

COMMUNICATIONS TARIFF APPLICATION

DATE PSC RECEIVED: 6/10/2022 9:51:13 AM

AUTHORITY NUMBER:
T20220013

OFFICIAL FILING DATE:

PROCESSED BY: OPR JEFF BATES

COMPANY CODE: TL710

COMPANY NAME: Frontier Florida LLC

A. SYNOPSIS

1. ANTICIPATED EFFECTIVE DATE: 6/12/2022

2. IF DIFFERENT, COMPANY REQUESTED EFFECTIVE DATE: 6/12/2022

3. DESCRIPTION OF THE FILING:

The purpose of this filing is to transition Frame Relay and Asynchronous Transfer Mode (ATM) grandfathered services, upon term expiration, to a Month-to-Month service arrangement. Frontier will no longer support Moves, Adds Changes, or new installations for Frame Relay and ATM Services.

B. ACTION TO BE TAKEN WITH THIS FILING

1. TO BECOME EFFECTIVE A1 (A1 or A2)

SUBJECT:

2. PLACE ON COMMISSION AGENDA FOR DATE:

3. RECOMMENDATION DUE DATE:

4. DOCKET NO:

5. ORDER NO:

C. FINAL ACTION

1.EFFECTIVE DATE: 6/12/2022 PROTESTED? YES OR NO (CIRCLE ONE)

2. REVISION REPLACEMENTS? REQUESTED: No RECEIVED: _____

3. REVISION DISCREPANCIES:

4. COMMENTS:

5. REVISIED PAGES VERIFIED AGANIST E-TARIFF: _____

6. E-TARIFF UPDATED: _____

Jeff Bates

From: Saldana, Linda <Linda.Saldana@FTR.com>
Sent: Friday, June 10, 2022 9:50 AM
To: Telephone Tariffs
Subject: TL710
Attachments: AL10.pdf

June 10, 2022

Advice No. 10

Mr. Cayce Hinton, Director
Office of Industry Development & Market Analysis
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Dear Mr. Hinton:

Enclosed please find the revised tariff pages to Frontier Florida LLC, Facilities for Intrastate Access Tariff, issued June 10, 2022, to become effective June 12, 2022, subject to the Public Service Commission approval, as follows:

<u>Section Subject Index</u>	<u>Section 115 (Cont'd)</u>
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First Revised Page 22	First Revised Page 7
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The purpose of this filing is to transition Frame Relay and Asynchronous Transfer Mode (ATM) grandfathered services, upon term expiration, to a Month-to-Month service arrangement. Frontier will no longer support Moves, Adds or Changes nor new installations for Frame Relay and ATM Services.

If you have a question regarding this filing, please contact me at (916) 686-3590 or linda.saldana@ftr.com.

Sincerely,

/s/ Linda Saldaña

Linda Saldaña

Sr. Analyst, Pricing and Tariffs

Enclosures

This communication is confidential. Frontier only sends and receives email on the basis of the terms set out at http://www.frontier.com/email_disclaimer.



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Sincerely,

/s/ Linda Saldaña

Linda Saldaña
Sr. Analyst, Pricing and Tariffs

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(N)

FACILITIES FOR INTRASTATE ACCESS

FRONTIER FLORIDA LLC

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(N)

2. GENERAL REGULATIONS

2.6 Definitions (Cont'd)

Exit Message

The term "Exit Message" denotes an SS7 message sent to an end office by the Telephone Company tandem switch to mark the carrier connect time when the Telephone Company's tandem switch sends an Initial Address Message to an Interexchange Customer.

Extended Area Service

The term "Extended Area Service" (EAS) denotes an arrangement whereby a customer in one exchange can call a local number in another exchange that is part of the extended area without paying a toll charge.

Facility

The term facility denotes generically the various transmission media used for the transmission of telecommunication services. This includes, but is not limited to, cable (copper pair, coaxial, and fiber optic) and microwave radio equipment.

Fiber Optic Interface

The term "Fiber Optic Interface" denotes the termination of service with single mode fiber optic cable at the customer premises. When this interface is selected, it is the customer's responsibility to provide the optical line termination at his premises. This equipment must be compatible with the Telephone Company provided equipment.

Firm Order Confirmation Date

The term "Firm Order Confirmation (FOC) Date" denotes the date that the Telephone Company will provide the schedule of dates for the provisioning activities associated with the customer's request for service.

First Point of Switching

The term "First Point of Switching" denotes either the first telephone company location at which switching occurs on the terminating path of a call proceeding from the CDL to the terminating end office or the last telephone company location at which switching occurs on the originating path of a call proceeding from the originating end office to the CDL.

Four-Wire to Two-Wire Conversion

The term "Four-Wire to Two-Wire Conversion" denotes an arrangement which converts a four-wire transmission path to a two-wire transmission path to allow a four-wire facility to terminate in a two-wire entity such as a central office switch trunk circuit or switching system.

Frame

The term "Frame" denotes a group of data bits, in a specific format, with a flag at either end to indicate the beginning and end of the frame. The defined format enables network equipment to recognize the meaning and purpose of specific bits.

Frame Relay Access Line – Grandfathered¹

(C)

Provides access to the Frame Relay Network connecting customer facilities at the network interface with a corresponding Frame Relay Port.

Frame Relay Port – Grandfathered¹

(C)

For Frame Relay Service, the physical entry points for access lines and the originating and terminating points for Permanent Virtual Circuits (PVCs). Ports include the electronic equipment used in connecting these service elements to the Frame Relay Network, and enable customers to allocate bandwidth to applications, as needed, at customer designated transmission speeds of either 56 Kbps or 1.544 Mbps.

