VW Exhibit 1-4

TIME WARNER CABLE RESIDENTIAL SERVICES SUBSCRIBER AGREEMENT

IMPORTANT INFORMATION ABOUT YOUR TIME WARNER CABLE SERVICES

The account holder(s) referred to on the accompanying Time Warner Cable Work Order or statement ("I," "me" or "my") agrees that the Work Order, this Agreement, the Terms of Use referred to below, and any applicable Tariff(s) on file with the state utility commission or comparable state agency in the jurisdiction in which I live, set forth the terms and conditions that govern my receipt of Services from Time Warner Cable, which may include, among others, video, high-speed data and voice Services. The term "Services" and all other capitalized terms used in this Agreement are defined in Section 15.

In consideration of TWC's provision of the Services that I have requested, subject to applicable law, I AGREE AS FOLLOWS:

1. Important Information About This Agreement

(a) This Agreement, the Work Order, the Terms of Use and any effective and applicable Tariff(s), each of which TWC may amend as set forth below, constitute the entire agreement between TWC and me. This Agreement supersedes all previous written or oral agreements between TWC and me. I am not entitled to rely on any oral or written statements by TWC's representatives relating to the subjects covered by these documents, whether made prior to the date of my Work Order or thereafter, and TWC will have no liability to me except in respect of its obligations as described in this Agreement and the other documents referred to above. The use of my Services by any person other than me is also subject to the terms of this Agreement, the Terms of Use, and any applicable Tariff(s).

(b) TWC has the right to add to, modify, or delete any term of this Agreement, the Terms of Use, the Subscriber Privacy Notice or any applicable Tariff(s) at any time. An online version of this Agreement, the Terms of Use, the Subscriber Privacy Notice and any applicable Tariff(s), as so changed from time to time, will be accessible at http://help.twcable.com/html/policies.html or another online location designated by TWC, or can be obtained by calling my local TWC office. The online versions of these documents are always the most current versions.

(c) TWC will notify me of any significant change(s) in this Agreement, the Terms of Use, the Subscriber Privacy Notice or any applicable Tariff(s). Any changes will become effective at such time as we update the on-line version of the relevant document, except where applicable law requires a notice period, in which case the change will become effective at the end of the requisite notice period. Upon effectiveness of any change to any of these documents, my continued use of the Services will constitute my consent to such change and my agreement to be bound by the terms of the document as so changed. If I do not agree to any such change, I will immediately stop using the Services and notify TWC that I am terminating my Services account.

(d) My acceptance of Services constitutes my acceptance of the terms and conditions contained in this Agreement. In the event that a portion of my Services is terminated, or any aspect of it is changed, any remaining service or replacement service will continue to be governed by this Agreement.

2. Payment; Charges

(a) I agree to pay TWC for (i) all use of my Services (including, if TWC is the party billing me for ISP or OLP Service, for my subscription to my choice of ISP or OLP, as applicable), (ii) installation and applicable service charges, (iii) TWC Equipment, and (iv) all applicable local, state and federal fees and taxes. Charges for the Services that I receive have been provided o me. Other charges are set forth on a separate price list that I have received and/or can be provided on request. I will be billed monthly in advance for recurring monthly charges. Other charges will be billed in the next practicable monthly billing cycle following use, or as otherwise specified in the price list. TWC may change both the fees and the types of charges (e.g., periodic, time-based, use-based) for my Services. If I participate in a promotional offer that requires a minimum time commitment and I terminate early, I agree that I am responsible for any early termination fees that were described to me at the commencement of such promotion.

(b) Charges for installation Services and related equipment available from TWC for a standard Services installation may be described in TWC's list of charges and any applicable Tariff(s) and/or can be provided on request. Non-standard installations, if available, may result in additional charges as described in TWC's list of charges. In addition, I agree to pay charges for repair service calls resulting from my misuse of TWC Equipment or for failures in equipment not supplied by TWC.

(c) If my Services account is past due and TWC sends a collector to my premises, a field collection fee may be charged. The current field collection fee is on the price list or can be provided on request. I will also be responsible for all other expenses (including reasonable attorneys' fees and costs) incurred by TWC in collecting any amounts due under this Agreement and not paid by me.

(d) All charges are payable on the due date specified, or as otherwise indicated, on my bill. I agree that late charges may be assessed if my account is past due. My failure to deliver payment by the due date is a breach of this Agreement. The current late fees are on the price list or can be provided upon request and, if applicable, will not exceed the maximum late fees as set forth by applicable law. TWC reserves the right to change the late fees.

(e) I agree that if my Services account with TWC is past due, TWC may terminate any of my Services or accounts, including Digital Phone Service, in accordance with applicable law. If I have a credit due to me or a deposit is being held on any account with TWC, I agree that the credit or deposit may be used to offset amounts past due on any other account I may have with TWC without notice to me. To reconnect any terminated Services, I may be required, in addition to payment of all outstanding balances on all accounts with TWC, to pay reconnect charges or other charges (where applicable) and/or security deposits before reconnection.

(f) TWC may verify my credit standing with credit reporting agencies and require a deposit based on my credit standing or other applicable criteria. TWC may require a security deposit, or a bank or credit card or account debit authorization from me as a condition of providing or continuing to provide Services. If TWC requires a security deposit, the obligations of TWC regarding such security deposit will be governed by the terms of the deposit receipt provided by TWC to me at the time the deposit is collected. I agree that TWC may deduct amounts from my security deposit, bill any bank or credit card submitted by me, or utilize any other means of payment available to TWC, for any past due amounts payable by me to TWC, including in

respect of damaged or unreturned Equipment.

(g) If I have elected to be billed by credit card, debit card or ACH transfer, I agree that I will automatically be billed each month for any amounts due under this Agreement. If I make payment by check, I authorize TWC and its agents to collect this item electronically.

(h) TWC may charge fees for all returned checks and account debit, bank card or charge card chargebacks. The current return/chargeback fees are listed in the list of charges on the price list or can be provided on request. TWC reserves the right to change return/chargeback fees.

(i) If I subscribe to HSD Service, I acknowledge that, even if TWC is billing for the HSD Service, my ISP or OLP may require a bank or credit card or account debit authorization or other assurance of payment from me, including for charges for additional or continuing Services outside the HSD Service billed by TWC that are payable under the ISP Terms. I agree that TWC or ISP (and, if applicable, OLP) may bill any bank or credit card submitted by me to ISP or OLP, or utilize any other means of payment available to ISP or OLP for any past due amounts payable by me to TWC. I also agree that responsibility for billing for my HSD Service subscription may be changed between TWC and ISP or OLP upon notice to me.

(j) All use of my Services, whether or not authorized by me, will be deemed my use and I will be responsible in all respects for all such use, including for payment of all charges attributable to my account (e.g., for VOD movies, merchandise ordered via Internet, international long distance charges, etc.). TWC is entitled to assume that any communications made through my Services or from the location at which I receive the Services are my communications or have been authorized by me, and I authorize you to provide any Services to the person making such communications. My Services may contain or make available information, content, merchandise, products and Services provided by third parties and for which there may be charges payable to third parties (which may include my choice of ISP or OLP and/or entities affiliated with TWC). I agree that all such charges incurred by me or attributed to my account will be my sole and exclusive responsibility and agree to pay the same when due, and shall indemnify and hold harmless the TWC Parties for all liability for such charges. I agree that TWC is not responsible or liable for the quality of any content, merchandise, products or Services (or the price thereof) made available to me via the Services, for the representations or warranties made by the seller or manufacturer of any such item, or for damage to or injury, if any, resulting from the use of such item.

(k) I acknowledge that currently, and from time to time, there is uncertainty about the regulatory classification of some of the Services TWC provides and, consequently, uncertainty about what fees, taxes and surcharges are due from TWC and/or its customers. Accordingly, I agree that TWC has the right to determine, in its sole discretion, what fees, taxes and surcharges are due and to collect and remit them to the relevant governmental authorities, and/or to pay and pass them through to me. I further agree to waive any claims I may have regarding TWC's collection or remittance of such fees, taxes and surcharges that my local TWC office currently collects or passes through by writing to TWC at the following address and requesting same: Time Warner Cable, 7800 Crescent Executive Drive, Charlotte, North Carolina, 28217; Attention: Subscriber Tax Inquiries.

(I) I agree that it is my responsibility to report TWC billing errors within 30 days from receipt of the bill so that service levels and all payments can be

verified. If not reported within 30 days, the errors are waived.

(m) I agree that TWC has no obligation to notify me of, or change my rate to reflect, offers it may make to consumers that contain different prices for Services (or packages of Services) that are the same as, or similar to, the Services I receive.

3. Installation; Equipment and Cabling

(a) If I am not the owner of the house, apartment or other premises upon which TWC Equipment and Software are to be installed, I warrant that I have obtained the consent of the owner of the premises for TWC personnel and/or its agents to enter the premises for the purposes described in Section 3(d). I agree to indemnify and hold the TWC Parties harmless from and against any claims of the owner of the premises arising out of the performance of this Agreement (including costs and reasonable attorneys' fees).

(b) I authorize TWC to make any preparations to the premises necessary for the installation, maintenance, or removal of equipment. TWC shall not be liable for any effects of normal Services installation and workmanship, such as holes in walls, etc., which may remain after installation or removal of the TWC Equipment, except for damage caused by negligence on the part of TWC.

(c) All converter boxes, cable modems, voice-enabled cable modems, remote control units and any other customer premise equipment or materials provided to me by TWC for use in connection with the receipt of Services is ("Customer Premise Equipment") and at all times shall remain the sole and exclusive personal property of TWC, and I agree that I do not become an owner of any Customer Premise Equipment by virtue of the payments provided for in this Agreement or the Tariff(s) or the attachment of any portion of the Customer Premise Equipment to my residence or otherwise. Upon termination of any Services, subject to any applicable laws or regulations, TWC may, but shall not be obligated to, retrieve any associated TWC Equipment not returned by me as required under Section 3(f) below. TWC will not be deemed to have "abandoned" the TWC Equipment if it does not retrieve such equipment.

(d) I agree to provide TWC and its authorized agents access to my premises during regular business hours upon reasonable notice during the term of this Agreement and after its termination to install, connect, inspect, maintain, repair, replace, alter or disconnect or remove the TWC Equipment, to install Software, to conduct service theft audits, or to check for signal leakage. I agree that TWC may have reasonable access to easements and TWC Equipment located on my grounds.

(e) TWC shall have the right to upgrade, modify and enhance TWC Equipment and Software from time to time through "downloads" from TWC's network or otherwise. Without limiting the foregoing, TWC may, at any time, employ such means to limit or increase the throughput available through individual cable modems whether or not provided by TWC.

(f) If the Services are terminated, I agree that I have no right to possess or use the TWC Equipment related to the terminated Services. As required under Section 10(b), I agree that I must arrange for the return of TWC Equipment to TWC, in the same condition as when received (excepting ordinary wear and tear), upon termination of the Services. If I do not promptly return the TWC Equipment or schedule with TWC for its disconnection and

Page 5 of 19

removal, TWC may enter any premises where the TWC Equipment may be located for the purpose of disconnecting and retrieving the TWC Equipment. I will pay any expense incurred by TWC in any retrieval of the unreturned TWC Equipment. TWC may charge me a continuing monthly fee until any outstanding TWC Equipment is returned, collected by TWC or fully paid for by me in accordance with Section 3(g). The current fee is listed in the list of charges on the price list or can be provided on request.

