

ITEM
226**Wholesale Internet ADSL Service**ITEM
226.1**Service Description**

Wholesale Internet ADSL Service is a broadband access service based on Asymmetric Digital Subscriber Line (ADSL) technology. This service will enable a Service Provider to establish a high speed data access path between its End-user's premises and the Company's Serving Central Office.

Wholesale Internet ADSL Service uses available bandwidth above the voice-band on the same local loop used by the Company or a CLEC to provide residential or business Primary Exchange Service to the End-user or on Dry Loops. The Service is limited to lines terminating on single line station equipment. ADSL Access Service allows for the simultaneous use of the End-user's telephone line for voice service.

Wholesale Internet ADSL Service:

- requires a Network-to-Network Interface ("NNI") which provides for the aggregation of End-user traffic associated with a single service provider from every ADSL-enabled wire centre in the Company's operating territory;
- provides ADSL access over End-user loops that qualify for ADSL service where the ADSL serving equipment is located either in a host wire centre or at a remote location (i.e., a location other than a host wire centre). In the case of a remote location, Wholesale Internet ADSL Service includes the facilities required to transport ADSL traffic between the remote location and the host wire centre that serves that remote location;
- supports Point to Point Protocol over Ethernet (PPPoE) or RFC 1483 Bridged sessions across the Company's backbone network (Note: Effective November 15, 2011, RFC 1483 Bridged Session is no longer available to new Customers);
- includes Permanent Virtual Circuits (PVC) to provide ATM network connectivity between ADSL Access arrangements and a NNI by aggregating traffic associated with each ADSL Access served from groups of wire centres to a Broadband Access Server (BAS) and subsequently aggregating such traffic from all Company-provided BAS to the ADSL NNI; and
- provides for a single domain name. Additional domain names are available upon request in accordance with the rates, terms and conditions below.

Connectivity between the ADSL NNI point of demarcation (located in a Company wire centre) and the Service Provider's Point of Presence (PoP) can be established using appropriate facilities provided by the Company or third party facility providers, or via central office links that terminate on the Service Provider's co-located transmission equipment.

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ITEM
226 **Wholesale Internet ADSL Service**

ITEM
226.1 **Service Description**

ADSL VPOP Network-to-Network Interface Service

The ADSL VPOP Network-to-Network Interface Service (“A-NNI”) provides an interconnection between the Company’s Network and a Service Provider’s Network. The interface options available are E100 or E1000. This interconnection allows the Service Provider to receive and transmit traffic that is supported by the Company’s Network. These services are limited to Asymmetrical Digital Subscriber Line (ADSL). Such traffic will be exchanged in Point to Point Protocol over Ethernet (PPPoE). RFC 1483 and RFC 1490 bridged protocol data unit encapsulation formats are grandfathered and are not available for new customers. N
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Because the Commission has forborne, in Telecom Regulatory Policy CRTC 2009-19, with respect to the regulation of this service as set out in that decision, the Company may also provide the service in this tariff at rates and on terms different from the tariffed rates and terms pursuant to an agreement entered into between the Company and a competitor that has been filed with the Commission for the public record. M
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M – moved from page 226-1

ITEM
 226 **Wholesale Internet ADSL Service- Continued**

ITEM
 226.1 **Service Description - Continued**

Definitions

“*Asymmetrical Digital Subscriber Line (ADSL)*” means a technology that delivers high-speed digital data-transmission downstream to an End-user at a higher bandwidth (higher-speed) and upstream to an ADSL Service Provider at a lower bandwidth (lower-speed), on a common copper individual access-line. This technology allows the End-user to receive high-speed digital data transmission and individual-line exchange service simultaneously on the same access-line.

ADSL VPOP Network-to-Network Interface (A-NNI) provides an interconnection between the Company’s Network and a Service Provider’s Network.

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“*Customer*” refers to a Service Provider.

“*Customer Cutover or Access Upgrade*” encompasses the case where a customer requires a larger bandwidth access at its Point of Presence (PoP) site to accommodate growth in end user traffic. The Customer may also be relocating its PoP site access or transferring all of its existing subscribers to a different access which does not necessarily require an upgrade in bandwidth.

“*Customer Name Change*” is when a Customer requests that its billing or company name to be changed to a different billing or official company name.

“*Dry Loop*” is an unbundled local loop which is not used for primary exchange service.

“*DSLSP*” is a provider of Digital Subscriber Line-based applications, such as high-speed Internet access and Local Area Network extensions, to the public for compensation. A DSLSP is not operating as a CLEC.

“*End-user*” is defined as being the Service Provider's customer.