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(N)

(N)

2. GENERAL REGULATIONS

2.7 Termination Liability (Cont'd)

D. Early termination charges will not be assessed under the following circumstances:

- (1) Customer moves existing service either to a new location within the same address and/or same building (inside move) or to a new location (outside move) and maintains that service for the remainder of the term;
- (2) Customer attempts to move the existing service to a new location within Company's service area, but the service is unavailable;
- (3) Customer renegotiates a new term commitment plan for the same service before the current term commitment expires and the value of the new term commitment is equal to or greater than the remaining value of the current term commitment; or

(4) Customer changes to another service or upgrades service to a higher speed or capacity under a term commitment, provided the following conditions are met:

- (a) The value of the new term commitment is equal to or greater than the remaining value of the current term commitment,
- (b) The Company provides the new service via tariff or on an individual case basis (ICB), and
- (c) The order to discontinue the existing service and the order for the new or upgraded service are received by the Company at the same time.

(5) Asynchronous Transfer Mode (ATM) ¹ and Frame Relay ¹ changes to another service or upgrades service to a higher speed or capacity under a term commitment, provided the following conditions are met: (C)

- (a) The value of the new term commitment is equal to or greater than the remaining value of the current term commitment,
- (b) The Company or its affiliates provides the new service via tariff, similar documents, commercial agreements, or on an individual case basis (ICB), and
- (c) The order to discontinue the existing service and the order for the new or upgraded service are received by the Company or its affiliates at the same time.

E. The rules and regulations set forth in A. through D. preceding affect only those services that reference this section for termination liability application. Termination liability as specified for other services shown elsewhere in the Company's tariffs applies in lieu of the above.

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(N)

FACILITIES FOR INTRASTATE ACCESS

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(N)

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) - Grandfathered^{1, 2, 3}

(C)

(A) General

This section contains definitions, regulations and charges applicable to the provision of Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) furnished by the Company within the State of Florida, where conditions and facilities permit.

(B) Definitions

In addition to the Definitions set forth in Section 2 General Regulations of this tariff, the following definitions apply:

Maximum Burst Size – The term “Maximum Burst Size” (MBS) denotes the consecutive number of ATM cells that can enter the ATM Cell Relay Service network above the Sustained Cell Rate level and below the Peak Cell Rate level.

(C) Description of Service

Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) is a telecommunications transport and switching service that provides for high-speed connectivity between Customer-designated locations (CDLs). ATM CRS consists of a User Network Interface (UNI) interface. This interface is available in various configurations including Port with Access Line Connection and Port Only Connection, with either incremental or full bandwidth.

The UNI Port with Access Line Connection is a dedicated digital line that provides a link from the CDL to one of Company's ATM CRS hubs¹. UNIs are also provisioned as an Inverse Multiplexing ATM (IMA) Port with Access Line Connection as defined in Section D.2 and as a Port Only Connection as defined in Section D.3.

ATM CRS is a fast-packet, cell-based technology that can support user applications requiring high-bandwidth, high-performance transport and switching. This connectivity is provided via Permanent Virtual Circuits (PVCs) and/or Switched Virtual Circuits (SVCs) that are implemented over access facilities and switches that are dedicated to high-speed telecommunications services.

UNI Port with Access Line Connections, UNI IMA Port with Access Line Connections, UNI Port Only Connections, PVCs and SVCs are further described in Section D.

¹ For definition, see Section 2.6 of this tariff.

² Effective February 15, 2013, ATM Cell Relay Service (ATMCRS) is grandfathered and is no longer available to new customers. Existing customers may maintain their service; however, term commitment plans may not be renewed. Moves or changes to subscribers' existing service are permissible, but the term commitment per circuit will not be extended. Upon expiration of the term commitment the service will lapse into a month-to-month service arrangement and will bill at the one-year rate.

³ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)
(N)

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) - Grandfathered ^{1, 2} (Cont'd)

(C)

(D) Service Components

The major components of ATM CRS are:

- UNI Port with Access Line Connection
- UNI IMA Port with Access Line Connection
- UNI Port Only Connection
- Permanent Virtual Circuit (PVC)
- Switched Virtual Circuit (SVC)
- Effective Bandwidth

(1) UNI Port with Access Line Connection

UNI Port with Access Line Connections are available at the DS1, DS3, OC3c, and OC12c levels and provide dedicated transport between CDL and an ATM CRS hub. There are two types of UNIs: Full and Incremental. The Full UNI includes all available bandwidth in one rate, and the Incremental UNI is sold and provisioned with PVC and/or SVC bandwidth increments. The DS1 UNI is not offered in increments. UNI Port with Access Line Connection may be ordered under a One (1), Two (2), Three (3) or Five (5) year term commitment period.

In order for Customer traffic to be carried on the network, each Incremental UNI requires at least one 5 Mbps increment of either PVC or SVC bandwidth. The Customer may elect to subscribe to multiple PVCs. The SVC feature is established over the UNI via connection identifiers, which enables the Customer to have virtual connections to various locations.

UNIs are provided at nominal data rates of 1.5 Mbps (DS1), 45 Mbps (DS3), 155 Mbps (OC3c), or 622 Mbps (OC12c). OC3c and OC12c are provided as a concatenated signal in STS-3c and STS-12c (Synchronous Transport Signal) formats, respectively. The actual throughput into CRS is less than the line rate for the UNI provided.

The rates and charges for a UNI are differentiated by the capacity of the UNI, the location where the UNI originates (i.e., Customer-designated premises) and mileage ranges (expressed as tiers) associated with extending the UNI to the wire center designated as the ATM CRS hub.