(g) I agree to pay TWC liquidated damages in the amount demanded by TWC, but not to exceed that specified in the then-current price list, for the replacement cost of the TWC Equipment without any deduction for depreciation, wear and tear or physical condition of such TWC Equipment if (i) I tamper with, or permit others to tamper with, TWC Equipment, (ii) the TWC Equipment is destroyed, lost, or stolen, whether or not due to circumstances beyond my reasonable control, and even if I exercised due care to prevent such destruction, loss, or theft, or (iii) the TWC Equipment is damaged (excluding equipment malfunction through no fault of my own) while in my possession, whether or not due to circumstances beyond my reasonable control, and even if I exercised due care to prevent such damage. I agree that these liquidated damages are reasonable in light of the problem of theft of cable Services; the existence of a "black market" in TWC Equipment; the ability of third parties to steal Services with unlawfully obtained TWC Equipment, causing loss of revenues for installation and service fees; and the difficulty in determining the actual damages that arise from the unauthorized tampering with, loss, destruction, or theft of TWC Equipment. I agree to return any damaged TWC Equipment to TWC.

(h) I agree that TWC may place equipment and cables on my premises to facilitate the provision of Services to me and to other locations in my area. The license granted under this Section 3(h) will survive the termination of this Agreement until the date that is one year from the date on which I first notify TWC in writing that I am revoking such license.

4. Use of Services; TWC Equipment and Software

(a) I agree that TWC has the right to add to, modify, or delete any aspect. feature or requirement of the Services (including content, price, equipment and system requirements). I further agree that my ISP (and, if applicable, OLP) has the right to add to, modify, or delete any aspect, feature or requirement of the HSD Service (including content, price and system requirements). If TWC changes its equipment requirements with respect to any Services, I acknowledge that I may not be able to receive such Services utilizing my then-current equipment. Upon any such change, my continued use of Services will constitute my consent to such change and my agreement to continue to receive the relevant Services, as so changed, pursuant to this Agreement, the Terms of Use and the Tariff(s). If I participate in a promotional offer for any Service(s) that covers a specified period of time, I agree that I am assured only that I will be charged the promotional price for such Service(s) during the time specified. I agree that TWC shall have the right to add to, modify, or delete any aspect, feature or requirement of the relevant Service (s), other than the price I am charged, during such promotional period.

(b) I agree that the Services I have requested are residential Services, offered for reasonable personal, non-commercial use only. I will not resell or redistribute (whether for a fee or otherwise) the Services, or any portion thereof, or charge others to use the Services, or any portion thereof. Among other things:

(i) If I receive Video Service, I agree not to use the Services for

the redistribution or retransmission of programming or for any enterprise purpose whether or not the enterprise is directed toward making a profit. I agree that, among other things, my use of the Services to transmit or distribute the Video Service, or any portion thereof, to (or to provide or permit access by) persons outside the location identified in the Work Order (even if to a limited group of people or to other residences that I own or have the right to use), will constitute an enterprise purpose. I acknowledge that programs and other materials that I receive as part of the Video Service remain part of the Video Service even if I record or capture all or a portion of any such program or material in a data file or on a hard drive, DVR or similar device.

(ii) If I receive Digital Phone Service, I agree not to use the Services for telemarketing, call center, medical transcription or facsimile broadcasting Services or for any enterprise purpose whether or not the enterprise is directed toward making a profit. I agree that, among other things, my use of the Services to make available my Digital Phone Service, or any portion thereof, to (or to provide or permit access by) persons outside the location identified in the Work Order (even if to a limited group of people or to other residences that I own or have the right to use), will constitute an enterprise purpose.

(iii) If I receive HSD Service, I agree not to use the HSD Service for operation as an Internet service provider, for the hosting of websites (other than as expressly permitted as part of the HSD Service) or for any enterprise purpose whether or not the enterprise is directed toward making a profit. I agree that, among other things, my use of any form of transmitter or wide area network that enables persons or entities outside the location identified in the Work Order to use my Services, whether or not a fee is sought, will constitute an enterprise purpose. Furthermore, if I use a wireless network within my residence, I will limit wireless access to the HSD Service (by establishing and using a secure password or similar means) to the members of my household.

(c) Theft or willful damage, alteration, or destruction of TWC Equipment, or unauthorized reception, theft or diversion of Services, or assisting such theft, diversion, or unauthorized reception is a breach of this Agreement and potentially punishable under law (including by way of statutory damages, fine and/or imprisonment). Nothing in this Agreement, including, Section 3(g) above, shall prevent TWC from enforcing any rights it has with respect to theft or unauthorized tampering of Services or TWC Equipment under applicable law.

(d) I will not, nor will I allow others to, open, alter, misuse, tamper with or remove the TWC Equipment as and where installed by TWC or use it contrary to this Agreement, the Terms of Use, or the Tariff(s). I will not, nor will I allow others to, remove any markings or labels from the TWC Equipment indicating TWC ownership or serial or identity numbers. I will safeguard the TWC Equipment from loss or damage of any kind, including accidents, breakage or house fire, and will not permit anyone other than an authorized representative of TWC to perform any work on the TWC Equipment.

(e) I agree that to the extent any Software is licensed (or sublicensed) to me by TWC, such Software is provided for the limited purpose of facilitating my use of the Services as described in this Agreement. I will not engage in, or

Page 7 of 19

permit, any additional copying, or any translation, reverse engineering or reverse compiling, disassembly or modification of or preparation of any derivative works based on the Software, all of which are prohibited. I will return or destroy all Software provided by TWC and any related written materials promptly upon termination of the associated Services to me for any reason. Software licensed to me by my ISP or OLP, for instance my ISP's or OLP's client or browser software, is licensed under the ISP Terms or OLP Terms, as applicable, and is not the responsibility of TWC.

(f) I agree that I will use the Services for lawful purposes only, and in accordance with this Agreement, the Terms of Use and the Tariff(s).

(g) I agree to be responsible for protecting the confidentiality of my screen names, passwords, personal identification numbers (PINs), parental control passwords or codes, and any other security measures made available, recommended or required by Time Warner Cable. To the extent this information is acquired by any other person (through no fault of TWC), TWC may assume that I have authorized such person's use of the information. I also acknowledge that TWC's Services may from time to time include interactive features, the use of which may result in the transmission to, and use by, TWC or certain third parties of information that may constitute personally identifiable information (as such term is used in the Federal Communications Act of 1934) about me and for which TWC may be required, under the Federal Communications Act of 1934, to obtain my consent. I agree that TWC may seek such consents (or indications of my election to "opt in" to certain TWC programs) electronically, including through the use of a "click through" screen, and that TWC is entitled to assume that any such consent or opt-in election communicated through my Services or from the location at which I receive the Services is my consent or opt-in election or has been authorized by me.

(h) I agree that TWC has no liability for the completeness, accuracy or truth of the programs or information it transmits.

(i) Data Storage Services. I agree that any online or physical data storage services provided to me by TWC are used at my sole risk and that TWC will have no liability in the event my data is corrupted or lost as a result of or while using such services. I agree that when I return TWC Equipment to TWC, I am responsible for ensuring that all of my data is removed from such TWC Equipment and acknowledge that TWC has no responsibility for any such data that I do not remove.

5. Special Provisions Regarding Digital Phone Service

(a) I acknowledge that the voice-enabled cable modem used to provide the Digital Phone Service is electrically powered and that the Digital Phone Service, including the ability to access 911 Services and home security and medical monitoring Services, may not operate in the event of an electrical power outage or if my broadband cable connection is disrupted or not operating. I acknowledge that, in the event of a power outage in my home, any battery included in my voice-enabled cable modem may enable back-up service for a limited period of time or not at all, depending on the circumstances, and that inclusion of the battery does not ensure that Digital Phone Service will be available in all circumstances. I also acknowledge that, in the event of a loss of power that disrupts my local TWC cable system, the battery in my voice-enabled cable modem will not provide back-up service and the Digital Phone Service will not be available.

(b) I agree that TWC will not be responsible for any losses or damages arising as a result of the unavailability of the Digital Phone Service, including the inability to reach 911 or other emergency Services, or the inability to contact my home security system or remote medical monitoring service provider. I acknowledge that TWC does not guarantee that the Digital Phone Service will operate with my home security and/or medical monitoring systems, and that I must contact my home security or medical monitoring provider in order to test my system's operation with the Digital Phone Service. I agree that I am responsible for the cost of any such testing or any fees for configuring my home security or medical monitoring system to work with the Digital Phone Service.

(c) The location and address associated with my Digital Phone Service will be the address identified on the Work Order. I acknowledge that, under Section 4 (d) of this Agreement, I am not permitted to move TWC Equipment from the location and address in which it has been installed. Furthermore, if I move my voice-enabled cable modem to an address different than that identified on the Work Order, calls from such modem to 911 will appear to 911 emergency service operators to be coming from the address identified on the Work Order and not the new address.

(d) I agree to provide TWC and its authorized agents with access to my telephone inside wiring at the Network Interface Device or at some other minimum point of entry in order to provide the Digital Phone Service over my existing in-home wiring.

(e) I agree that in the event of a material error or omission affecting my directory listing information, regardless of form or fault by TWC, including the erroneous inclusion in published directory listings of any information that I intend not to have published, my sole remedy shall be a service credit in an amount set by TWC's then-current standard policies or an amount prescribed by applicable regulatory requirements, whichever is greater. TWC shall have no other liability for errors, omissions or mistaken inclusions in directory listings.

6. Special Provisions Regarding HSD Service

(a) Description of HSD Service.

(i) I acknowledge that each tier or level of the HSD Service has limits on the Maximum Throughput Rate at which I may send and receive data at any time, as set forth in the price list or Terms of Use, and that the Maximum Throughput Rate may be achieved in bursts, but generally will not be sustained on a consistent basis due to the nature of the Internet, the protocols used to transmit data to and from the Internet, and TWC's facilities. I also understand that the actual Throughput Rate I may experience at any time will vary based on numerous factors, such as the condition of wiring at my location, computer configurations, Internet and TWC network congestion, the time of day at which I use the HSD Service, and the website servers I access, among other factors. Additionally, Throughput Rate may be affected by Network Management Tools, the prioritization of TWC commercial subscriber traffic and network control information, and necessary bandwidth overhead used for protocol and network information.

(ii) I agree that TWC or ISP may change the Maximum

Throughput Rate of any tier by amending the price list or Terms of Use. My continued use of the HSD Service following such a change will constitute my acceptance of any new Maximum Throughput Rate. If the level or tier of HSD Service to which I subscribe has a specified limit on the amount of bytes that I can use in a given billing cycle, I also agree that TWC may use technical means, including but not limited to suspending or reducing the speed of my HSD Service, to ensure compliance with these limits, and that TWC or ISP may move me to a higher tier of HSD Service (which may result in higher monthly charges) or impose other charges and fees if my use exceeds these limits.

(iii) I agree that TWC may use Network Management Tools as it determines appropriate and/or that it may use technical means, including but not limited to suspending or reducing the Throughput Rate of my HSD Service, to ensure compliance with its Terms of Use and to ensure that its service operates efficiently. I further agree that TWC and ISP have the right to monitor my bandwidth usage patterns to facilitate the provision of the HSD Service and to ensure my compliance with the Terms of Use and to efficiently manage their networks and their provision of services. TWC or ISP may take such steps as each may determine appropriate in the event my usage of the HSD Service does not comply with the Terms of Use. I acknowledge that HSD Service does not include other services managed by TWC and delivered over TWC's shared infrastructure, including Video Service and Digital Phone Service.

(b) I may rent a cable modem from TWC or may purchase a DOCSIScompliant, TWC-approved cable modem from a third party provider. TWC reserves the right to provide service only to users with TWC-approved DOCSIS-compliant modems. Modems not TWC-approved may not function as intended and may not receive TWC advertised services.

(c) Republication.

