

# NATIONAL SERVICES TARIFF

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## DIGITAL NETWORK SERVICES

### Item 300 DIGITAL NETWORK SERVICES

**General Description 300.1** This section of the National Services Tariff addresses Digital Network Access, Digital Private Line, Digital Private Line Solutions Service Extension Feature, Digital Private Line Solutions Service Extension Access Service, Customer Volume Pricing Plan, Inter-Office Digital Channels, Access Special Routing, International Private Line, Digital Private Line Satellite Access and Enhanced International Private Line. **C**

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Issued 2011 09 16

Effective 2011 09 30

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#### General Definitions 300.2

"Access" provides the customer with a digital access facility to connect the customer's station equipment to the serving Wire Centre. **C**

"Access Special Routing" provides for the routing of DS-1 access via an alternative path to the customer's serving Wire Centre or to an alternative Wire Centre. **C**

"Adjoining Exchanges" are Exchanges whose boundaries are common at any point, except where a boundary consists of a large natural barrier. **C**

"Channel Measurement":

The distance charge or rental for inter-exchange digital channels is based on the rate distance between Wire Centres or Rate Centres in the Exchanges in which the customer's or lessee's service points are located as follows: **C**

(1) Adjoining Exchanges: between Wire Centres in whose areas the service points are located. (This applies only to some Carriers as described in Items 302, 303 and 307.) **C**

(2) Non-adjoining Exchanges: between Rate Centres of the Exchanges, except that, for a channel provided between a Carrier Exchange or Rate Centre and a Rate Centre in the United States, the charge for the Carrier's portion is computed to the appropriate point of connection with the United States facilities at the international boundary which results in the lowest combined monthly charge including the Canadian and the United States portion. **C**

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Issued 2020 01 16

Effective 2020 03 06

Authority: Telecom Order CRTC 2020-88 March 06, 2020.  
TN 964

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*"Customer Volume Pricing Plan (CVPP)"* allows a customer to contract for a Minimum Monthly Billing Commitment (MMBC) for their services in return for a discount based on the term and the amount of the commitment.

*"Digital Network Access (DNA)"* provides for the digital transmission of information from the customer's premises to another premises within the exchange at 1.544 Mbps or 44.736 Mbps, or from the customer's premises to the Rate Centre to connect with other network services at speeds of less than 1.544 Mbps, 1.544 Mbps or 44.736 Mbps. C

*"DS-0"* is a channel capable of digital transmission at a nominal 64 Kbps rate.

*"DS-1"* is a channel capable of digital transmission at a 1.544 Mbps rate.

*"DS-3"* is a channel capable of digital transmission at a 44.736 Mbps rate. (Access is provided on Special Assembly basis, and intra-exchange and inter-exchange channels are provided at tariffed rates).

*"Exchange"* is a basic unit for the administration and furnishing of telephone service, and normally includes a city, town or village and adjacent parts. The territory served by an Exchange, within which local service rates apply, is known as the Exchange area or local-service area. In some cases a local-service area includes two or more Exchanges (extended area service); such service arrangements are specified in CRTC 6716 Item 60. One or more Wire Centres are usually located in each Exchange, with only one being designated as the Rate Centre for that Exchange. C

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Issued 2020 01 16

Authority: Telecom Order CRTC 2020-88 March 06, 2020.  
TN 964

Effective 2020 03 06

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*"Digital Private Line Satellite Access"* provides digital satellite channels at speeds of 56/64 Kbps (DS-0) up to 1.544 Mbps (DS-1) to customers who wish to access locations served by satellite.

*"Digital Private Line Service"* provides for the digital transmission of information at 1.544 Mbps (DS-1) between two points in the same exchange or between exchanges or between an exchange and an international border crossing point. Transmission in increments of 64 Kbps and at 44.736 Mbps (DS-3) is also available between exchanges and between wire centres within an exchange.

*"Digital Private Line Solutions Service Extension Access Service"* provides for a local extension connecting a customer premise to Digital Private Line Service Extension Features.

*"Digital Private Line Solutions Service Extension Features"* are provided at suitably equipped rate centres to connect Digital Private Line equipment with a Digital Network Access or with other services provided by the Carriers except Digital Channel Service.

*"Digital Private Line Serving Area"* designates an exchange from which Digital Private Line services are provided.