The OC3c and OC12c UNI Port with Access Line Connections are provisioned on Protected or Protected Diverse Synchronous Optical Network (SONET). SONET is a standards-based fiber optic communication network that transports both asynchronous and synchronous digital signals using the Synchronous Transport Signal (STS) format. ATM OC3c and OC12c Protected SONET UNI Port with Access Line Connections are provisioned over SONET as a survivable service with a non-diverse alternate facility between the central office and the Customer premises. ATM OC3c and OC12c Protected Diverse SONET UNI Port with Access Line Connections are provisioned over SONET as a survivable service with an alternate and diverse path between the ATM CRS hub and the Customer premises.

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(N)
(N)

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(D) Service Components (Cont'd)

(2) UNI Inverse Multiplexing ATM (IMA) Port with Access Line Connection

UNI IMA Port with Access Line Connection permits the provisioning of bandwidth greater than DS1 and less than DS3 by binding together multiple DS1 facilities. The inverse multiplexer at each end of the connection aggregates and de-aggregates multiple parallel DS1 leased lines into a single higher speed link. IMA will be offered as full bandwidth only. Two to six DS1 facilities will be permitted in an IMA group providing nominal aggregated bandwidth from three to nine megabits per second. IMA allows for all class of service parameters up to the combined nominal line rate of the aggregated DS1s and all PVCs and/or SVCs that will fit within the bandwidth. Ordering of DS1s within an IMA group must be done in ascending order. Disconnecting DS1s within an IMA group must be done in a descending order. Customer must purchase a minimum of two IMA DS1s.

Requests to change existing UNI Port with Access Line Connections to UNI IMA Port With Access Line Connections will be treated as a disconnect and a new install. Termination liability ² charges, as set forth in Section 2.8 of this tariff may apply.

(3) UNI Port Only Connection

Port Only Connections can be established as a User Network Interface (UNI) arrangement. The UNI Port Only connection provides an ATM Cell Relay Network connection based on the port connection speeds of DS1, DS3, OC3c and OC12c. The ATM port speed will be consistent with the channel speed of the access channel. The actual throughput of Customer traffic cannot exceed the bandwidth of the access channel and port speed.

UNI Port Only Connections are available as either Incremental or Full. This refers to the bandwidth that is required to provision PVCs on the port. Incremental ports come with no bandwidth and bandwidth is purchased in increments based on Customer bandwidth requirements. Full ports come with all bandwidth included up to the maximum rate of the port. Each port can accommodate multiple PVCs or SVCs depending on the bandwidth purchased. UNI Port Only connections are available on a One (1), Two (2), Three (3) and Five (5) year term.

Customers may access Port Only Connections via Company-provided digital access facilities or via facilities provided by another carrier. When access facilities are provided by the Company, the associated regulations, rates and charges under the appropriate Company Tariff shall apply in addition to the regulations, rates and charges associated with ATM CRS. Company-provided access facilities may also be provisioned on an Individual Case Basis (ICB) where access facilities are not generally available under the applicable tariff. Interconnection charges to connect access line services provided by the Company or another carrier may apply and will be billed separately. Any special construction or nonstandard charges assessed by the carrier supplying the access facilities will be the responsibility of the Customer.

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(N)
(N)

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(D) Service Components (Cont'd)

(4) Permanent Virtual Circuit (PVC)

The PVC defines a virtual connection across a UNI between the Customer premises and Company's ATM CRS hub. Each UNI requires at least one PVC in order for Customer traffic to traverse the network. Each ATM cell carries a unique tag which identifies that ATM CRS cell as belonging to a particular PVC. A PVC is a logical channel connecting two or more Customer-designated premises with virtual connections through a Company provided ATM CRS switch(es). The PVCs may be provided on a point-to-point or point-to-multipoint basis. When a PVC is provided as a point-to-point virtual connection, transmission is bi-directional allowing for ATM CRS cells to be transmitted or received over the same PVC. For point-to-multipoint virtual connections, transmission is provided as transmit only. The virtual connection is set up by the Company based on information contained on a Telecommunications Service Request (TSR) rather than by dial-up signaling.

PVCs consist of two types: Virtual Channel Connections (VCCs) and Virtual Path Connections (VPCs). A VCC is a type of PVC with independent identity and defined service parameters that are provisioned via a TSR and cannot be altered by the Customer without additional TSR activity. A VPC is a type of PVC with defined service parameters that is provisioned via a TSR. Customers may provision their own virtual channels within the VPC, provided that the sum of the service parameters of all of the virtual channels does not exceed the aggregate service parameters of the VPC.

If the information provided by the Customer for the requested PVCs results in an interstate arrangement, the PVC falls under federal jurisdiction subject to the rates, terms and conditions from the Company's FCC tariff.

(5) Switched Virtual Circuit (SVC)

SVCs are similar in structure to PVCs, but SVCs are provisioned on demand by Customer premises equipment that signals the ATM cell relay network to set up and tear down logical connections. The network will respond to these requests by provisioning a virtual connection across the network based on the class of service parameters requested, provided that sufficient network resources are available to establish the connection. Each UNI that is SVC signal enabled will be provided with a SVC International Code Designator (ICD) prefix that will uniquely identify the UNI. Customers must use this Company assigned prefix when requesting SVC virtual connections across the Company Cell Relay Network. Each Constant Bit Rate (CBR) and Variable Bit Rate (VBR) SVC will be limited to a maximum Peak Cell Rate of 20 Mbps and a maximum Sustained Cell Rate of 20 Mbps.