(i) I acknowledge that material posted or transmitted through the HSD Service may be copied, republished or distributed by third parties, and that the TWC Parties will not be responsible for any harm resulting from such actions.

(ii) I grant to TWC, and I represent, warrant and covenant that I have all necessary rights to so grant, the non-exclusive, worldwide, royalty-free, perpetual, irrevocable, right and license to use, reproduce, modify, adapt, publish, translate, distribute, perform and display in any media all material posted on the public areas of the HSD Service via my account and/or to incorporate the same in other works, but only for purposes consistent with operation and promotion of the HSD Service.

(iii) I agree that unsolicited email, or "spam," is a nuisance and that TWC and my ISP (and, if applicable, my OLP) are entitled to establish limits on the volume of email that I send. Such volume limits may be set by reference to a number of emails per day, week, month or year.

(d) Continuity of Service. In order to provide continuity of service to me, if my choice of ISP is no longer available over my local TWC cable system, I agree that TWC may provide me with an alternative ISP. In such event, TWC will notify me of the date as of which I will begin receiving service from the alternative ISP, the provision of which shall also be governed by this Agreement, and TWC will provide to me a price list for such alternative ISP service. I will have the right at any time to terminate the alternative ISP or to change my subscription to any other ISP then offered by TWC.

(e) Unfiltered Internet Access. I acknowledge that the ISP Service provides a connection to the Internet that may be unfiltered, and that the TWC Parties neither control nor assume responsibility for any content on the Internet or content that is posted by a subscriber. Although TWC or my ISP or OLP may make available certain parental control features, I acknowledge that such parental control features may not be entirely effective or foolproof and that, notwithstanding such features, I or members of my household may be exposed to unfiltered content.

(f) Use of ISP and OLP Service. I agree that TWC and/or my ISP and/or OLP has the right, but not the obligation, to edit, refuse to post or transmit, request removal of, or remove or block any material transmitted through, submitted to or posted on the HSD Service, if it determines in its discretion that the material violates the terms of this Agreement, any TWC consumption limits or any other Terms of Use. Such material might include personal home pages and links to other sites. In addition, I agree that, under such circumstances, TWC may suspend my account, take other action to prevent me from utilizing certain account privileges (e.g., home pages) or cancel my account without prior notification. I also agree that TWC and/or ISP and/or OLP may suspend or cancel my account for using all or part of the HSD Service in a manner that violates this Agreement or the Terms of Use.

(g) Responsibility for HSD Service. Each of TWC and my ISP (and, if applicable, my OLP) has responsibilities for the HSD Service. I acknowledge that each of my ISP and OLP may have one or more separate agreements, policies or other terms covering my rights and obligations with regard to the HSD Service ("ISP Terms" or "OLP Terms," as applicable) that are also binding on me. This Agreement does not cover any ISP or OLP features or Services that are not dependent upon distribution over TWC's cable systems (for example, dial up access or my use of ISP or OLP software that enables access to ISP or OLP features or Services through non-TWC access means) or that may otherwise be provided to me by ISP or OLP separately from the HSD Service under the ISP Terms or OLP Terms, as applicable. In the event of termination of the HSD Service, I must also contact my ISP (and, if applicable, my OLP) to ensure that these other features or Services (such as dial-up access) are properly continued or discontinued.

(h) Computer Requirements. I agree that each Computer will need to meet certain minimum hardware and software requirements that will be specified for the HSD Service, and that such requirements may be changed from time to time by TWC or my ISP or OLP.

7. Support; Service and Repairs

(a) My Services include the right to request reasonable service and maintenance calls to check and correct problems with the Services. TWC will, at its own expense, repair damage to or, at TWC's option, replace TWC Equipment, and otherwise attempt to correct interruptions of the Services, due to reasonable TWC Equipment wear and tear, or technical malfunction of the system or network operated by TWC. The Subscriber Materials contain details on contacting TWC for this support.

(b) Unless I have obtained a TWC service protection plan (if available in my area), I agree that I am responsible for all wiring, equipment and related software installed in my residence that is not TWC Equipment or TWC-licensed Software and TWC will have no obligation to install, connect, support, maintain, repair or replace any Computer, television, telephone or telephone answering device, audiovisual recording or playback device (e.g., VCR, DVR, DVD), audio equipment, any software, or any cable modem, cabling or other equipment (other than TWC Equipment or TWC-licensed Software). TWC will not support, repair, replace, or maintain any Network Interface Card, regardless of whether provided and installed by TWC.

(c) I agree that TWC has no responsibility for the operation of any equipment, software or service other than the Services, the TWC Equipment and the TWC-licensed Software. For instance, I acknowledge that certain commercially available televisions, converter boxes and recording devices, which may be identified by their manufacturers as "cable ready" or "digital cable ready," may not be able to receive or utilize all available Services without the addition of a TWC converter box or other TWC Equipment for which a fee may be charged. I further acknowledge that, even if TWC furnishes other TWC Equipment to me that is compatible with my equipment, my equipment may not receive all Services available to customers using a TWC converter box. If I receive HSD Service, TWC has no responsibility to support, maintain or repair any equipment, software or service that I elect to use in connection with the HSD Service, whether provided by my ISP, my OLP or a third party. For assistance with technical problems arising from such equipment, software or Services, I should refer to the Subscriber Materials for information regarding the technical support provided by my ISP or OLP or to the support area of the ISP or OLP or to the relevant third party's material.

(d) If TWC determines that non-TWC cabling or equipment connecting my residence to TWC Equipment installed on the side of or adjacent to my residence (i.e., at a ground block) is the cause of a service problem. I agree that TWC may charge me to resolve such service problem. If available from TWC in my area, I may subscribe to a TWC service protection plan that covers service related calls within my residence. If any other support Services are available from TWC, such Services will be at additional charges as described in TWC's price list.

8. Service Interruptions; Force Majeure

(a) I agree that TWC has no liability for delays in or interruption to my Services except that, if for reasons within TWC's reasonable control, for more than twenty-four (24) consecutive hours, (i) service on all cable channels is interrupted, (ii) there is a complete failure of the HSD Service or (iii) there is a complete failure of the Digital Phone Service, TWC will give me a prorated credit for the period of such interruption or failure if I request one within 30 days of the interruption or failure. Notwithstanding the above, TWC will issue credits for VOD, pay-per-view and pay-per-play events for service problems where a credit request is made within 30 days of the interruption or failure. In no event shall TWC be required to credit me an amount in excess of applicable service fees. TWC will make any such credit on the next practicable bill for my Services. State and local law or regulation may impose other outage credit requirements with respect to some or all of my Services. In such event, the relevant law or regulation will control.

(b) I acknowledge that TWC may conduct maintenance from time to time that

may result in interruptions of my Services.

(c) The TWC Parties shall have no liability, except as set forth in Section 8(a), for interruption of the Services due to circumstances beyond its reasonable control, including acts of God, flood, natural disaster, vandalism, terrorism, regulation or governmental acts, fire, civil disturbance, electrical power outage, computer viruses or worms, strike or weather.

(d) TWC is only obligated to provide the above-referenced credits for loss of Services if TWC is billing me for the relevant Service at the time of the outage. If a third party, including my ISP or OLP, is billing me, I will look solely to such third party for a credit with respect to that Service.

9. Review and Enforcement

(a) TWC may suspend or terminate all or a portion of my Services without prior notification if TWC determines in its discretion that I have violated this Agreement, any of the Terms of Use or any Tariff(s), even if the violation was a one-time event. If all or a portion of my Services are suspended for more than 24 hours, I will not be charged for the relevant Services during the suspension. If my account is terminated, I will be refunded any pre-paid fees minus any amounts due TWC.

(b) If I receive HSD Service, I acknowledge that TWC has the right, but not the obligation, to review content on public areas of the HSD Service, including chat rooms, bulletin boards and forums, in order to determine compliance with this Agreement and the Terms of Use.

(c) I agree that TWC shall have the right to take any action that TWC deems appropriate to protect the Services, TWC's facilities or TWC Equipment.

10. Termination of Service

(a) Either TWC or I, each in our sole discretion, may terminate all or any portion of my Services at any time for any or no reason, in its sole discretion, in accordance with applicable law.

(b) If I am moving or wish to terminate all or any portion of my Services for any reason, I will notify TWC by phone or by mail as instructed in the Subscriber Materials in order to set up a disconnect appointment and provide TWC with access to my premises to disconnect the relevant Services and recover the TWC Equipment specified on the Work Order on a DATE PRIOR TO the last day of residency. This also applies if I am receiving a period of free or discounted Services. In other words, at the end of the free or discounted period, TWC is entitled to begin billing me for the usual charges associated with the relevant Services unless I take the appropriate steps to terminate the Services as described in this paragraph.

(c) I cannot terminate my Services by writing "Canceled" (or any other messages) on my bill or check, or by making a disconnect appointment that does not result in TWC's physical recovery of the TWC Equipment. In addition, I agree that any restrictive endorsements (such as "paid in full"), releases or other statements on or accompanying checks or other payments accepted by TWC shall have no legal effect.

(d) I acknowledge that notice given by me to TWC of termination of any Services may not be sufficient to terminate billing by any third party for

additional or continuing Services, for example, billing by my ISP or OLP for continuing "dial up" access. I agree that I am solely responsible for contacting any such third party in addition to TWC to ensure that all such Services are terminated in accordance with the third party's terms of service, if applicable.

11. Disclaimer of Warranty; Limitation of Liability

(a) I AGREE THAT THE SERVICES ARE PROVIDED BY TWC ON AN "AS IS" AND "AS AVAILABLE" BASIS WITHOUT WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF TITLE OR NONINFRINGEMENT OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN THOSE WARRANTIES THAT ARE IMPLIED BY, AND INCAPABLE OF EXCLUSION, RESTRICTION OR MODIFICATION UNDER, THE LAWS APPLICABLE TO THIS AGREEMENT. TWC MAKES NO WARRANTY THAT THE SERVICES WILL BE UNINTERRUPTED OR ERROR FREE, SECURE, OR FREE OF VIRUSES, WORMS, DISABLING CODE OR CONDITIONS, OR THE LIKE, OR THAT THE TWC EQUIPMENT WILL OPERATE AS INTENDED. IN PARTICULAR, I AGREE THAT MY USE OF THE HSD SERVICE (INCLUDING THE CONTENT, INFORMATION, SERVICES, EQUIPMENT AND SOFTWARE, THE PURCHASE OF MERCHANDISE AND SERVICES, THE TRANSMISSION OF INFORMATION AND OTHER COMMUNICATIONS BY AND TO ME AND THE DOWNLOADING OF COMPUTER FILES) IS AT MY SOLE RISK AND THAT TWC DOES NOT WARRANT THAT THE HSD SERVICE OR EQUIPMENT PROVIDED BY TWC WILL PERFORM AT A PARTICULAR SPEED, BANDWIDTH OR THROUGHPUT RATE. I FURTHER AGREE THAT TWC IS NOT RESPONSIBLE FOR THE RECORDING OF OR FAILURE TO RECORD ANY PROGRAM OR PORTION THEREOF, OR FOR THE CONTENT OF ANY PROGRAM OR CONTENT ON MY DVR. WITHOUT LIMITING THE FOREGOING:

(i) ANY AND ALL PRODUCTS AND SERVICES PROVIDED BY TWC AND/OR ISP AND/OR OLP AND/OR ANY LONG DISTANCE PROVIDER AND/OR OTHER THIRD PARTY TO ME THAT ARE NOT PART OF THE SERVICES AS DEFINED HEREIN ARE OUTSIDE THE SCOPE OF THIS AGREEMENT AND THE TWC PARTIES HAVE NO RESPONSIBILITY OR LIABILITY FOR ANY SUCH PRODUCTS OR SERVICES; AND

(ii) NONE OF THE TWC PARTIES MAKES ANY WARRANTIES AS TO THE SECURITY OF MY COMMUNICATIONS VIA TWC'S FACILITIES OR THE SERVICES (WHETHER SUCH COMMUNICATIONS ARE DIRECTED WITHIN THE SERVICES, OR OUTSIDE THE SERVICE TO OR THROUGH THE INTERNET), OR THAT THIRD PARTIES WILL NOT GAIN UNAUTHORIZED ACCESS TO OR MONITOR MY EQUIPMENT OR COMMUNICATIONS. I AGREE THAT NONE OF THE TWC PARTIES WILL BE LIABLE FOR ANY SUCH UNAUTHORIZED ACCESS. I HAVE THE SOLE RESPONSIBILITY TO SECURE MY EQUIPMENT AND COMMUNICATIONS.