“*Mergers and Acquisitions*” are when a Customer transfers a portion or all of its subscriber base to another Customer. This is also applicable when two different Customers are merging in order to become only one new company, or when a single company divides to become multiple companies.

“*NNI*” is a network-to-network interface as set out in Item 217, Network to Network Interface Service.

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“*Service Provider*” includes either a CLEC or a DSLSP.

“*Serving Central Office*” is the first Company Central Office that an End-user's premises is connected to.

“*Voice Service*” refers to services that use the voice-band portion of the local loop and includes voice transmission, permissive data or facsimile.

ITEM
226
ITEM
226.2**Wholesale Internet ADSL Service- Continued****Conditions of Service**

1. Wholesale Internet ADSL Service is available only from suitably equipped Company Central Offices as determined by the Company and shall be provided subject to the availability of suitable equipment and facilities as determined by the Company.
2. Wholesale Internet ADSL will only be provisioned over Company-owned loops used by the Company to provide Primary Exchange Service, unbundled local loops which are owned by the Company and used by a CLEC to provision voice services or Company-owned Dry Loops.
3. Where Wholesale Internet ADSL service is provisioned over Company-owned Dry Loops, the Customer will be required to lease the Type A unbundled loop under the terms and conditions specified in the former TCI Carrier Access Tariff (CRTC 18008), Item 215, Local Network Interconnection and Component Unbundling (in Alberta), or TCBC Carrier Access Tariff (CRTC 1017), Item 105, Local Network Interconnection and Component Unbundling (in British Columbia). Monthly rates are in Item 226.3 c.
4. The Company will not offer additional services to the End-Users over an unbundled local loop being used by a competitor for the Wholesale Internet ADSL Service when it is provided over Dry Loops.
5. The loop facility to the End-user must qualify for Wholesale Internet ADSL Service.
6. The point of demarcation for Wholesale Internet ADSL Service is as defined in Item 217, Network to Network Interface Service. The point of demarcation for E100 and E1000 A-NNI service provided in this tariff is the Ethernet patch panel.
7. The Company is not responsible for inside wiring charges beyond the End-user's customer demarcation point.
8. The ADSL equipment is subject to operational constraints related to the characteristics of the underlying loop facility. Wholesale Internet ADSL Service is offered on a best-effort basis. Service Providers may use Wholesale Internet ADSL Service to establish high-speed connections to only those End-user premises located within the operational range of the ADSL serving equipment associated with particular Company Serving Central Offices and suitably equipped remote locations. Service Providers may not use Wholesale Internet ADSL Service to establish high-speed connections to End-user premises located beyond the range of the ADSL serving equipment or served by the Company or CLEC voice service having excessive bridge taps, equipped with load coils or which is not capable of supporting metallic continuity.
9. One ADSL Access is required for each End-user.
10. The NNI is provided in Item 217, Network to Network Interface Service. Service Providers may use the NNI in Item 217 for all of the traffic types listed in Item 217.1.

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ITEM
226 **Wholesale Internet ADSL Service- Continued**

ITEM
226.2 **Conditions of Service – Continued**

- 11. A-NNI Service is provided under the terms and conditions in this Tariff Item. Service Providers may only use A-NNI Service for ADSL VPOP traffic. N |
- 11A. A-NNI is available in designated Central Offices and shall be provided subject to the availability of suitable equipment and facilities. The Company shall determine the Company Central Office(s) from which A-NNI shall be provided. Not all Company Central Offices with A-NNI are capable of provisioning every A-NNI interface option. If suitable equipment and/or facilities are not available for certain interface option, the Company will not provision that particular A-NNI option. |
- 11B. The provision of A-NNI is subject to the ability of the Company and the Service Provider to satisfactorily test and exchange data using the standards stated in section 226.1. |
- 11C. When it is necessary for the Company to install special equipment or to incur an unusual expense to establish A-NNI, the Service Provider shall pay an additional charge based on the equipment installed or the unusual expense incurred. |
- 11D. A-NNI Service may be connected to Service Provider equipment using either Co-location, or an access service configuration for E100 or E1000 service. (NOTE: The E1000 interface only supports Internet ADSL Services in Edmonton, Calgary and the Lower Mainland.) |
- 11E. In the Co-location configuration, the Service Provider must subscribe to Co-location, where applicable; obtain a Company Ethernet CO Link, provided under Tariff Item 221; provide its own fibre-patch panel, as well as the connection between the patch panel and its equipment. In Alberta, Co-location is provided under Carrier Access Tariff (CRTC 18008), Item 255 or 250. In British Columbia, Co-location is provided under Carrier Access Tariff (CRTC 1017), Item 110. |
- 11F. In the access service configuration, the Service Provider must subscribe to the Company's Ethernet Access Service, provided under General Tariff (CRTC 21461) Item 519, as well as an Ethernet CO Link. |
- 11G. In the event that the Service Provider wishes to relocate A-NNI service location(s) or change A-NNI service speeds, the Service Provider will be required to pay the A-NNI change fee specified in Item 226.3b. |
- 12. The Customer is responsible for managing the capacity of the NNI. The Company is not responsible for any service deterioration or packet loss due to the Customer over utilization of the NNI. F

