KPMG found that Verizon satisfied all test criteria. KPMG Final Report at PPR5.

160. Line Loss Report: Verizon provides a daily Line Loss Report to CLECs operating in Virginia (and the other former Bell Atlantic service areas) and to the Verizon retail operations for Virginia (and the other former Bell Atlantic service areas) identifying end user lines that have migrated from one local service provider to another. Verizon's Line Loss Reports provide the information specified by the OBF standards – the working telephone number and the date the end user converted to the new local service provider – as well as additional information identifying the customer type, billing telephone number, the old local service provider indicator, and the new local service provider indicator. Verizon makes Line Loss Reports available on an FTP server where they can be downloaded by the CLECs. Verizon also provides line loss reports to CLECs that request them over Connect:Direct and EDI.

161. Verizon has worked with CLECs both individually and through the Change Management Process to ensure that the reports include information requested by the CLECs and to improve the accuracy of the reports. The accuracy of these reports is very high – the percentage of working telephone numbers reported by the CLECs as either missing or incorrect has averaged about one percent in 2001. However, experience has shown that many telephone numbers are erroneously reported as missing or incorrect. It is clear, therefore, that the Line Loss Report is very accurate. See *PA Approval Order* ¶ 52.

## IX. TRAINING AND ASSISTANCE FOR CLECS

### A. Handbooks and Documentation

162. Verizon provides extensive information, training and assistance to CLECs doing business in Virginia and throughout the former Bell Atlantic service areas, just as it did when its 271 applications were approved by the FCC in New York, Massachusetts, Connecticut, Pennsylvania, and Rhode Island. *See* e.g., *NY Approval Order* ¶ 127 and *MA Approval Order* ¶ 114. Verizon publishes a three-volume handbook series for resellers, and a three-volume handbook series for purchasers of unbundled network elements. The handbooks are available on Verizon's web site at http://128.11.40.241/east/wholesale/customer_docs/master.htm. Volume I in each series ("Getting Started") provides basic information CLECs need to know about doing business with Verizon. Volume II ("Electronic Interface Guide") addresses the interfaces available to CLECs to obtain access to Verizon's OSS, and provides information on how to obtain the technical specifications for them. Volume III ("Business Rules") provides information about Verizon products and how to order them. Verizon updates the CLEC Handbook annually, but provides updates to specific sections as required throughout the year.

163. Verizon provides extensive technical documentation to enable CLECs to program their systems to communicate with Verizon's systems. Examples include *Verizon Pre-Order EDI User Guide, Verizon Pre-Order CORBA User Guide, Verizon Combined Pre-Order EDI User Guide with Business Rules, Verizon Order EDI User*

*Guide*, and *Verizon Specifications for Access Service Request.* This documentation, which is updated for each new release, is also available on Verizon's web site.

164. Verizon also makes available supplementary documentation on a variety of topics to provide additional information and assistance to CLECs. Among the documents currently available are: *Verizon Local Services Common Web GUI User Guide, Verizon Pre-Order Business Rules, Verizon Order Business Rules, Verizon Order Error Messages, Verizon Trouble Administration Business Rules,* and *E911 PS/ALI Guide*. These documents are also available on Verizon's web site.

165. The design, development, and delivery of Verizon technical documentation, which includes both business rules and EDI and CORBA specifications, is managed using a life cycle process similar to that used for development of the software it describes. Changes to technical documentation that affect CLEC interfaces or business processes are managed through the Change Management process. Verizon subjects documentation to an internal quality assurance review before initial publication to CLECs for their review. Once a draft is published for CLEC review, Verizon accepts and evaluates CLEC comments, makes changes to the documentation based on CLEC comments as appropriate, and then issues a final version of the documentation before the software release. Like software, documentation is subject to change, and it improves the more people use it. As can be seen from the table in Attachment 314 to this Declaration, the longer and more frequently the interface and supporting documentation have been in use, the fewer the errors that exist. Moreover, Verizon's documentation accuracy continues to be excellent. The June, and October 2001 releases have been very accurate, with error rates of only 0.12 percent, and 0.26 percent respectively. With the October

2001 release, Verizon introduced a new LSOG version, LSOG 5. As explained above, documentation, like software, improves the more it is used. The slight increase in the error rate for the October release is consistent with the new implementation. The February 2002 release was implemented on February 18, 2002. While documentation errors are identified and tracked throughout the 30 day warranty period following the release, the error rate for the February 2002 documentation is .09 percent through March 8, 2002, 18 days following the release.

### B. Training

166. Verizon provides extensive training opportunities for CLECs. In 2000, Verizon provided training to over 1000 CLEC students and in 2001 provided training to approximately 400 more CLEC students. Verizon has completed a review of its training topics, courses, materials, and delivery methods to enhance the CLEC training program in order to meet the evolving needs of its wholesale customers. In 2002, the training curriculum will continue the focus from the end of 2001 on workshop forums covering topics of special interest to CLECs. In addition, Verizon has developed and offers training courses available on the Web. The web-based delivery method enables CLECs to obtain training wherever and whenever they need it, regardless of location and without the costs associated with travel.