Closed User Group (CUG) capability is a feature associated with SVCs. A CUG provides the ability to contain SVC calls between certain UNIs. A CUG functionally groups UNIs into logical associations and allows calling privileges to be specified network wide. A CUG provides a network-wide mechanism for access control. CUGs provide a logical grouping of UNIs, creating a SVC community of interest.

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(N)

(N)

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(D) Service Components (Cont'd)

(6) Effective Bandwidth

Effective bandwidth is the bandwidth reserved for each logical connection (PVC or SVC) that is set up across a UNI. It is based on the Peak Cell Rate (PCR), Sustained Cell Rate (SCR), Maximum Burst Size (MBS), and the class of service parameters selected, i.e., Constant Bit Rate (CBR), Variable Bit Rate real time (VBRrt), Variable Bit Rate non-real time (VBRnrt), or Unspecified Bit Rate (UBR). The total effective bandwidth of all the logical connections on a UNI cannot exceed the total bandwidth available on the UNI. Effective bandwidth prices do not vary by class of service level selected. However, effective bandwidth is consumed in varying degrees based on the class of service parameters selected. The higher the class of service, the more bandwidth will be reserved. A CBR PVC with the same PCR as a VBR PVC will reserve more effective bandwidth.

(E) Technical Specifications

The technical specifications for ATM CRS are delineated in Technical References TR-NWT-001112, GR-1110-CORE, GR-1248-CORE, and SR-3330.

The technical specifications for DS1 and DS3 signals are delineated in TR-INS-000342.

The technical specifications for OC3c and OC12c signals are delineated in GR-253-CORE, Issue 2.

The technical specifications for UNIs are delineated in ATM Forum ATM User Network Interface Specifications V3.0, af-uni-0010.001, and V3.1, af-uni-0010.002. Interface specifications for Customer-provided ATM CRS compatible premises equipment or devices must also be in accordance with the specifications defined in these documents.

(F) Provision of Service

ATM CRS includes:

- (1) A least one UNI Port With Access Line or Port Only which has a maximum nominal capacity for either DS1 (1.5 Mbps), DS3 (45 Mbps), OC3c (155 Mbps), OC12c (622 Mbps), or two to six UNI IMA Ports with Access Lines which has a capacity of 3Mbps to 9Mbps. The OC3c and OC12c UNIs are provisioned over Protected or Protected Diverse SONET. The Protected and Protected Diverse SONET facilities provide a backup facility that automatically switches in the event of a failure on the primary facility.
- (2) Unlimited usage on purchased bandwidth.
- (3) Incremental UNIs must have at least one increment of effective bandwidth (either PVC or SVC) in order for traffic to traverse the network. The DS1, DS3, OC3c, and OC12c Full UNIs are equipped with the full effective bandwidth.
- (4) Either one or more PVCs. When PVC bandwidth is purchased, one or more PVCs must be selected for Customer traffic to traverse the network.

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² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)

(N)

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(F) Provision of Service (Cont'd)

- (5) Two types of PVCs, (i) Virtual Channel Connections (VCCs) and (ii) Virtual Path Connections (VPCs), which support the following Classes of Service:
 - a. Constant Bit Rate (CBR)
 - b. Variable Bit Rate real time (VBRrt)
 - c. Variable Bit Rate non-real time (VBRnrt)
 - d. Unspecified Bit Rate (UBR)

(G) Tier Structure for Local Serving Offices

Wire centers that provide ATM CRS have been designated by the Company as ATM hubs. Each local serving office has been placed in a Tier 1, 2 or 3, based on its location relative to the closest ATM hub.

(H) Service Functionality

The ATM CRS functionality consists of transporting 53-byte cells of information from the Customer location to a Company ATM hub over a UNI. The traffic is routed in the switch to another UNI, or other suitable network connection.

(I) Class of Service Parameters

- (1) Constant Bit Rate (CBR)
 - a. Peak/Sustained Cell Rate:
Customer specified in increments of 64 Kbps up to the maximum speed of the UNI.
 - b. Non-conforming cells:
Discarded
 - c. Cell Delay Variation Tolerance (CT):
DS1 = 600 microseconds
DS3 = 600 microseconds
OC3c = 600 microseconds
OC12c = 600 microseconds
- (2) Variable Bit Rate (VBR) Real Time/Non-Real Time
 - a. Sustained Cell Rate (SCR):
Customer specified in increments of 64 Kbps up to the maximum speed of the UNI.
 - b. Peak Cell Rate (PCR):
Customer selectable in increments of 64 Kbps up to line rate. Default is 200% of SCR for PVCs. (The ratio of PCR to SCR will be signaled by CPE for SVCs. Therefore there is no default value.)

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13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(I) Class of Service Parameters (Cont'd)

(2) Variable Bit Rate (VBR) Real Time/Non-Real Time (Cont'd)

c. Non-conforming cells:
Discarded

d. Cell Delay Variation Tolerance (CDVT):
DS1 = 600 microseconds
DS3 = 600 microseconds
OC3c = 600 microseconds
OC12c = 600 microseconds

(J) Conditions

(1) ATM CRS is available where facilities and conditions permit. For locations where the Customer requests ATM CRS and digital or SONET facilities are not available, special construction charges may apply.

(2) Maintenance Window

To meet the Customers' requirements, occasional network upgrades must be performed. Network upgrades are needed to provide improved performance and new features. Generally these upgrades will be performed between the hours of 11 PM and 8 AM. Network upgrades are planned to provide Customers reasonable and timely notification in order to minimize any impact on the Customers' service.

(K) Obligations of the Customer

The Customer must provide the necessary compatible premise equipment or ATM CRS device capable of interfacing with the Company's ATM CRS.