(b) I ACKNOWLEDGE THAT TWC'S OR MY INSTALLATION, USE, INSPECTION, MAINTENANCE, REPAIR, REPLACEMENT OR REMOVAL OF THE SERVICES, TWC EQUIPMENT AND SOFTWARE MAY RESULT IN DAMAGE TO MY COMPUTER(S), TELEPHONES AND TELEPHONE ANSWERING DEVICES, TELEVISIONS, RECORDING AND PLAYBACK DEVICES, AUDIO EQUIPMENT, OR ANY CABLE MODEM, CABLING OR OTHER EQUIPMENT OR HARDWARE, INCLUDING SOFTWARE AND DATA FILES STORED THEREON. I SHALL BE SOLELY RESPONSIBLE FOR BACKING UP ALL EXISTING COMPUTER OR OTHER SOFTWARE OR DATA FILES PRIOR TO THE PERFORMANCE OF ANY OF THE FOREGOING ACTIVITIES. NONE OF THE TWC PARTIES, OR THEIR VENDORS, LICENSEES OR PROGRAMMERS, SHALL HAVE ANY LIABILITY, AND EACH EXPRESSLY DISCLAIMS ANY RESPONSIBILITY WHATSOEVER, FOR ANY DAMAGE TO OR LOSS OR DESTRUCTION OF ANY EQUIPMENT, SOFTWARE, HARDWARE, DATA OR FILES.

(c) EXCEPT FOR THE REFUND OR CREDIT AS EXPRESSLY PROVIDED IN SECTIONS 9(a) AND 8(a) RESPECTIVELY, IN NO EVENT (INCLUDING NEGLIGENCE) WILL ANY TWC PARTY OR ANY PERSON OR ENTITY INVOLVED IN CREATING, PRODUCING OR DISTRIBUTING THE SERVICES (INCLUDING THE CONTENT INCLUDED THEREIN OR THE SERVICES ACCESSED THEREBY) OR EQUIPMENT BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF OR INABILITY TO USE THE SERVICES, INCLUDING THE USE OF OR INABILITY TO USE THE SERVICES, INCLUDING THE USE OF OR INABILITY TO USE EMERGENCY 911 SERVICES; FOR ANY ERRORS, OMISSIONS, MISTAKEN INCLUSIONS OR PUBLICATION OF ANY DIRECTORY LISTING INFORMATION, REGARDLESS OF FORM; FOR ANY ACTION TAKEN BY TWC TO PROTECT THE SERVICES; OR THE BREACH BY TWC OF ANY WARRANTY.

(d) I AGREE THAT THE PROVISIONS OF THIS SECTION 11 SHALL APPLY TO ALL CONTENT OR SERVICES INCLUDED IN, OR ACCESSIBLE THROUGH, THE SERVICES, AND ARE FOR THE BENEFIT OF, AND MAY BE ENFORCED BY, ALL OF THE TWC PARTIES.

12. Privacy

(a) My privacy interests, including my ability to limit disclosure of certain information to third parties, may be addressed by, among other laws, the Federal Communications Act of 1934, as amended, and the Electronic Communications Privacy Act. Personally identifiable information that may be collected, used or disclosed in accordance with applicable laws is described in the Subscriber Privacy Notice delivered to me by TWC on its own behalf and on behalf of its Affiliated ISPs. I acknowledge receipt of the Subscriber Privacy Notice, which is deemed to form a part of this Agreement, and expressly consent to the collection, use and disclosure of personally identifiable and other information as described in the Subscriber Privacy Notice, as it may be amended from time to time.

(b) I agree that, in addition to actions and disclosures specifically authorized by law or statute or authorized elsewhere in this Agreement, TWC and its Affiliated ISPs shall each have the right (except where prohibited by law notwithstanding my consent), but not the obligation, to disclose any information to protect their respective rights, property and/or operations, or where circumstances suggest that individual or public safety is in peril. I consent to such actions or disclosures.

(c) If I am a Digital Phone customer, I consent to TWC's disclosure of my name, address and/or telephone number to the general public in connection with Caller ID functions, telephone directories and 411 services. If I wish to have TWC remove this information from one or more of these Services, I understand that I may direct TWC to do so, subject to any applicable fees. I also consent to TWC's disclosure of my name, address and/or telephone number in response to 911 and similar public safety requests and to the

http://help.twcable.com/html/twc_sub_agreement.html

telephone companies serving those end users to whom I make calls so that the calls can be completed.

13. Consent to Phone and Email Contact

(a) I consent to TWC calling the phone numbers I supply to it for any purpose, including the marketing of its current and future Services. I agree that these phone calls may be made using any method, including an automatic dialing system or an artificial or recorded voice. Upon my request, the phone numbers I have previously provided will be removed from TWC's phone marketing list. I can make this request by calling or writing my local TWC office and asking to be placed on TWC's Do Not Call List.

(b) I acknowledge that being included in any state or federal "do not call" registry will not be sufficient to remove me from TWC's phone marketing list.

(c) I consent to TWC emailing me, at any email address, including that of a wireless or mobile device, that I provide to TWC (or that TWC issues to me in connection with the Service), for any purpose, including the marketing of TWC's current and future Services. If my wireless or mobile provider charges me for receipt of such messages, I acknowledge and agree that I am responsible for paying such charges. I may revoke this authorization insofar as it relates to marketing messages at any time by calling or writing my local TWC office.

14. Arbitration

EXCEPT FOR CLAIMS FOR INJUNCTIVE RELIEF, AS DESCRIBED BELOW, ANY PAST, PRESENT, OR FUTURE CONTROVERSY OR CLAIM ARISING OUT OF OR RELATED TO THIS AGREEMENT SHALL BE RESOLVED BY BINDING ARBITRATION ADMINISTERED BY THE AMERICAN ARBITRATION ASSOCIATION UNDER ITS COMMERCIAL ARBITRATION RULES, INCLUDING, IF APPLICABLE, THE SUPPLEMENTARY PROCEDURES FOR THE RESOLUTION OF CONSUMER RELATED DISPUTES. CONSOLIDATED OR CLASS ACTION ARBITRATIONS SHALL NOT BE PERMITTED. THE ARBITRATOR OF ANY DISPUTE OR CLAIM BROUGHT UNDER OR IN CONNECTION WITH THIS AGREEMENT SHALL NOT HAVE THE POWER TO AWARD INJUNCTIVE RELIEF; INJUNCTIVE RELIEF MAY BE SOUGHT SOLELY IN AN APPROPRIATE COURT OF LAW. NO CLAIM SUBJECT TO ARBITRATION UNDER THIS AGREEMENT MAY BE COMBINED WITH A CLAIM SUBJECT TO RESOLUTION BEFORE A COURT OF LAW. THE ARBITRABILITY OF DISPUTES SHALL BE DETERMINED BY THE ARBITRATOR. JUDGMENT UPON AN AWARD MAY BE ENTERED IN ANY COURT HAVING COMPETENT JURISDICTION. IF ANY PORTION OF THIS SECTION IS HELD TO BE UNENFORCEABLE, THE REMAINDER SHALL CONTINUE TO BE ENFORCEABLE, EXCEPT THAT IF THE PROHIBITION AGAINST CONSOLIDATED OR CLASS ACTION ARBITRATIONS SET FORTH ABOVE IS FOUND TO BE UNENFORCEABLE, THEN THE ENTIRETY OF THIS ARBITRATION CLAUSE SHALL BE NULL AND VOID.

15. Definitions

(a) "Affiliated ISP" means Road Runner and any other ISP in which any TWC Party holds an ownership interest.

(b) "Agreement" means this Services Subscription Agreement, as it may be amended from time to time by TWC.

(c) "Computer" means the personal computer(s) located at my residence that will be used to access the HSD Service, as specified on the accompanying Work Order.

(d) "Digital Phone Service" means the TWC phone service that provides users with the ability to send and receive local and/or long distance calls and to access additional related features and functions through TWC's cable systems.

(e) "DVR" means a set-top box or other device enabled with a digital video recorder that is provided to me by TWC.

(f) "HSD Service" and "High Speed Data Service" mean the online content, features, functions and Services (which may include Internet access) of the ISP or OLP selected by me, as provided over TWC's cable systems.

(g) "including" or "include" shall mean inclusion, without limitation.

(h) "ISP" means the Internet service provider selected by me from among those offered now or in the future by TWC for the HSD Service. My ISP is the entity that provides my Internet connectivity.

(i) "Maximum Throughput Rate" means the highest Throughput Rate provided by the level or tier of HSD Service to which I subscribe.

(j) "Me," "My," and "I" mean the account holder identified on the Work Order who is authorized by TWC to access and use the Services.

(k) "Network Management Tools" means tools and techniques that may be used by TWC as it determines appropriate in order to efficiently manage its network, ensure a quality user experience for its subscribers and ensure compliance with the Acceptable Use Policy. Examples of Network Management Tools can be found in the Acceptable Use Policy, http://help.twcable.com/html/twc_misp_aup.html

(I) "OLP" or "On-line Provider" means a provider of on-line content, features, functions and Services that are used in conjunction with my ISP Service (and whose service may be purchased with an ISP Service as part of a combined offering) but that does not itself provide Internet connectivity.

(m) "Services" means any and all Services provided to me by TWC, which may include Video Service, High Speed Data Service, Digital Phone Service and equipment based Services such as digital video recorder Services.

(n) "Software" means the computer software, if any, licensed by ISP or OLP to me to access the HSD Service, or licensed by TWC to me to facilitate installation or use of my ISP's or OLP's service or any other Services. Software also refers to any executable code that may be included in, downloaded to, or utilized by, any TWC Equipment.

(o) "Subscriber Materials" means the handbooks, manuals and other guide materials provided by TWC or any third party (including my ISP or OLP) regarding use of the Services.

(p) "Subscriber Privacy Notice" means the Subscriber Privacy Notice described in Section 12(a), as it may be amended from time to time by TWC.

(q) "Tariff(s)" means the materials describing the terms upon which TWC offers Digital Phone Service, which have been filed at the Public Service Commission or comparable state agency serving the jurisdiction in which I live.

(r) "Terms of Use" shall mean all rules, terms and conditions set forth in this Agreement or otherwise established now or hereafter by TWC regarding permissible or impermissible uses of or activities related to, the HSD Service.

(s) "Throughput Rate" refers to the amount of data that can be transferred between my location and the TWC facilities serving my location over a given period of time. Throughput Rates described in all TWC materials, including marketing materials, price lists and Terms of Use refer to Maximum Throughput Rates.

(t) "TWC" means the local Time Warner Cable-affiliated cable operator that is providing the Services over its cable system, or any cable operator to whom TWC assigns this Agreement.