ITEM
226**Wholesale Internet ADSL Service- Continued**ITEM
226.2**Conditions of Service – Continued**

13. When Wholesale Internet ADSL Service is used by a service provider to provide services to its customers, the service provider shall abide by the conditions set out in the Resale and Sharing tariff (CRTC 21461, Item 410), as applicable.
14. If an End-user cancels its Company or CLEC provided voice service or if it is otherwise removed from service, billing for Wholesale Internet ADSL Service will continue until the Company has been notified by the Service Provider that Wholesale Internet ADSL Service is to be terminated.
15. Where the End-user's voice service, as provided by the Company or a CLEC, currently meets the Company's technical requirements for Wholesale Internet ADSL Service, in particular metallic continuity, the Company will provide the Service Provider with a minimum of one year's advance notice of any facility change that would eliminate metallic continuity on that End-user's loop.
16. Service Providers subscribing to Wholesale Internet ADSL Service will be responsible for obtaining the following elements required to make the service operational:
 - a. RADIUS Server;
 - b. IP address assignment and Internet access;
 - c. ADSL or other compatible high speed modem, subject to the Company's acceptance;

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**ITEM
226 Wholesale Internet ADSL Service- Continued****ITEM
226.2 Conditions of Service - Continued**

- d. any PC connectivity equipment/software and IP address configuration for the End user's PC;
 - e. Filters – In some circumstances, End-users may detect audible noise on their telephone line following the installation of the modem, necessitating the use of voice/data filters installed directly in the telephone jack;
 - f. ATM or Ethernet connectivity between the Company's broadband network and service provider's PoP; and
 - g. Client software required in the End-user's PC to enable a PPPoE connection through the network to the End-user's desired ISP
17. Equipment attached to the Company's network at the End-user's premises must be certified or connected through a certified network protection device in accordance with the former TCI General tariff (CRTC 18001) Item 110 (Attachments) in Alberta, or TCBC General Tariff (CRTC 1005) Item 170 (Interconnection Services – General) in British Columbia, as applicable.

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ITEM
 226 **Wholesale Internet ADSL Service- Continued**

ITEM
 226.2 **Conditions of Service – Continued**

18. The Maximum Line Speeds available under ADSL Access Service are as follows:

- a. 1 Mbps Service (Residential End-users only)
 - Up to 1 Mbps downstream
 - Up to 256 Kb/s upstream
- b. 1.5 to 6.0 Mbps Service (Residential and Business End-users)
 - Up to 6.0 Mbps downstream
 - Up to 1.0 Mbps upstream
- c. 15 Mbps Service (Residential and Business End-users) – see condition 19
 - Up to 15 Mbps downstream
 - Up to 1.0 Mbps upstream
- d. 25 Mbps Service (Residential and Business End-users) – see condition 19
 - Up to 25 Mbps downstream
 - Up to 2.5 Mbps upstream (Residential) and up to 5.0 Mbps (Business)
- d. 50 Mbps Service (Residential and Business End-users) – see condition 19
 - Up to 50 Mbps downstream
 - Up to 10 Mbps upstream
- e. 75 Mbps Service (Residential and Business End-users) – see condition 19
 - Up to 75 Mbps downstream
 - Up to 15 Mbps upstream
- f. 100 Mbps Service (Business End-users) – see condition 19
 - Up to 100 Mbps downstream
 - Up to 20 Mbps upstream
- g. 150 Mbps Service (Residential and Business End-users) – see condition 19
 - Up to 150 Mbps downstream
 - Up to 25 Mbps upstream

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Many factors affect speeds and actual speeds may vary and are not guaranteed.

Residential and Business End-user classifications are in accordance with CRTC 18001, Item 425 and, CRTC 1005, Item 26.

- 19. 15 Mbps, 25 Mbps, 50 Mbps, 75 Mbps, 100 Mbps and 150 Mbps services are only supported on Point to Point Protocol over Ethernet (PPPoE) network connections.
- 20. Wholesale Internet ADSL service does not support the routing or transmission of multicasting traffic.
- 21. Wholesale Internet ADSL service does not support the sharing of modems between the Company and the Wholesale Internet ADSL service customer.