*"Digital Private Line Solutions"* is the generic name used to describe a family of services (i.e. Digital Private Line, etc.).

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*"Inter-office Digital Channels"* are furnished between Wire Centres and/or Rate Centres of the Carriers or between Rate Centres of the Carriers and other Rate Centres or international border crossing points in Canada for the digital transmission of information.

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*"Intra-exchange Channel"* provides the digital channel facility between the customer's serving Wire Centre and the Rate Centre in cases where the serving Wire Centre is not the Rate Centre. It also provides the digital channel facility between Wire Centres in the same Exchange whenever the service application requires one.

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*"Link"* provides the Central Office equipment required to connect:

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- a. an access to an intra-exchange channel,
- b. an access to a network service at the Rate Centre or Wire Centre,
- c. an intra-exchange channel to a network service at the Rate Centre, and
- d. an access to an access.

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Issued 2020 01 16

Effective 2020 03 06

Authority: Telecom Order CRTC 2020-88 March 06, 2020.  
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#### General

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"Non-adjointing Exchanges" are Exchanges which are not adjoining. (See definition for "Adjoining Exchanges" above.) **C**

"OC-3" is a channel capable of digital transmission at a nominal 155 Mbps rate.

"OC-12" is a channel capable of digital transmission at a nominal 622 Mbps rate.

"Rate Centre" A designated Wire Centre within an Exchange used for determining local, interexchange and foreign-exchange distance charges. An Exchange may have one or more Wire Centres but only one Wire Centre in an Exchange is designated as the Rate Centre. **C**

"Route Diversity" is provided, where facilities exist, when a customer requests an additional channel(s) between the same two locations and requires that the channel follow a different route than the first channel.

"Serving Wire Centre" A designated location within a Wire Centre Area used for rating purposes. The Wire Centre is the location of a Central Office if the Central Office is located within that Wire Centre Area. Where the Central Office used to serve a Wire Centre is not located within that Wire Centre Area, a point in that Wire Centre Area will be designated as the Wire Centre. **C**

"Special Routing Office" is a Carrier Wire Centre from which alternate routing is available to a customer for preventing total failure of service in the event of route failure. **C**

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Authority: Telecom Order CRTC 2020-88 March 06, 2020.  
TN 964

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*"V and H Distance Formula":*

Mileage between Rate Centres or Rate Centres and Wire Centres or Rate Centres and international crossborder points, is measured using a vertical (V) and horizontal (H) coordinate system. The V - H system consists of a series of coordinates which represent a theoretical grid of vertical and horizontal lines covering Canada and the United States. The spacing between adjacent lines is about 1670 feet and represents a distance of one coordinate unit. C

A V coordinate and an H coordinate are computed for each Rate Centre from its latitude and longitude location, by use of appropriate map-projection equations. A pair of V - H coordinates locates a Rate Centre, for determining airline distances, at the intersection of the vertical and horizontal grid lines so designated; it also designates the centre of a square having each side about 1670 feet long and an area of about one-tenth of a square mile. The rate distance between any two Rate Centres is the airline distance between the points designated by the V - H coordinates of the respective Rate Centres. C

Such distance is the square root of one-tenth the sum of the square of the difference between the V coordinates and the square of the difference between the H coordinates. Any remaining fraction of a mile is carried to the next mile. The formula is as follows:

Rate distance =  $\sqrt{.1((V1 - V2)^2 + (H1 - H2)^2)}$  where V1 is the larger of the V coordinates and H1 is the larger of the H coordinates.

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Issued 2020 01 16

Authority: Telecom Order CRTC 2020-88 March 06, 2020.  
TN 964

Effective 2020 03 06

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#### Terms and Conditions 300.3

- (a) Each Carrier shall determine the Exchanges (i.e., Rate Centre and/or Wire Centre, as appropriate) where it will provide service. **C**
  - (b) Service is provided at the Carrier's discretion within such Exchanges depending on the availability of suitable facilities and equipment. **C**
  - (c) When it is necessary for a Carrier to install special equipment or to incur an unusual expense to establish service, the customer shall pay an additional charge based on the equipment installed and the unusual expense incurred.
  - (d) The customer is solely responsible for the installation, operation and maintenance of customer provided terminal equipment.
  - (e) Customer terminal equipment attached to a Carrier's network must be certified or connected through a certified network protection device in accordance with the Carrier's Terminal Attachment Standards.
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