(u) "TWC Equipment" means any equipment provided by TWC to me including, but not limited to, wire, cable, cable conduit, splitters, junction boxes, converter boxes (also known as "set top" boxes), decoders, CableCARD[™], terminals, cable modems, voice-enabled cable modems, remote control units, and any other equipment or materials provided to me by TWC for use in connection with the receipt of Services. TWC Equipment does not include any Network Interface Card ("NIC") installed in my Computer.

(v) "TWC Parties" means TWC and its corporate parents, affiliates and subsidiaries and their respective directors, officers, employees and agents.

(w) "Video Service" means video and/or audio programming Services such as basic, standard, digital and premium Services, Services provided on a perchannel or per-program basis, pay-per-play, pay-per-view or VOD.

(x) "VOD" means video on demand.

(y) "Work Order" means the Time Warner Cable work order provided to me on or after January 1, 2006 in connection with the installation or commencement of my Service(s).

16. Indemnification

I agree to defend, indemnify and hold harmless the TWC Parties from and against any and all claims and expenses, including reasonable attorneys' fees, arising out of or related in any way to my use of the Services or otherwise arising out of the use of my account or any equipment or facilities in connection therewith, or my use of any other TWC products or Services or any ISP's or OLP's products or Services.

17. Term

This Agreement will remain in effect until terminated by either party or superseded by a revised Subscription Agreement.

18. Interpretation; Severability

Except as explicitly stated in Section 14, in the event that any portion of this Agreement is held to be invalid or unenforceable, the invalid or unenforceable portion shall be construed in accordance with applicable law as nearly as possible to reflect the original intentions of the parties as set forth herein, and the remainder of this Agreement shall remain in full force and effect.

19. Consent to Electronic Notice

I agree that unless otherwise specified, all notices required or contemplated hereunder will be provided by TWC by such means as TWC shall determine in its discretion. Without limiting the foregoing, I agree that TWC may provide any notices required or contemplated hereunder or by applicable law, including notice of changes to this Agreement, the Terms of Use, the Tariff(s) or the Privacy Notice, by electronic means (for example, email or online posting). An online version of this Agreement, the Terms of Use, the Subscriber Privacy Notice and any applicable Tariff(s), as so changed from time to time, will be accessible at http://help.twcable.com/html/policies.html or another online location designated by TWC, or can be obtained by calling my local TWC office.

20. Waiver

I agree that failure by TWC to enforce any of its rights hereunder shall not constitute a waiver of any such rights. No waiver by either party of any breach or default shall be deemed to be a waiver of any preceding or subsequent breach or default.

21. Assignment

I understand that my Services are being provided only to the location identified on my Work Order and that I am not allowed to transfer all or any portion of the Services, or TWC's Equipment, to any other person, entity or location, including a new residence. I agree that I may not assign or transfer this Agreement. TWC may transfer or assign any portion or all of this Agreement at any time without notice to me, and I waive any such notice which may be required.

22. Effect of Applicable Law; Reservation of Rights

This Agreement, the Work Order and the Terms of Use are subject to all applicable federal, state or local laws and regulations, including any applicable franchise agreement, in effect in the relevant jurisdiction(s) in which I receive my Services. If any provision of this Agreement, the Work Order or the Terms of Use contravene or are in conflict with any such law or regulation, or if I am entitled to more favorable rights under any such law or regulation than are set forth in any provision in this Agreement, the Work Order or the Terms of Use, then the terms of such law or regulation, or the rights to which I am entitled under such law or regulation, shall take priority over the relevant provision of this Agreement, the Work Order or the Terms of Use. If the relevant law or regulation applies to some but not all of my Service (s), then such law or regulation will take priority over the relevant provision of this Agreement, the Work Order or the Terms of Use only for purposes of those Service(s) to which the law or regulation applies. Except as explicitly stated in this Agreement, nothing contained in this Agreement shall constitute a waiver by me or TWC of any rights under applicable laws or regulations pertaining to the installation, operation, maintenance or removal of the Services, facilities or equipment.

23. Parental Control Device

I acknowledge that I have been advised of the availability of TWC's parental control device which can filter or block certain programming. Additional information about the device is available at the TWC contact number in the Subscriber Materials.

24. Conflicting Terms

In the event of a conflict in the terms and conditions between this Residential Services Subscriber Agreement and the accompanying Work Order, then the terms and conditions of this Agreement shall control.

• •· · · _ .

VW Exhibit 1-5



Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-1

Witness: David J. Kowolenko

REQUEST:

Does the Cable VoIP Service that Comcast, Time Warner or Metrocast offer provide for the ability of customers to make telephone calls with content of their own choosing to any other person or entity that is assigned a telephone number (even if that number is translated to an Internet protocol (IP) address by the provider)?

RESPONSE:

Comcast's CDV and BCV services allow customers to communicate the voice content of their choosing to a person or entity that has been assigned and is using a telephone number.

ł

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-2

Witness: David J. Kowolenko

REQUEST:

Do customers using Cable VoIP Service utilize their own POTS compatible telephone devices, inside wiring and RJ-11/14/25/45 wall jacks? If not, specifically what equipment do customers use (identifying in each case whether such equipment is owned by the customer or the cable telephone service provider (or any affiliate thereof))? Can a Cable VoIP Service customer use an IP telephone device such as a session initiation protocol (SIP) telephone for access to Cable VoIP Service?

RESPONSE:

Customers can use POTS-compatible telephones and devices, inside wiring and wall jacks, or can forgo use of the inside wiring and connect a telephone directly to the Embedded Multimedia Terminal Adapter ("eMTA"). The eMTA is owned by Comcast's cable affiliate. Use of a SIP phone is possible with certain customer-provided equipment.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-3

Witness: David J. Kowolenko

REQUEST:

Does the Cable VoIP Service customer use the same cable company connection as that used to provide Internet access? If the cable connection is channelized, does the Cable VoIP Service call use the same channel(s) as the connection used to provide Internet access?

RESPONSE:

Comcast's VoIP services and Comcast High Speed Internet ("CHSI") are provided over a common broadband connection from the customer premise to the Cable Modem Termination System ("CMTS") on the Comcast network. From the eMTA to the CMTS, Comcast reserves dedicated bandwidth for its VoIP services. After passing through the CMTS, CDV/BCV traffic continues to be transmitted as a dedicated service.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-5

Witness: David J. Kowolenko

REQUEST:

Does the Cable VoIP Service use customer premises equipment (CPE) capable of generating and receiving IP packets/datagrams? If so, specifically identify and describe the CPE used. Is this device the same as the device that provides Internet access? Are there two separate Cable VoIP Service and Cable Internet access devices? Are the functions separate but use the same device? For each item of equipment, please state whether the customer or the service provider (or any affiliate thereof) owns the equipment. If a lease or other ownership arrangement is used, please describe that arrangement.

RESPONSE:

Yes. The CPE at the CDV customer's home that is capable of generating and receiving IP packets/datagrams is the Embedded Multimedia Terminal Adapter ("eMTA"). The eMTA reformats the analog voice signals created by the handset into the IP packets for routing on the CDV network and is the "home" for the IP address that allows the network to communicate with the eMTA for the proper routing of CDV packets. For CDV customers who purchase CHSI, the eMTA also provides the end user a high-speed data connection for accessing the Internet (CHSI is provided to BCV customers through a separate device). These functions are separate but use the same device. The eMTA is owned by Comcast's Cable affiliate and leased to the customer.

Docket No. DT 09-044

COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS APPROVED BY STAFF

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-8

Witness: David J. Kowolenko

REQUEST:

Does the provider of Cable VoIP Service use or rely on a device known as an embedded multimedia terminal adapter (eMTA) to provide voice service? If so, where is this equipment typically located? Who manufactures this equipment, and what is a typical model name/number? Can customers retain the use of their telephones, inside wire and jacks? Does the eMTA format the analog electrical signal from the customer's telephone into IP packets for the transmission of calls over the cable service provider's IP voice network? Who owns the eMTA? Can the customer provide his/her own eMTA? Who maintains the eMTA? If the eMTA needs to be replaced, who replaces it? What physical connections can be accommodated by the eMTA (i.e., coaxial F connector, RJ 11 connector, USB connector, etc.)? What communications protocols can be accommodated by the eMTA? Does the eMTA perform a Protocol Conversion? Would the customer be provided with an eMTA if the customer took other services (such as cable Internet access service or video service) but not Cable VoIP Service?

RESPONSE:

Due to the number of separate inquiries contained within this Data Request, Comcast is providing responsive information broken down by subpart.

Does the provider of Cable VoIP Service use or rely on a device known as an embedded multimedia terminal adapter (eMTA) to provide voice service? If so, where is this equipment typically located?

Please see Responses to DR 1-5 and 1-6, supra.

Can customers retain the use of their telephones, inside wire and jacks?

Please see Response to DR 1-2, supra.

Who manufactures this equipment, and what is a typical model name/number?

Per its objections filed August 10, 2009, Comcast objects to this subpart of the Data Request as irrelevant.

Does the eMTA format the analog electrical signal from the customer's telephone into IP packets for the transmission of calls over the cable service provider's IP voice network?

Please see Response to DR 1-5, supra.

Who owns the eMTA?

Comcast's cable affiliate.

Can the customer provide his/her own eMTA?

No.

Δ

Who maintains the eMTA? If the eMTA needs to be replaced, who replaces it?

Comcast's cable affiliate.

What physical connections can be accommodated by the eMTA (i.e., coaxial F connector, RJ 11 connector, USB connector, etc.)?

eMTAs can accommodate RJ11, RJ45, F Connectors and AC power connections. Some models will accommodate a USB connection. Only the RJ11, F Connectors, and AC power connections are used in the provision of VoIP service.

What communications protocols can be accommodated by the eMTA?

DOCSIS and PacketCable Standard protocols.

Does the eMTA perform a Protocol Conversion?

No.

Would the customer be provided with an eMTA if the customer took other services (such as cable Internet access service or video service) but not Cable VoIP Service?

An eMTA is not required for services other than Cable VoIP; it is sometimes, but not always, provided to CHSI customers. An eMTA would generally not be provided to customers purchasing stand-alone video service.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-11

Witness: David J. Kowolenko

REQUEST:

If a customer purchases both Internet access and voice service from the cable telephone service provider, do the Internet and voice communications travel over the same communications path? If not, how do the transmission paths differ? Do the Internet access and voice service share the same bandwidth or channel? If not, on which bandwidth/channel are they carried, respectively, and what are the characteristics of each bandwidth/channel that make it most appropriate for the assigned service? Is the Internet used for transmitting voice communications, or are private/dedicated networks used? If the Internet is used and the Internet pathway happens to experience congestion, will the voice signal become degraded? If not, why not? Can the Cable VoIP Service use any commercial broadband connection? Is the broadband connection required to be supplied by the Cable VoIP Service provider (or its affiliate?)

RESPONSE:

Due to the number of separate inquiries contained within this Data Request, Comcast is providing responsive information broken down by subpart.

If a customer purchases both Internet access and voice service from the cable telephone service provider, do the Internet and voice communications travel over the same communications path? If not, how do the transmission paths differ?

All CHSI and CDV/BCV packets travel over the same hybrid fiber-coaxial ("HFC") cable network, which runs from the customer's home to the Comcast headend. The headend is the facility where the HFC network ends. All packets, whether VoIP or CHSI, pass through a CMTS located at the headend, which then sends VoIP packets to a call management server ("CMS"), also known as a "soft switch."

Do the Internet access and voice service share the same bandwidth or channel? If not, on which bandwidth/channel are they carried, respectively, and what are the

characteristics of each bandwidth/channel that make it most appropriate for the assigned service?

Please see Response to DR 1-3, supra.

Is the Internet used for transmitting voice communications, or are private/dedicated networks used?

Private/dedicated networks are used.