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ITEM 226 **Wholesale Internet ADSL Service – Continued**

ITEM 226.2 **Conditions of Service – Continued**

- 22. As a condition of service under this tariff, and in accordance with *Review of the Internet traffic management practices of Internet service providers*, Telecom Regulatory Policy CRTC 2009-657 (“TRP 2009 -657”), paragraphs 50, 66 and 104, customers employing Internet Traffic Management Practices (ITMPs) shall:
 - a.) whether or not they are Canadian carriers, abide by the requirements of subsection 27 (2) of the *Telecommunications Act* with regard to any ITMPs they employ;
 - b.) abide by the disclosure requirements described in TRP 2009-657; and
 - c.) not use for other purposes personal information collected for the purposes of traffic management and not disclose such information.

- 23. The Customer is responsible for the installation, operation and maintenance of any equipment, apparatus or devices that the Customer or end-user provides and which is attached or connected to or used with the Company’s facilities and or equipment. When, as a result of a service issue raised by the Customer to TELUS and at the request of the Customer to test the services provided by the Company, the Company completes testing activities and finds that there is no fault in the Company’s facilities; or when a truck roll is required to an end-users premises and no trouble is found in the Company’s facilities and/or equipment but such trouble continues to be present when the Customer-provided equipment is reconnected to the Company’s facilities and or equipment, a charge as specified in CRTC 18002 Item 1820.3 (for Alberta) and CRTC 1005 Item 170.10 and Item 170.12 (for British Columbia) applies. If however, within a one week period, testing activities identify a fault with the Company’s facilities, no charge will apply.

- 24. The rates, terms and conditions identified herein supersede and replace any rates, terms and conditions in contracts for similar services entered into prior to the approved effective date of this Tariff Item.

- 25. Wholesale Internet ADSL services are only available on the Company's fibre to the node facilities. Wholesale Internet ADSL services are not available on the Company's fibre to the premises facilities.

- 26. If an End-user chooses to receive Internet service from the Wholesale Internet ADSL service customer and IPTV service from the Company, and a second loop is available, the Wholesale Internet ADSL service customer shall pay the unbundled loop rates and charges set out in TCI Carrier Access Tariff (CRTC 18008), Item 215, Local Network Interconnection and Component Unbundling (in Alberta), or TCBC Carrier Access Tariff (CRTC 1017), Item 105, Local Network Interconnection and Component Unbundling (in British Columbia). If a second loop is not available, a bonded configuration of Wholesale Internet ADSL service will not be provided.

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Carrier Access Services

ITEM
 226.3

Rates

The following rates and charges apply to the various components of the service:

a. Monthly Access and Service Charges (Notes 2, 4, 5)

Residential ADSL Access Service (Note 1)	Monthly Rate	Service Charge
1 Mbps Service, per access	\$17.40	\$70.56
1.5 to 6.0 Mbps Service, per access	19.18	70.56
10 to 19 Mbps Access Service Speed Band	21.76	70.56
15 Mbps Service, per access		
20 to 29 Mbps Access Service Speed Band	23.58	70.56
25 Mbps Service, per access		
30 to 69 Mbps Access Service Speed Band	26.21	70.56
50 Mbps Service, per access		
30 to 69 Mbps Access Service Speed Band - Bonded	37.05	70.56
50 Mbps bonded Service, per access (Note 3)		
70 to 100 Mbps Access Service Speed Band	31.28	70.56
75 Mbps Service, per access		
70 to 100 Mbps Access Service Speed Band - Bonded	40.25	70.56
75 Mbps bonded Service, per access (Note 3)		
101 to 150 Mbps Access Service Speed Band - Bonded	62.10	70.56
150 Mbps bonded Service, per access (Note 3)		

Business ADSL Access Service (Note 1)	Monthly Rate	Service Charge
1.5 to 6.0 Mbps Service, per access	\$19.18	\$70.56
10 to 19 Mbps Access Service Speed Band	21.76	70.56
15 Mbps Service, per access		
20 to 29 Mbps Access Service Speed Band	23.58	70.56
25 Mbps Service, per access		
30 to 69 Mbps Access Service Speed Band	26.21	70.56
50 Mbps Service, per access		
30 to 69 Mbps Access Service Speed Band - Bonded	37.05	70.56
50 Mbps bonded Service, per access (Note 3)		
70 to 100 Mbps Access Service Speed Band	31.28	70.56
75 Mbps Service, per access		
70 to 100 Mbps Access Service Speed Band - Bonded	40.25	70.56
75 Mbps bonded Service, per access (Note 3)		
100 Mbps bonded Service, per access (Note 3)		
101 to 150 Mbps Access Service Speed Band - Bonded	62.10	70.56
150 Mbps bonded Service, per access (Note 3)		