167. The workshops, as well as the new web-based training courses, provide CLECs with the training and skills needed to operate in their chosen mode(s) of entry as well as to communicate effectively with Verizon. For example, the web-based resale training provides a complete and comprehensive skills-based knowledge of the products

and services that are available for resale, together with the requirements for ordering those services from Verizon. Verizon also provides Web GUI user training as part of the regular course material. The Verizon "business rules" team works directly with the training teams to ensure that course materials are consistent with OSS software releases and documentation changes. Three of the workshops scheduled for the first half of calendar 2002, (Reading and Using Customer Service Records (CSRs), EDI Testing/CLEC Test Environment and Electronic Notifiers), have already been completed. The remainder of the schedule through June 2002 includes: Access Service Requests, Pre-Ordering, CLEC to CLEC Migrations, and Caption Listings. Previous workshop topics have included Directory Listings, Local Number Portability, Demand Forecasting, E911, Collocation, Y2K information, Unbundled Elements, DSL, Line Sharing, Common Errors, and Electronic Billing Media. Additional workshops will be scheduled as interest in specific topics is identified.

### C. WCCC Help Desk Support

168. Verizon provides the same help desk – called the Wholesale Customer Care Center ("WCCC")– to serve CLECs and Resellers operating in Virginia that it provides throughout the former Bell Atlantic service areas, including New York, Massachusetts, Connecticut, Pennsylvania and Rhode Island where its Section 271 applications have been approved. The WCCC was established to provide a single point of contact for all CLEC questions concerning status notifiers (the "PON Exception Process" described below), reports of systems issues (such as system outages, passwords, software application problems, and user questions), and timely notification to the CLEC

of system events where necessary, and to ensure that any system issues are resolved as quickly as possible. During 2001, Verizon handled an average of over 3,200 calls each month at the WCCC. This call volume includes general inquiries, and inquiries or status on previously opened tickets, as well as new inquiries. About two-thirds of these calls resulted in the opening of a trouble ticket to resolve a new problem or inquiry. Verizon resolves these trouble tickets in a timely manner. Approximately 50 percent of the tickets opened in 2001 were resolved within a day. Others are more complex and may require extensive analysis, such as PON ("Purchase Order Number") Exception tickets, each of which can have hundreds of PONs to research and resolve. The WCCC is available 24 hours a day, seven days a week to handle CLEC trouble reports.

169. The WCCC process for handling PON Exceptions (trouble tickets concerning a CLEC report that the CLEC has not received the status notifiers that it expected to see) was developed for EDI-transmitted PONs in New York and extended to the other former Bell Atlantic service areas. During the normal course of operations, there will be circumstances when a CLEC is expecting to receive a status notifier and it does not. For example, the CLEC may expect to receive a provisioning completion notifier ("PCN"), but the order is in a jeopardy status and has not yet been provisioned. If a CLEC believes a status notifier is delayed or missing, the CLEC may call the WCCC to open a trouble ticket and then submit a file containing specified information about the relevant PONs to the Center. In response to the itemized list of PONs from the CLEC, Verizon provides the CLEC with the status of each PON, and if the requested notifier or one later in the business process has been generated, resends the notifier to the CLEC.

170. The WCCC generally provides the status and resends the notifier within 3 business days, at which time the ticket is considered cleared. However, if the status notifier has not been produced because the PON has not reached the business stage to produce the notifier, Verizon will determine if corrective action is required, either by Verizon or the CLEC, to move the PON further in the business process and subsequently to produce the requested notifier. If the corrective action is Verizon's, Verizon completes the action and communicates that it has done so to the CLEC. If the action is the CLEC's (for example, the CLEC must submit a supplemental order in response to a query so that a confirmation can be generated), Verizon will inform the CLEC of the corrective action required on its part. In some cases the notifier sought by the CLEC will never exist, for example if the CLEC opens a trouble ticket seeking a PCN, but the order was cancelled before being provisioned.

171. During 2001, CLECs submitted more than 650,000 PONs in Virginia. During the same time period, 2,499 PONs were submitted on trouble tickets using the PON Exception process, which represents less than one half of 1% (0.38%). For the month of January 2002, CLECs submitted more than 62,000 PONs in Virginia and only 27 PONs were submitted on trouble tickets using the PON Exception process.

172. The WCCC also supports the OSS Change Management organization by providing notification to the CLEC Change Management distribution list of interface or system slow response conditions, software fixes, and scheduled and unscheduled interface or system outages. In addition to the calls received from the CLECs notifying Verizon of interface issues, the Wholesale Customer Care Center also receives proactive notice from the system monitoring organization if the interfaces or back-end OSS

experience an unplanned outage. The Wholesale Customer Care Center will initiate the notification process when this situation occurs.

173. KPMG examined the WCCC's procedures and performance as part of its evaluation of Verizon VA's OSS. KPMG found that Verizon satisfied all test criteria. KPMG Draft Final Report at PPR 3-1 through 3-10. The WCCC's role and performance was also evaluated in connection with other test domains and, in each case, KPMG was satisfied. See, e.g., POP Functional Evaluation at TVV 1-7-1.

## CONCLUSION

174. Verizon VA's OSS are presently providing CLECs with nondiscriminatory access to its OSS. This fact is demonstrated by Verizon VA's handling of actual commercial volumes of CLEC transactions in Virginia, and it is also demonstrated by the successful completion of the thorough and comprehensive, "military-style" third-party testing of Verizon VA's OSS that this Commission ordered and monitored. These developments put to rest any legitimate concerns regarding the ability of CLECs to access Verizon VA's OSS in a nondiscriminatory fashion.

175. This concludes our Declaration.

I swear, or verify, that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on _____, 2002

_____
Kathleen McLean

I swear, or verify, that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on _____, 2002

_____
Paul Haven

I swear, or verify, that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on _____, 2002

_____
Warren Geller

I swear, or verify, that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on _____, 2002

_____
Sean J. Sullivan

I swear, or verify, that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on _____, 2002

_____
Jonathan Smith

I swear, or verify, that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on _____, 2002

_____
Beth E. Cohen

I swear, or verify, that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed on _____, 2002

_____
Maryellen Langstine