(L) Obligations of the Company

Company is responsible for service up to and including the network interface. Company's responsibility is limited to the furnishing of communications facilities and switches suitable for ATM CRS.

ATM CRS is supported by the Company's Single Point of Contact (SPOC) center, which provides continuous support for ATM CRS 24 hours per day, seven days per week (24x7) with the ability to manage all of the Customer's ATM CRS as a single network. The SPOC performs maintenance, trouble resolution and network management functions on a 24x7 basis. Service order processing and network installation functions are performed only during normal business hours.

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(N)
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13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(M) Application of Rates and Charges

(1) Rate Elements

The following rate elements are applicable to ATM CRS:

- UNI Port with Access Line Connection
- UNI Inverse Multiplexing ATM (IMA) Port with Access Line Connection
- UNI Port Only Connection
- Permanent Virtual Circuits (PVCs)
- Effective Bandwidth for Incremental UNIs
- Closed User Groups (CUG)
- Administrative Charge

a. UNI Port with Access Line Connection

A monthly rate applies on a per Port with Access Line basis, based on the speed (i.e., DS1, DS3, OC3c or OC12c) and/or type (i.e., Full or Incremental, SONET - Protected or Protected Diverse) of the access connection. UNI Port and Access is offered as a One (1), Two (2), Three (3) or Five (5) year term commitment period. Nonrecurring charges are not applicable.

b. UNI Inverse Multiplexing ATM (IMA) Port with Access Line Connection

A monthly rate applies on a per DS1 basis for each sequential DS1 ordered up to the desired bandwidth (i.e., 3 Mbps, 4.5 Mbps, 6 Mbps, 7.5 Mbps or 9 Mbps). IMA is offered as a One (1), Two (2), Three (3) or Five (5) year term commitment period. DS1s within an IMA group added subsequent to the initial installation of the first two DS1s will have their own term period. Nonrecurring charges are not applicable.

c. UNI Port Only Connection

A monthly rate applies on a per Port Only basis, based on the speed (i.e., DS1, DS3, OC3c or OC12c) and/or type (i.e., Full or Incremental) of the port only connection. UNI Port Only is offered as a One (1), Two (2), Three (3) or Five (5) year term commitment period. Nonrecurring charges are not applicable.

d. Permanent Virtual Circuits (PVCs)

An Administrative charge applies per order. The Administrative charge does not apply when PVCs are installed at the same time as the respective UNIs.

If the information provided by the Customer for the requested PVCs results in an interstate arrangement, the PVC falls under the federal jurisdiction, subject to the rates, terms and conditions from the Company's FCC tariff.

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² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)
(N)

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(M) Application of Rates and Charges (Cont'd)

(1) Rate Elements (Cont'd)

(e) Administrative Charge

A nonrecurring charge applies (per order, per UNI) when Customer initiates a change to one or more of the following: UNI bandwidth, PVCs, class of service parameters, and/or other service parameters that do not require changes in physical facilities and that can be provisioned by Company without the dispatch of a technician to Customer location. For each service order issued, the charge will be one Administrative Charge regardless of the number of changes made. The Administrative Charge does not apply for those items ordered on the same service order with the installation of a UNI.

(2) Minimum Period

The minimum period for ATM CRS is one month.

(3) Term Commitment Period

The ATM CRS UNI Port With Access Line Connection, UNI IMA Port With Access Line Connection and UNI Port Only Connection rate elements are available under a Term Commitment Period.

Term commitments of One (1), Two (2), Three (3) and Five (5) years are available to all Customers at the applicable rates set forth in Section 14.5.

Rate elements must be ordered under the same term commitment period.

a. Termination Liability²

In the event ATM CRS is terminated by the Customer prior to completion of the initial term commitment period, Termination Liability charges, as set forth in General Regulations, Section 2.8 of this tariff will apply.

(4) Moves

When the Customer requests a move or relocation of the UNI, the move or relocation will be treated as a termination of the existing service and the establishment of a new service. Service and a new term commitment period will commence.

(5) Special Facilities Routing

The Customer may request that the facilities used to provide ATM CRS be specially routed. Additional charges will apply under an ICB contract arrangement see Section 12 Special Construction in this tariff for terms and conditions.

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² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)
(N)

FACILITIES FOR INTRASTATE ACCESS

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(M) Application of Rates and Charges (Cont'd)

(6) Acceptance Testing

Upon the Customer's request, the Company will cooperatively test, at the time of installation at no additional charge. Acceptance tests will include tests for the parameters applicable to the Service as specified in the order for Service.

(N) Rates and Charges

(1) UNI Port with Access Line Connection

	One-Year Monthly Rate	Two-Year Monthly Rate	Three-Year Monthly Rate	Five-Year Monthly Rate
(a) DS1, each				
Full				
Tier 1 (0 to 5 Miles)	\$ 805.00	\$ 765.00	\$ 684.00	\$ 644.00
Tier 2 (Over 5 to 25 Miles)	805.00	765.00	684.00	644.00
Tier 3 (Over 25 to 50 Miles)	805.00	765.00	684.00	644.00
(b) DS3, each				
Full				
Tier 1 (0 to 5 Miles)	4,060.00	3,857.00	3,451.00	3,247.00
Tier 2 (Over 5 to 25 Miles)	4,776.00	4,538.00	4,060.00	3,821.00
Tier 3 (Over 25 to 50 Miles)	5,731.00	5,444.00	4,872.00	4,585.00
Incremental				
Tier 1 (0 to 5 Miles)	3,407.00	3,235.00	2,895.00	2,725.00
Tier 2 (Over 5 to 25 Miles)	4,007.00	3,807.00	3,407.00	3,205.00
Tier 3 (Over 25 to 50 Miles)	4,808.00	4,568.00	4,088.00	3,847.00