Carrier Access Services

Section II

ITEM
226.3**Rates**

- Note 1:** Residential and Business End-user classifications are in accordance with CRTC 18001, Item 425 and, CRTC 1005, Item 26. M |
- Note 2:** A minimum charge of one month will be applied for all Wholesale Internet ADSL Service Accesses that are disconnected within one month of installation. |
- Note 3:** Bonded configuration uses two copper pairs or dry loops. Refer to Conditions of Service - Item 226.2.2 and 2.26.3 for additional information. |
- Note 4:** Refer to the available Maximum Line Speeds specified in the Conditions of Service – Item 226.2.18 |
- Note 5:** Various Access Service Speed Bands with similar costs are grouped in a band and an access rate would apply for a specific access speed service within each band, pursuant to Telecom Decision CRTC 2016-117. |

ITEM
 226
 ITEM
 226.3

Wholesale Internet ADSL Service- Continued

Rates

b. ADSL VPOP Network-to-Network Interface (A-NNI) Service

Service Provider shall pay to the Company the following rates and charges for the A-NNI Service. Such rates and charges are in addition to any other rates and charges that may be applicable.

ADSL Network-to-Network Interface Service	Monthly Rate	Service Charge
E100 Interface (per interface)	\$ 55.15	\$ 1,199.00
E1000 Interface (per interface)	159.39	1,199.00
A-NNI Change Fee		\$500.00

c. Dry Loop Charges

i) Monthly Rates, per loop, per Band (Note 1)

<i>Type A</i>	<i>Rate Band A</i>	<i>Rate Band B</i>	<i>Rate Band C</i>	<i>Rate Band D</i>	<i>Rate Band E</i>	<i>Rate Band F</i>	<i>Rate Band G</i>
BC	\$ 3.90	\$8.39	\$9.66	\$8.37	\$23.02	\$17.89	\$23.84
AB	\$ 4.05	\$6.58	\$8.04	\$7.48	\$13.53	\$11.19	\$13.21

Note 1: Band classification is shown in Tariff 21461 Item 130 Access Rate Bands, Wire Centres / Rate Centres for Digital Services for each Serving Central Office.

ii) Service Charges will be charged at the following rates:

Type A Loops (all Bands)	Residential (Note 2)	Business
Fixed Rate Service Order Charge per order	\$19.68	\$36.21
Variable Rate Service Order Charge per loop	\$13.46	\$20.29

Note 2: For one or more loop order requests from a multiple-dwelling unit (MDU), the residential loop service order charge will apply per order.

ITEM 226 **Wholesale Internet ADSL Service- Continued**

ITEM 226.3 **Rates - Continued**

d. Other Fees Associated with Wholesale Internet ADSL Service:

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- i) *ADSL CO Access Fees*: Two fee options are available to the Customer. The first fee option is applied on a per CO basis as these are activated by the customer. The second fee option provides for the activation of all serving areas in the Company's territory.
- ii) *Multiple Domain Names*: One time rates apply for programming the Broadband Access Server (BAS), on the same PVC, with the first additional domain name and subsequent additional domain names on the same order.
- iii) *Administration Fees*: Administration Fees provide for business office work that is required to perform the following functions: Customer Name Change, Mergers and Acquisitions and Customer Cutover or Access upgrades, including Access speed changes for End-users.
- iv) *ADSL Access PVC Administration Fee*: The Wholesale Internet ADSL PVC Administration Fee addresses the work required to remap PVCs from each of the Company's BASs to the Customer's PoP site allowing for end user authentication. The number of PVCs is dependent upon the number and specific location of the serving areas the Customer has chosen to offer service. As larger urban centres require more BASs, this translates into higher numbers of PVCs that may be impacted by mergers and acquisitions, customer cutover or access upgrades and potentially name changes.

Other Fees Associated with ADSL Access Service	Contract Period		Rate (\$)
	1 year	3 year	
ADSL CO Access Fees			
• For the first and each subsequent serving CO activation	N/A	N/A	500.00
• To activate all CO/ERA serving areas in TELUS territory	N/A	N/A	30,000.00
Multiple Domain Names			
• One time charge will apply on the same PVC for the first additional domain name.	N/A	N/A	1,500.00
• For subsequent domain names requested on the same order, a one time charge per domain name will apply	N/A	N/A	350.00
Administration Fee (per end user)	N/A	N/A	25.00
ADSL Access PVC Administration Fee (per PVC)	N/A	N/A	50.00