If the Internet is used and the Internet pathway happens to experience congestion, will the voice signal become degraded? If not, why not?

N/A.

Can the Cable VoIP Service use any commercial broadband connection? Is the broadband connection required to be supplied by the Cable VoIP Service provider (or its affiliate?)

A CDV or BCV customer can only place or receive calls using the Comcast broadband connection; other features of the VoIP service (such as those accessed through the web portal) can be accessed from any broadband connection or computer.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-12

Witness: David J. Kowolenko

REQUEST:

If a Cable VoIP Service customer initiates a call, please describe in full detail the steps to complete the call, including all equipment involved and the signaling used, for a call (i) to a customer of the Cable VoIP Service provider served by the same soft switch; (ii) to a customer of that same Cable VoIP Service provider served by a different soft switch; (iii) to a customer of a different Cable VoIP Service provider; (iv) to an ILEC customer physically located in the same exchange; (v) to an ILEC customer physically located of the local exchange area but within the same LATA (describing fully the exchange access service utilized); and (vi) to an ILEC customer physically located in a different LATA (describing fully the exchange access service utilized); and (vi) to an ILEC customer physically located in a different LATA (describing fully the exchange access service utilized); and (vi) to an ILEC customer physically located in a different LATA (describing fully the exchange access service utilized).

RESPONSE:

Due to the number of separate inquiries contained within this Data Request, Comcast is providing responsive information broken down by subpart.

Also, for the purposes of Comcast's responses to this Data Request below, all signaling from the eMTA to the soft switch in all scenarios is IP protocol (PacketCable 1.5 for CDV and PacketCable 2.0 for BCV), and from the media gateway to termination on the PSTN, all calls are in time-division multiplexing ("TDM") protocol.

(i) to a customer of the Cable VoIP Service provider served by the same soft switch;

Comcast uses one soft switch, located in Chelmsford, MA, to serve CDV customers in New Hampshire, as well as in several other New England States. Therefore, the response below describes all intrastate calls among CDV customers, as well as many interstate calls between CDV customers in New Hampshire and CDV customers in other New England States.

With respect to BCV, Comcast uses geographically redundant switching facilities (soft switches), in Philadelphia, PA and Denver, CO to service BCV customers.

Therefore, with respect to BCV, the response below describes all intrastate calls between BCV customers in New Hampshire, as well as between BCV customers in New Hampshire and BCV customers in other states served by the same switching facility.

- (1) Call Origination: The eMTA formats the caller's voice in IP packets and routes the IP packets to the CMTS. From the CMTS the call is routed on the Comcast IP network to the Comcast soft switch. For CDV customers, the soft switch is located in Chelmsford, MA; for BCV customers, the soft switch is a geographically redundant facility located in Philadelphia, PA and Denver, CO.
- (2) Soft Switch: Because the customers are on the same soft switch, the soft switch conducts an internal subscriber database inquiry and determines that the telephone number is assigned to another Comcast VoIP customer. Accessing the same database, the switch then supplies the IP address of the eMTA of the called party. The soft switch then directs a second database inquiry to obtain information to populate the caller ID fields and call signals.
- (3) Call flow from soft switch: Once these data fields are correctly populated, the signaling information is sent by the soft switch to the eMTA of the called party, and the VoIP data packets are routed on Comcast's IP Network to the called party's eMTA, which receives the call.

(ii) to a customer of that same Cable VoIP Service provider served by a different soft switch;

These calls are routed different depending on whether the call is CDV or BCV. CDV calls are carried on Comcast's network; BCV calls are routed through a third-party provider.

(A) CDV calls to CDV Customers Served by a Different Soft Switch:

- (1) Call Origination: Same as (i)(1) above.
- (2) Originating Switch functionality: The soft switch conducts a database inquiry (an external, SS7 inquiry to a local number portability database) and determines that the telephone number is assigned to another Comcast VoIP customer. This information is used to conduct a second database inquiry to determine the correct switch for the terminating telephone number. The call path is set up by the two soft switches.
- (3) Call flow from soft switch: Once these data fields are correctly populated, the signaling information is sent by the originating soft switch to the eMTA of the called party and the VoIP data packets are routed on Comcast's IP Network to the called party's eMTA, which receives the call.

(B) BCV calls to Comcast Customers Served by a Different Soft Switch:

Step 1 is the same as in (1)(i) above.

(2) Soft Switch functionality: The soft switch communicates with the switch for the third party provider's IP network, sets up a call path, and routes the call accordingly, meeting the the third party provider's IP network at an IP-based firewall called a session border controller ("SBC"). The third party provider then communicates with the Comcast soft switch serving the terminating customer, which routes the call to the terminating customer's eMTA.

(iii) to a customer of a different Cable VoIP Service provider;

BCV calls always follow the in path ii (B) above.

CDV calls can take four paths: they can be (A) transited through the local ILEC to the other cable provider in TDM; (B) handed in IP to a third-party Interexchange Carrier (IXC), which carries the call to the other VoIP Service Provider; (C) handed in TDM to an IXC, which carries the call to the other VoIP Service Provider, or (D) handed directly to the other VoIP Service Provider in IP pursuant to a peering arrangement.

Comcast does not directly interconnect with either Time Warner or Metrocast in New Hampshire. For that reason, intraLATA CDV calls in New Hampshire that terminate to the New Hampshire customer of another cable VoIP provider follow the call paths described in (A), (B), and (C) below; interLATA CDV calls to customers of other VoIP providers can follow the paths in (B), (C), or (D) below.

(A) IntraLATA call transited through FairPoint to another NH Cable VoIP Provider:

BCV calls always follow the path in ii (B) above.

For CDV:

(1) See call origination in (i) above.

(2) Soft Switch: The soft switch conducts an internal database inquiry and determines that the call needs to be routed to FairPoint. The soft switch will then direct additional database inquiries. The first is to the Local Number Portability database (LNP) to determine whether the number has been ported and if so to which carrier. The switch also determines the destination carrier tandem information and uses this information to set up the appropriate TDM trunk group to route through the media gateway to the terminating carrier. The soft switch also does an SS7 signaling request to establish the time slot within the trunk group to exchange the call with FairPoint and appropriate call signaling information. The calling party's name is populated by the terminating carrier's switch.

- (3) Media Gateway: The soft switch then communicates with the media gateway to set up the IP connection between the media gateway and the originating eMTA. The media gateway converts the CDV IP packets to TDM so that the call can be routed to the PTSN.
- (4) The Media Gateway then hands the call in TDM protocol to Comcast Phone of New Hampshire, LLC, which routes the call to the Comcast interconnection point with FairPoint in Concord, NH. Pursuant to Comcast's interconnection agreement with FairPoint, FairPoint will transit the call to the partner CLEC of called party's VOIP provider who will, in turn, route the call to the cable VOIP provider's network for conversion into IP protocol and termination to the called party.

(B) Calls handed to an IXC in IP (can be inter- or intra-LATA).

Step 1 is the same as in (iii)(A)(1) above.

(2) Soft Switch functionality: The soft switch communicates with the switch for the IXC's IP network, sets up a call path, and routes the call accordingly, meeting the IXC's IP network at an IP-based firewall called a session border controller ("SBC"). The IXC then routes the call to the other VOIP provider in IP, which terminates the call.

(C) InterLATA calls handed to an IXC in TDM (can be inter- or intra-LATA).

Steps 1-3 are same as in (iii)(A) above.

- (4) The call is handed to the relevant Comcast Phone affiliate in TDM protocol, which routes the call to an IXC for delivery to the partner CLEC of the called party's cable VOIP provider. The partner CLEC of the called party's cable VOIP provider then routes the call to the cable VOIP provider's network for conversion into IP protocol and termination to the called party.
- (D) InterLATA Call from Comcast Customer to Directly-Connected Cable VoIP provider.

Step 1 is the same as in (i)(A) above.

(2) The Comcast soft switch conducts an internal database inquiry and determines that the call is destined for a terminating Cable VOIP carrier

with whom Comcast has a direct interconnection. The call path is set up by the soft switch between the originating eMTA over the Comcast IP network to a "peering router" which routes the IP call to an SBC.

(3) The Concast IP network meets the terminating cable VoIP carrier's IP network at the SBC. The call is set up by the called party's cable VoIP provider's network for termination.

(iv) to an ILEC customer physically located in the same exchange;

CDV:

Steps 1-3 are the same as in (iii)(A) above.

(4) Comcast Phone hands the call to FairPoint, which terminates the call.

BCV:

Steps 1-3 are the same as in (iii)(B) above.

(4) The IXC routes the call to FairPoint for termination.

(v) to an ILEC customer physically located outside of the local exchange area but within the same LATA (describing fully the exchange access service utilized);

Interexchange, intraLATA CDV calls can be routed one of three ways in New Hampshire: either (A) through FairPoint, (B) through an IXC in IP, or (C) through an IXC in TDM. BCV calls use only call path (B). These three options are described below.

(A) <u>Through FairPoint</u>:

Steps 1-3 are the same as in (iii)(A) above.

(4) Comcast Phone hands the call to FairPoint, which terminates the call. If the called party is the customer of a rural ILEC, FairPoint will transit the call to the rural ILEC for termination.

(B) Through an IXC in IP:

These calls follow the same path as (iii)(B) *supra*, except that IXC then terminates the call to the called party's ILEC on the PSTN.

(C) Through an IXC in TDM:

These calls follow the same path as (iii)(C) *supra*, except that IXC then terminates the call to the called party's ILEC on the PSTN.

(vi) to an ILEC customer physically located in a different LATA (describing fully the exchange access service utilized).

These calls are routed through third-party IXCs. They can be handed to those IXCs in either IP or TDM, and follow the same call flows as interexchange intraLATA calls described in (v)(B) and (v)(C) supra.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-13

Witness: David J. Kowolenko

REQUEST:

When an end user initiates a Cable VoIP Service call, how is the call initiated? Does the customer dial a telephone number? How does the customer know the network is ready to initiate a call? Does the Cable VoIP Service customer receive notification prior to making a call that the called party is available to receive calls? How does the customer know if the network has completed the processing or routing of the call and is waiting for the terminating party to answer? How does the customer know a call is waiting? How does the customer know if the called party is busy? Is there an automated process for Cable VoIP Service customers to access or modify their account information? If so, how is access provided, e.g. computer interface, telephone connected to the Cable VoIP Service, etc? Does the end user customer know the IP address of his/her eMTA? Can customers share the IP address with other users? Does the end user customer ever see the IP address of the called party? Does the end user Cable VoIP Service customer have a identifying number and password to gain access to the Cable VoIP Service? Does the Cable VoIP service call route through the Cable VoIP Service provider's equipment each time there is information passed between the calling and called parties?

RESPONSE:

Due to the number of separate inquiries contained within this Data Request, Comcast is providing responsive information broken down by subpart.

When an end user initiates a Cable VoIP Service call, how is the call initiated? Does the customer dial a telephone number?

Yes.

How does the customer know the network is ready to initiate a call?

The customer hears a dial tone. Does the Cable VoIP Service customer receive notification prior to making a call that the called party is available to receive calls?

No.

How does the customer know if the network has completed the processing or routing of the call and is waiting for the terminating party to answer?

The customer hears a ring tone.

How does the customer know a call is waiting?

A customer hears a call waiting tone and sees the display of caller ID information on phones with this ability, as well as on their television screens and/or computer screens if they have Comcast's Universal Caller ID service.

How does the customer know if the called party is busy?

The customer hears a busy signal.

Is there an automated process for Cable VoIP Service customers to access or modify their account information? If so, how is access provided, e.g. computer interface, telephone connected to the Cable VoIP Service, etc?