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(N)
(N)

FACILITIES FOR INTRASTATE ACCESS

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(N) Rates and Charges (Cont'd)

(1) UNI Port with Access Line Connection (Cont'd)

	One-Year Monthly Rate	Two-Year Monthly Rate	Three-Year Monthly Rate	Five-Year Monthly Rate
(c) OC3c, each				
SONET				
Full, Protected				
Tier 1 (0 to 5 Miles)	\$ 7,659.00	7,277.00	\$ 6,511.00	\$ 6,127.00
Tier 2 (Over 5 to 25 Miles)	9,011.00	8,561.00	7,659.00	7,209.00
Tier 3 (Over 25 to 50 Miles)	10,813.00	10,272.00	9,192.00	8,650.00
Full, Protected Diverse				
Tier 1 (0 to 5 Miles)	9,353.00	8,886.00	7,951.00	7,482.00
Tier 2 (Over 5 to 25 Miles)	11,003.00	10,453.00	9,353.00	8,803.00
Tier 3 (Over 25 to 50 Miles)	13,204.00	12,544.00	11,224.00	10,563.00
Incremental, Protected				
Tier 1 (0 to 5 Miles)	5,336.00	5,070.00	4,536.00	4,269.00
Tier 2 (Over 5 to 25 Miles)	6,278.00	5,964.00	5,336.00	5,023.00
Tier 3 (Over 25 to 50 Miles)	7,534.00	7,158.00	6,403.00	6,027.00
Incremental, Protected Diverse				
Tier 1 (0 to 5 Miles)	7,030.00	6,679.00	5,976.00	5,624.00
Tier 2 (Over 5 to 25 Miles)	8,271.00	7,856.00	7,030.00	6,617.00
Tier 3 (Over 25 to 50 Miles)	9,924.00	9,428.00	8,436.00	7,940.00

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FACILITIES FOR INTRASTATE ACCESS

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(N) Rates and Charges (Cont'd)

(1) UNI Port with Access Line Connection (Cont'd)

	One-Year Monthly Rate	Two-Year Monthly Rate	Three-Year Monthly Rate	Five-Year Monthly Rate
d. OC12c, each				
SONET				
Full, Protected				
Tier 1 (0 to 5 Miles)	\$ 23,668.00	\$ 22,484.00	\$ 20,118.00	\$ 18,934.00
Tier 2 (Over 5 to 25 Miles)	27,844.00	26,452.00	23,668.00	22,275.00
Tier 3 (Over 25 to 50 Miles)	33,413.00	31,742.00	28,401.00	26,730.00
Full, Protected Diverse				
Tier 1 (0 to 5 Miles)	25,604.00	24,323.00	21,764.00	20,483.00
Tier 2 (Over 5 to 25 Miles)	30,121.00	28,615.00	25,604.00	24,098.00
Tier 3 (Over 25 to 50 Miles)	36,146.00	34,339.00	30,724.00	28,917.00
Incremental, Protected				
Tier 1 (0 to 5 Miles)	15,730.00	14,944.00	13,371.00	12,584.00
Tier 2 (Over 5 to 25 Miles)	18,505.00	17,580.00	15,730.00	14,805.00
Tier 3 (Over 25 to 50 Miles)	22,207.00	21,097.00	18,876.00	17,765.00
Incremental, Protected Diverse				
Tier 1 (0 to 5 Miles)	17,666.00	16,783.00	15,016.00	14,133.00
Tier 2 (Over 5 to 25 Miles)	20,783.00	19,744.00	17,666.00	16,627.00
Tier 3 (Over 25 to 50 Miles)	24,940.00	23,693.00	21,199.00	19,952.00

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FACILITIES FOR INTRASTATE ACCESS

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(N) Rates and Charges (Cont'd)

(2) UNI Inverse Multiplexing ATM (IMA)

	One-Year Monthly Rate	Two-Year Monthly Rate	Three-Year Monthly Rate	Five-Year Monthly Rate
a. First DS1, each (1.5 Mbps total bandwidth)				
Full				
Tier 1 (0 to 5 Miles)	\$ 828.00	\$ 788.00	\$ 704.00	\$ 663.00
Tier 2 (Over 5 to 25 Miles)	828.00	788.00	704.00	663.00
Tier 3 (Over 25 to 50 Miles)	828.00	788.00	704.00	663.00
b. Second DS1, each (3 Mbps total bandwidth)				
Full				
Tier 1 (0 to 5 Miles)	787.00	747.00	684.00	644.00
Tier 2 (Over 5 to 25 Miles)	787.00	747.00	684.00	644.00
Tier 3 (Over 25 to 50 Miles)	787.00	747.00	684.00	644.00
c. Third DS1, each (4.5 Mbps total bandwidth)				
Full				
Tier 1 (0 to 5 Miles)	757.00	718.00	642.00	605.00
Tier 2 (Over 5 to 25 Miles)	757.00	718.00	642.00	605.00
Tier 3 (Over 25 to 50 Miles)	757.00	718.00	642.00	605.00
d. Fourth DS1, each (6 Mbps total bandwidth)				
Full				
Tier 1 (0 to 5 Miles)	757.00	718.00	642.00	605.00
Tier 2 (Over 5 to 25 Miles)	757.00	718.00	642.00	605.00
Tier 3 (Over 25 to 50 Miles)	757.00	718.00	642.00	605.00
e. Fifth DS1, each (7.5 Mbps total bandwidth)				
Full				
Tier 1 (0 to 5 Miles)	757.00	718.00	642.00	605.00
Tier 2 (Over 5 to 25 Miles)	757.00	718.00	642.00	605.00
Tier 3 (Over 25 to 50 Miles)	757.00	718.00	642.00	605.00
f. Sixth DS1, each (9 Mbps total bandwidth)				
Full				
Tier 1 (0 to 5 Miles)	757.00	718.00	642.00	605.00
Tier 2 (Over 5 to 25 Miles)	757.00	718.00	642.00	605.00
Tier 3 (Over 25 to 50 Miles)	757.00	718.00	642.00	605.00

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FACILITIES FOR INTRASTATE ACCESS

13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{1,2} (Cont'd)

(C)

(N) Rates and Charges (Cont'd)

(3) UNI Port only Connection

	One-Year Monthly Rate	Two-Year Monthly Rate	Three-Year Monthly Rate	Five-Year Monthly Rate
a. DS1, each Full	\$ 420.00	\$ 399.00	\$ 358.00	\$ 337.00
b. DS3, each Full	1,481.00	1,407.00	1,258.00	1,185.00
Incremental	712.00	677.00	605.00	570.00
c. OC3c, each Full	3,872.00	3,678.00	3,291.00	3,098.00
Incremental	1,139.00	1,081.00	968.00	911.00
d. OC12c, each Full	13,609.00	12,929.00	11,568.00	10,888.00
Incremental	4,270.00	4,057.00	3,630.00	3,417.00

(4) Permanent Virtual Circuits (PVCs) per order

	Nonrecurring Charge ²
a. Virtual Channel Connections (VCCs)	
Constant Bit Rate (CBR)	\$ 75.00
Variable Bit Rate real time (VBRrt)	75.00
Variable Bit Rate non-real time (VBRnrt)	75.00
Unspecified Bit Rate (UBR)	75.00
b. Virtual Path Connections (VPCs)	
Constant Bit Rate (CBR)	75.00
Variable Bit Rate real time (VBRrt)	75.00
Variable Bit Rate non-real time (VBRnrt)	75.00
Unspecified Bit Rate (UBR)	75.00

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FACILITIES FOR INTRASTATE ACCESS

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13. ADVANCED COMMUNICATIONS NETWORKS

13.3 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) – Grandfathered ^{3,4} (Cont'd)

(C)

(N) Rates and Charges (Cont'd)

(5) Effective Bandwidth for Incremental UNIs

	Monthly Rate	Nonrecurring Charge
a. CBR or VBR PVC Bandwidth		
DS3, OC3c – 5 Mbps	\$ 97.00	N/A
OC12c – 15 Mbps	242.00	N/A
b. CBR or VBR SVC Bandwidth		
DS3, OC3c – 5 Mbps	97.00	N/A
OC12c – 15 Mbps	242.00	N/A
c. UBR PVC and SVC Bandwidth, Bandwidth up to the UNI line rate		
DS3	484.00	N/A
OC3c	1,452.00	N/A
OC12c	4,840.00	N/A
6. Closed User Groups (CUG) ¹ , per order, per UNI		
a. Each CUG	N/A	\$75.00
b. Each subsequent CUG member added to a CUG	N/A	75.00
7. Administrative Charge ² , per order	N/A	75.00

¹ Applies per order, per UNI, and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. The nonrecurring charge does not apply when a CUG is installed at the same time as the respective UNI.

² Applies per order, per UNI, and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. The nonrecurring charge does not apply for those items ordered on the same service order with the installation of a UNI.

³ Effective February 15, 2013, ATM Cell Relay Service is grandfathered and is no longer available to new customers. Existing customers may maintain their service; however, term commitment plans may not be renewed. Moves or changes to subscribers' existing service are permissible, but the term commitment per circuit will not be extended. Upon expiration of the term commitment the service will lapse into a month-to-month service arrangement and will bill at the one-year rate.

⁴ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)
(N)

FACILITIES FOR INTRASTATE ACCESS

115. DISCONTINUED ADVANCED DATA SERVICES

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¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement. (N)
(N)

FACILITIES FOR INTRASTATE ACCESS

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115. DISCONTINUED ADVANCED DATA SERVICES

115.1 Frame Relay – Grandfathered¹

(C)

115.1.1 General

This service is no longer offered to new Customers and has the following conditions:

Additions to Customer's existing service will be charged at the new Tariff rates and will not be considered a restructure of Customer's billing. All existing services as of the effective date of this Tariff will continue to be charged at the rates shown in Section 115.1.

Deletions to Customer's service will not be considered a restructure of Customer's billing. All existing services as of the effective date of this Tariff will continue to be charged at the rates shown in Section 115.1.

Moving a service (i.e., from location A to location B) will be considered a deletion of existing service and addition to new service, and the rate elements as defined in "Additions" and "Deletions" will apply. A move will not be considered a rate restructuring of Customer's service. All remaining existing services will continue to be billed at the rates shown in Section 115.1.

Upgrades to existing service will be considered a disconnect (deletion) of the service and an addition of new service. Upgrade charges will apply as detailed under Frame Relay Service in Section 15 of this Tariff. An upgrade will not be considered a restructure of Customer billing.

In the event Customer wishes to take advantage of the new rate structure, a complete conversion from the current rate structure to the new rate structure will be required. Conversion of individual rate elements will not be allowed. NRCs will not be applied for billing changes only. Any changes in service (i.e., upgrades, relocations, disconnects, changes in PVC parameters, such as CIR and B(e), etc.) will require the appropriate NRCs and Termination Liabilities be applied.