Comcast VoIP customers can access or modify their account information, call features, functionality and voicemail remotely through a web portal. It can be accessed from any computer or Internet connection. Customers can also access limited automated account functions through a telephone interface.

Does the end user customer know the IP address of his/her eMTA? Can customers share the IP address with other users? Does the end user customer ever see the IP address of the called party?

No.

Does the end user Cable VoIP Service customer have an identifying number and password to gain access to the Cable VoIP Service?

A password is not required to place or receive calls. One is required to access features of the CDV service offered through the SmartZone web portal.

Does the Cable VoIP service call route through the Cable VoIP Service provider's equipment each time there is information passed between the calling and called parties?

All calls route through equipment owned by a Comcast entity.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-16

Witness: Beth Choroser

REQUEST:

In your company group, which entity owns: the coaxial cable to the node? the node? the fiber to the CMTS? the CMTS? the IP backbone? the soft switch? other equipment used by the Cable VoIP Service provider or any of its affiliates for the call? If different, which entity operates each such equipment component? If different, which entity manages each such equipment component? Which company installs such equipment component? Which company replaces such equipment component if it needs replacement?

RESPONSE:

Due to the number of separate inquiries contained within this Data Request, Comcast is providing responsive information broken down by subpart.

In your company group, which entity owns: the coaxial cable to the node? the node? the fiber to the CMTS? the CMTS? the IP backbone?

Comcast's cable affiliates.

The soft switch?

CDV: Comcast IP Phone II, LLC.

BCV: A Comcast affiliate.

Other equipment used by the Cable VoIP Service provider or any of its affiliates for the call? If different, which entity operates each such equipment component? If different, which entity manages each such equipment component? Which company installs such equipment component? Which company maintains such equipment component? Which company replaces such equipment component if it needs replacement?

CDV: All of the facilities and equipment over which the residential CDV calls

flow on the Comcast side of the Network are managed, operated and installed by a Comcast affiliate.

BCV: All of the facilities and equipment over which the BCV calls flow are managed, operated and installed by a Comcast affiliate until the soft switch. The soft switch is owned by a Comcast affiliate and is managed by a third-party vendor.

S

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-22

Witness: David J. Kowolenko

REQUEST:

With regard to the media gateway: What functions does the media gateway provide? Is the media gateway part of the soft switch? Are the vendors of the media gateway and the soft switch the same? Do the Cable VoIP Service calls route through the media gateway? Do Internet communications route through the media gateway? Do cable video transmissions route through the media gateway? How many media gateways serve Cable VoIP Service customers within the state of New Hampshire? Where are the media gateways located that serve the state of New Hampshire? What communication protocols are accommodated by media gateways?

RESPONSE:

The media gateway is a component of the soft switch which performs the protocol conversion from IP to TDM and vice versa. There is a single media gateway which serves New Hampshire CDV customers, which is located in Chelmsford, MA. Only calls sent from or to the PSTN traverse the media gateway. The media gateway does not process any video or Internet traffic. For data transport, the media gateway accommodates Time Division Multiplexing ("TDM") on the TDM side of the network and Real-Time Transport Protocol ("RTP") on the IP side of the network. Media Gateway Control Protocol ("MGCP") and Trunking Gateway Control Protocol ("TGCP") are accommodated for signaling.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-26

Witness: David J. Kowolenko

REQUEST:

For a call that remains on the Cable VoIP Service provider's network end to end, is there any net change in communication protocol? If so, please describe fully each protocol change, identify the location of the change and the equipment effecting the change.

RESPONSE:

Calls that do not leave Comcast's managed IP network do not experience net protocol conversion.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-38

Witness: David J. Kowolenko

REQUEST:

To the extent that the Cable VoIP Service provider asserts that the combination of any additional services with voice service makes its service an information service, please describe each such additional service, how it is integrated with the voice service, the terms under which it is offered and the pricing.

RESPONSE:

The ability to place and receive calls via CDV is integrated with other Comcast products such as (1) the SmartZone web portal: The SmartZone web portal integrates key functions of CDV with Comcast high speed internet and video services. It allows CDV customers to access and interact with CDV features including the ability to review call logs online, listen to voicemails online, forward voicemails as email attachments, change and manage account information online, all from any computer with an Internet connection, or with certain applications, via their television connections. SmartZone also integrates universal online address books, and will in the future integrate remotely programmable DVRs ; (2) Universal Caller ID, which allows customers to view caller ID information on their television and/or computer in real time; (3) Enhanced Cordless Telephone (ECT): The ECT handset is integrated with the CDV service and gives customers access to email, allows them to view voicemail, and provides access to information on the Internet such as weather, sports, horoscopes and directory listings. The ECT is currently in market trials and scheduled to launch in 2009.

Docket No. DT 09-044

<u>COMCAST'S RESPONSES TO FIRST SET OF NHTA DATA REQUESTS</u> <u>APPROVED BY STAFF</u>

Date Request Received: 07/31/2009

Date of Response: 08/21/09

Request No. Staff 1-41

Witness: Beth Choroser

REQUEST:

For all of the entities listed in the response to Item 40 that engage in any business activity in New Hampshire, please describe the corporate relationships (i.e., parent, shareholder, owner, affiliate, subsidiary, partner, etc.), including all intermediate relationships. For each entity also identify its legal name and all d/b/a's, assumed names, trade marks, service marks, and brands, and describe the existing and planned or contemplated roles of the entity in the providing of telephone, telecommunications, voice, Internet, or cable television services in New Hampshire, including, without limitation, whether the entity provides retail or wholesale voice, Internet or video services.

RESPONSE:

Pursuant to its objections filed August 10, 2009, Comcast objects to this Data Request as overbroad, unduly burdensome, and not calculated to lead to the discovery of evidence relevant to the questions posed in the Commission's May 6, 2009 Order of Notice, as well as on the basis that the Data Request calls for competitively sensitive business plans and/or trade secrets insofar as it requests information regarding the "planned or contemplated" roles of each Comcast entity.

Without waiving this objection, please see Responses to DR 1-40 and DR 1-42 and Exhibit 2 submitted herewith.

DR 1-41 Exhibit 2

	Comcast Cable Communications
	Management, LLC
	Comcast Business Communications,
	LLC
÷.,	Comcast Spotlight, Inc.
~	
	Comcast Phone of New Hampshire, LLC
÷	Comcast Phone, LLC
	Comcast MO Financial Services, Inc.
	Comcast MO Interactive Services, Inc.
	Comcast of New Hampshire, Inc.
•	Comcast of Massachusetts/New
г •	Hampshire, LLC
	Comcast IP Phone II, LLC
	Comcast of
	Connecticut/Georgia/Massachusetts/New
	Hampshire/New York/North
	Carolina/Virginia/Vermont, LLC
	Comcast/TWC New Hampshire Cable
	Advertising, LLC
	Comcast/TWC Littleton/Plymouth Cable
	Advertising, LLC
	Comcast of Maine/New Hampshire, Inc.
	전문 모양 관계, 홍수로 사람은 동안은 모양 관계 같아.
	이 같은 것 같은
10	

VW Exhibit 1-6

Data Request Received: 07/31/09 Request No. Staff 1-1 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

Does the Cable VoIP Service that Comcast, Time Warner or Metrocast offer provide for the ability of customers to make telephone calls with content of their own choosing to any other person or entity that is assigned a telephone number (even if that number is translated to an Internet protocol (IP) address by the provider)?

RESPONSE:

Subject to the caveat that TWCDP's Cable VoIP Services do not enable customers to make "telephone calls" over a traditional "telephone" network, TWCDP's Cable VoIP Services provide customers with the ability to engage in real-time, two-way voice communications with any other person or entity that is assigned a standard telephone number.

Data Request Received: 07/31/09 Request No. Staff 1-2 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

Do customers using Cable VoIP Service utilize their own POTS compatible telephone devices, inside wiring and RJ-11/14/25/45 wall jacks? If not, specifically what equipment do customers use (identifying in each case whether such equipment is owned by the customer or the cable telephone service provider (or any affiliate thereof))? Can a Cable VoIP Service customer use an IP telephone device such as a session initiation protocol (SIP) telephone for access to Cable VoIP Service?

RESPONSE:

Customers can use virtually any conventional analog telephone that they own to make and receive calls using TWCDP's Cable VoIP Services. Customers can do so by connecting the telephone device to specialized IP-compatible customer premises equipment known as an embedded multimedia terminal adapter or "eMTA" that is installed by TWCDP at the customer's premises. The functionality of the eMTA is described below in response to Data Request 1-5. If the eMTA has been connected to the inside wiring at the premises, the customer can make and receive calls by connecting the telephone to any operational telephone jack. Currently, customers cannot use native SIP phones to access TWCDP's Cable VoIP Service.

Data Request Received: 07/31/09 Request No. Staff 1-5 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

Does the Cable VoIP Service use customer premises equipment (CPE) capable of generating and receiving IP packets/datagrams? If so, specifically identify and describe the CPE used. Is this device the same as the device that provides Internet access? Are there two separate Cable VoIP Service and Cable Internet access devices? Are the functions separate but use the same device? For each item of equipment, please state whether the customer or the service provider (or any affiliate thereof) owns the equipment. If a lease or other ownership arrangement is used, please describe that arrangement.

RESPONSE:

TWCDP's Cable VoIP Service requires that a customer have IP-compatible customer premises equipment known as an embedded multimedia terminal adapter ("eMTA"), which is installed by a TWCDP technician at the customer premises. The eMTA is a voice-enabled cable modem that contains RJ-11 and coaxial cable outlets, and a USB port. The eMTA is typically located as close as possible to the customer's computer or telephone, depending on the services required. TWCDP uses eMTAs manufactured by a variety of vendors. Because these manufacturers and associated model numbers represent confidential business information, TWCDP will provide this information once a proper protective order is in place.

The eMTA is used to convert the customer's voice communications from analog to IP format in order to then transmit those communications over Time Warner Cable's broadband network. Typically, only one eMTA is needed at each customer premises. A customer need not provide his/her own eMTA because TWCDP owns the eMTA and makes it available to the customer at no additional charge. If the eMTA needs to be replaced, TWCDP will do so.

A customer will be provided with an eMTA only if he or she subscribes to TWCDP's Cable VoIP Service, whether on a standalone basis or bundled with the broadband Internet access service provided by another Time Warner Cable company. Where a customer subscribes to TWCDP's Cable VoIP Service and broadband Internet access, his/her voice and data communications will both be transmitted through the eMTA and the same broadband connection en route to Time Warner Cable's broadband network. An eMTA is not required for the provision of the broadband Internet access service provided by a TWCDP affiliate; rather, a customer purchasing that service without a Cable VoIP Service would use a distinct cable modem.

Data Request Received: 07/31/09 Request No. Staff 1-11 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

If a customer purchases both Internet access and voice service from the cable telephone service provider, do the Internet and voice communications travel over the same communications path? If not, how do the transmission paths differ? Do the Internet access and voice service share the same bandwidth or channel? If not, on which bandwidth/channel are they carried, respectively, and what are the characteristics of each bandwidth/channel that make it most appropriate for the assigned service? Is the Internet used for transmitting voice communications, or are private/dedicated networks used? If the Internet is used and the Internet pathway happens to experience congestion, will the voice signal become degraded? If not, why not? Can the Cable VoIP Service use any commercial broadband connection? Is the broadband connection required to be supplied by the Cable VoIP Service provider (or its affiliate)?

RESPONSE:

Where a TWCDP Cable VoIP Service customer also subscribes to a Time Warner Cable broadband Internet access service, his or her voice communications and data communications travel through the same broadband connection from the eMTA at the customer's premises to the node serving the relevant geographic area. The number and location of nodes in a particular geographic area depends on a variety of factors, such as the number of premises in the area and the amount of traffic generated by customers in that area. From the node, both voice and data communications are transmitted on the same fiber cable to the relevant Time Warner Cable headend. The plant between the customer premises and the headend is typically referred to in the industry as a hybrid fiber-coaxial ("HFC") network.

Cable modem termination system ("CMTS") equipment located at the headend distinguishes and separates the voice and data traffic based on information contained in the header of each packet. The CMTS provides the interface between the cable modem systems and servers/equipment at the headend and the radiofrequency path between the customer's premises and the cable headend. Data packets are then routed by the CMTS to the public Internet, while voice packets are routed either to a Media Gateway Device for conversion into traditional TDM/circuit-switched voice signals for delivery to a wholesale carrier for transmittal over the public switched telephone network, or to another TWCDP Cable VoIP Service customer. Voice and data packets use segregated bandwidth.

Voice communications are not routed over the public Internet; as a result, Internet congestion does not degrade voice signals carried by a TWCDP Cable VoIP Service. As noted above in response to Data Request 1-3, TWCDP's Cable VoIP Service does not require a "commercial broadband connection" to the extent that term is intended to refer to a broadband Internet access service. Rather, as noted in response to Data Request 1-3, while broadband Internet access service need not be purchased, TWCDP relies on the same physical broadband connection that its affiliate uses to provide broadband Internet access.

Data Request Received: 07/31/09 Request No. Staff 1-12 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

If a Cable VoIP Service customer initiates a call, please describe in full detail the steps to complete the call, including all equipment involved and the signaling used, for a call (i) to a customer of the Cable VoIP Service provider served by the same soft switch; (ii) to a customer of that same Cable VoIP Service provider served by a different soft switch; (iii) to a customer of a different Cable VoIP Service provider; (iv) to an ILEC customer physically located in the same exchange; (v) to an ILEC customer physically located outside of the local exchange area but within the same LATA (describing fully the exchange access service utilized); and (vi) to an ILEC customer physically located in a different LATA (describing fully the exchange access service utilized).

RESPONSE:

TWCDP describes the routing of calls under each scenario identified above:

(i) TWCDP relies on Call Management Servers that are often referred to as soft switches. The soft switch provides signaling and routing functions (based on the SS7 protocol), and features such as call waiting. Where two TWCDP customers are served by the same soft switch, the TWCDP Cable VoIP Service customer places the call, and that customer's eMTA converts the voice communication into IP packets, which are transmitted over Time Warner Cable's hybrid fiber-coaxial ("HFC") network (including not only coaxial and fiber transmission facilities, and managed IP transport facilities, but also nodes and headend equipment) and delivered to the called party's eMTA, which then converts the IP packets into the voice communications delivered to the called party's telephone device.

(ii) Because TWCDP utilizes soft switches deployed on a regional basis, as discussed below in response to Data Request 1-23, two TWCDP Cable VoIP Service customers that are served by different soft switches presumably reside in different states. Where the calling party is in New Hampshire and the called party is in another state (for example, California), the TWCDP Cable VoIP Service customer places the call, and the customer's eMTA converts the voice communication into IP packets, which are transmitted over Time Warner Cable's HFC network to a Time Warner Cable Media Gateway Device, which converts the packetized voice signals into TDM/circuit-switched voice signals. In order to transmit Cable VoIP Service communications to the public switched telephone network ("PSTN"), TWCDP must obtain wholesale telecommunications from a telecommunications carrier. In New Hampshire, TWCDP obtains those wholesale telecommunications from its affiliate, TWC Communications LLC, which in turn purchases wholesale telecommunications service from CRC Communications of Maine, Inc. ("CRC"). At the location of the Media Gateway Device, CRC picks up the call, transports the call in TDM/circuit-switched format, and delivers the call via interexchange facilities to the carrier associated with the telephone number of the called

party. TWCDP uses its Media Gateway Device to convert the TDM/circuit-switched voice signals into IP packets and transmits those packets over Time Warner Cable's HFC network to the called party's eMTA, which then converts the IP packets into the voice communications delivered to the called party's telephone device.

(iii) In this scenario, the TWCDP Cable VoIP Service customer places the call, and the customer's eMTA converts the voice communication into IP packets, which are transmitted over Time Warner Cable's HFC network to a Time Warner Cable Media Gateway Device, which converts the packetized voice signals into TDM/circuit-switched voice signals. At the location of the Media Gateway Device, CRC picks up the call, transports the call in TDM/circuit-switched format, and delivers the call to the telecommunications carrier associated with the telephone number of the other Cable VoIP Service provider.

(iv) In this scenario, the TWCDP Cable VoIP Service customer places the call, and the customer's eMTA converts the voice communication into IP packets, which are transmitted over Time Warner Cable's HFC network to a Time Warner Cable Media Gateway Device, which converts the packetized voice signals into TDM/circuit-switched voice signals. At the location of the Media Gateway Device, CRC picks up the call, transports the call in TDM/circuit-switched format, and delivers the call to the called party's carrier.

(v) In this scenario, the TWCDP Cable VoIP Service customer places the call, and the customer's eMTA converts the voice communication into IP packets, which are transmitted over Time Warner Cable's HFC network to a Time Warner Cable Media Gateway Device, which converts the packetized voice signals into TDM/circuit-switched voice signals. At the location of the Media Gateway Device, CRC picks up the call, transports the call in TDM/circuit-switched format, and delivers the call to the called party's carrier.

(vi) In this scenario, the TWCDP Cable VoIP Service customer places the call, and the customer's eMTA converts the voice communication into IP packets, which are transmitted over Time Warner Cable's HFC network to a Time Warner Cable Media Gateway Device, which converts the packetized voice signals into TDM/circuit-switched voice signals. At the location of the Media Gateway Device, CRC picks up the call, transports the call in TDM/circuit-switched format, and delivers the call to the called party's carrier.

Data Request Received: 07/31/09 Request No. Staff 1-13 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

When an end user initiates a Cable VoIP Service call, how is the call initiated? Does the customer dial a telephone number? How does the customer know the network is ready to initiate a call? Does the Cable VoIP Service customer receive notification prior to making a call that the called party is available to receive calls? How does the customer know if the network has completed the processing or routing of the call and is waiting for the terminating party to answer? How does the customer know a call is waiting? How does the customer know if the called party is busy? Is there an automated process for Cable VoIP Service customers to access or modify their account information? If so, how is access provided, e.g. computer interface, telephone connected to the Cable VoIP Service, etc? Does the end user customer know the IP address of his/her eMTA? Can customers share the IP address with other users? Does the end user customer have a identifying number and password to gain access to the Cable VoIP Service? Does the Cable VoIP Service call route through the Cable VoIP Service provider's equipment each time there is information passed between the calling and called parties?

RESPONSE:

A TWCDP Cable VoIP Service customer using a conventional telephone initiates a call by dialing the telephone number of the called party. The customer hears a dial tone when lifting the receiver on his or her telephone. However, in contrast to the dial tone provided by traditional telephone companies, which is generated by the telephone company switch in the central office, the dial tone provided to TWCDP Cable VoIP Service customers is generated by the eMTA. TWCDP has designed its Cable VoIP Service to ensure its customers' calling experience is in many respects comparable to what they are accustomed to with traditional voice services. Thus, the customer hears a ring while waiting for a call to be answered by the called party, and a tone indicating that a call is waiting.

Customers can access TWCDP's Cable VoIP Service using a conventional telephone without need for an identifying number or password. A TWCDP Cable VoIP Service customer's call is always routed through the eMTA and the customer's broadband connection.

TWCDP Cable VoIP Service customers can access or modify their account information online, through TWCDP's secure website; they may also do so by calling an account representative. The customer may be able to ascertain the IP address of his or her eMTA, and share it with others if so inclined. In the normal course, a customer would not have occasion to see the IP address of the called party to the extent the called party is using a device with an IP address, just as end-users communicating by other means that employ IP—such as e-mail—would not typically see (or have the opportunity to see) the IP address associated with each other's equipment. TWCDP notes, for purposes of clarification, that a customer may not have a single IP address associated with his/her communications, because multiple IP addresses may be involved in a communication. In particular, the enhanced features and capabilities listed below

in response to Data Request 1-38 that are or soon may be available typically would involve multiple IP addresses, specific to each device involved in the communication. For example, accessing a voicemail online would implicate a customer's personal computer and the server to which he or she connects to obtain the stored voicemail, in addition to the eMTA used for a Cable VoIP Service call, each of which has a separate IP address.

Data Request Received: 07/31/09 Request No. Staff 1-22 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

With regard to the media gateway: What functions does the media gateway provide? Is the media gateway part of the soft switch? Are the vendors of the media gateway and the soft switch the same? Do the Cable VoIP Service calls route through the media gateway? Do Internet communications route through the media gateway? Do cable video transmissions route through the media gateway? How many media gateways serve Cable VoIP Service customers within the state of New Hampshire? Where are the media gateways located that serve the state of New Hampshire? What communication protocols are accommodated by media gateways?

RESPONSE:

TWCDP objects to the request for information concerning the transmission of cable television signals and non-voice Internet communications, which is not relevant to this proceeding. Subject to and without waiving this objection, as discussed in response to Data Requests 1-11 and 1-12, Cable VoIP Service calls may travel to a Media Gateway Device to the extent necessary to route the call to the PSTN. The Media Gateway Device is not part of the soft switch. Data and cable video traffic do not travel to a Media Gateway Device. TWCDP relies on two Media Gateway Devices to serve customers in New Hampshire, which are located at 118 Johnson Road, Portland, Maine 04102. Specifically, TWCDP utilizes Cisco MGX 8800 Series Gateway Devices; the vendor of the soft switch may or may not be the same. The functions of the Media Gateway Device are described above in response to Data Requests 1-11 and 1-12.

Data Request Received: 07/31/09 Request No. Staff 1-26 Date of Response: 08/21/09 Witness: Matt Cannon

REQUEST:

For a call that remains on the Cable VoIP Service provider's network end to end, is there any net change in communication protocol? If so, please describe fully each protocol change, identify the location of the change and the equipment effecting the change.

RESPONSE:

While such a call may undergo multiple protocol conversions as described in response to Data Request 1-12, a call that remains on TWCDP's network end to end will not undergo a net protocol change.

Data Request Received: 07/31/09 Request No. Staff 1-38 Date of Response: 08/21/09 Witness: Julie Laine

REQUEST:

To the extent that the Cable VoIP Service provider asserts that the combination of any additional services with voice service makes its service an information service, please describe each such additional service, how it is integrated with the voice service, the terms under which it is offered and the pricing.

RESPONSE:

TWCDP objects to this request to the extent it calls for a legal conclusion concerning the regulatory classification of Cable VoIP Service. The Federal Communications Commission has not yet classified interconnected VoIP service under the Communications Act. Subject to and without waiving that objection, TWCDP states that Cable VoIP Service customers can or soon will be able to access and use certain calling features and capabilities that could affect the classification of the service. These features and capabilities, which can be invoked sequentially or simultaneously so that customers can manage their personal communications dynamically, include: (i) accessing voicemail and forwarding digitized voice messages to any e-mail, (ii) routing Caller ID information through their personal computer or television, and receiving notifications of incoming calls through Instant Messages or on television screens, (iii) enabling, disabling, and customizing voice and video features over the Internet, (iv) enabling distinctive rings for different callers, and (v) establishing "rules" for the selective handling of incoming calls. Moreover, as noted in response to Data Request 1-37 above, TWCDP and its affiliates offer a wide range of services (and combinations of services) pursuant to a variety of pricing options. To the extent this request would require TWCDP to provide all of that information, TWCDP objects to it as being unduly burdensome.