115.1.2 Rate Elements

(A) Frame Relay with Port and Access Line

A monthly rate, based on the speed of the port connection (i.e., 56 Kbps, 128 Kbps, 256 Kbps, 384 Kbps, or 1.544 Mbps), applies per port for each physical connection to the network supporting Frame Relay Service (FRS). Each port includes one PVC and can accommodate multiple PVCs.

(B) Frame Relay with Port Only

A monthly rate, based on the speed of the port connection (i.e., 56 Kbps, 128 Kbps, 256 Kbps, 384 Kbps, or 1.544 Mbps), applies per port for each Frame Relay Access Line or digital private line connection to the network supporting FRS. Each port can have multiple PVCs. The first PVC is included with the purchase of the port.

(C) Frame Relay PVC (FR-PVC)

A monthly rate applies for each PVC. A monthly rate based on the speed of the port connection (i.e., 56 Kbps, 128 Kbps, 256 Kbps, 384 Kbps, or 1.544 Mbps) and the number of PVCs assigned to the port, applies per port. PVC rates are applied and accumulated on a per port basis.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)
(N)

115. DISCONTINUED ADVANCED DATA SERVICES

115.1 Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.1.3 Rates

	<u>Monthly Rate</u>
<u>Frame Relay UNI Port and Access Line, each</u>	
56 Kbps	
Month to Month	\$ 99.00
One Year OPP	92.00
Three Year OPP	85.00
Five Year OPP	77.00
128 Kbps	
Month to Month	250.00
One Year OPP	240.00
Three Year OPP	230.00
Five Year OPP	220.00
256 Kbps	
Month to Month	300.00
One Year OPP	285.00
Three Year OPP	270.00
Five Year OPP	260.00
384 Kbps	
Month to Month	350.00
One Year OPP	330.00
Three Year OPP	315.00
Five Year OPP	300.00
1.544 Mbps	
Month to Month	525.00
One Year OPP	505.00
Three Year OPP	485.00
Five Year OPP	465.00

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.1 Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.1.3 Rates (Cont'd)

	<u>Monthly Rate</u>
<u>Frame Relay with Port Only, each</u>	
56 Kbps	
Month to Month	\$ 50.00
One Year OPP	47.00
Three Year OPP	44.00
Five Year OPP	41.00
128 Kbps	
Month to Month	80.00
One Year OPP	76.00
Three Year OPP	72.00
Five Year OPP	68.00
256 Kbps	
Month to Month	120.00
One Year OPP	112.00
Three Year OPP	105.00
Five Year OPP	98.00
384 Kbps	
Month to Month	160.00
One Year OPP	150.00
Three Year OPP	140.00
Five Year OPP	130.00
1.544 Mbps	
Month to Month	400.00
One Year OPP	380.00
Three Year OPP	360.00
Five Year OPP	340.00

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.1 Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.1.3 Rates (Cont'd)

Monthly Rate

Additional Frame Relay PVC, each

2 to 10 PVCs	\$ 8.00
11 to 20 PVCs	7.00
21 or more PVCs	6.00

Bundled Rate Elements

(A) Central Office Based Channelization

Frame Relay with Port

56 Kbps	\$ 30.00
128 Kbps	50.00
256 Kbps	80.00
384 Kbps	105.00

(B) Customer Premises Based Channelization

Frame Relay with Port

56 Kbps	\$ 40.00
128 Kbps	65.00
256 Kbps	95.00
384 Kbps	120.00

Frame Relay Service Activation, includes Company provided Frame Relay Assembly/Disassembly

56 Kbps	\$ 80.00
128 Kbps	125.00
256 Kbps	155.00
384 Kbps	180.00

115.2 Transport LAN Connect

115.2.1 General

This service is no longer available to new customers.

Transport LAN Connect (TLC) is a fiber optic-based intra-exchange and inter-exchange network transport service. TLC is a private network transport service that does not provide for direct inter-connection with public networks (e.g. Public ATM, Public Frame-Relay, etc.). TLC offers Customers inter-site transport of the following:

- 10 Base-T Ethernet (10 Mbps)
- 100 Base-TX Fast Ethernet (100 Mbps)
- DS1 (1.544 Mbps)
- ATM OC3c (155 Mbps)

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.2 Transport LAN Connect (Cont'd)

115.2.4 Conditions (Cont'd)

(A) Contract Termination Liability (Cont'd)

The Contract Termination Liability (CTL) will apply when any portion of this service that is subject to the CTL is terminated prior to completion of the elected contract period. Customer's liability will be equal to 25% of the monthly rate for the applicable service terminated times the number of months remaining in the contract period.

Deletions to Customer's service will be subject to termination liability agreements per the original contract with the exception of customers who migrate to Asynchronous Transfer Mode (ATM) Service ¹.

(C)

(B) Obligations of Company

Company is responsible for service up to and including the TLC interface port.

Company shall provision service over facilities suitable for TLC transmission where available, for the effective maximum line rate of a DS1 (1.544 Mbps), Ethernet (10 Mbps), Fast Ethernet (100 Mbps), or OC3c (155 Mbps concatenated).

Occasionally, in order to perform software updates and other maintenance, it may be necessary to take the TLC node out of service, during the predetermined maintenance window of 12:01 a.m. to 6:00 a.m. In these cases, all attempts will be made to notify Customer in advance as to the time and duration of these outages. Company reserves the right to temporarily interrupt TLC service at other times in emergency situations

(C) Obligations of Customer

Customer must provide compatible equipment in accordance with interface specifications defined in applicable IEEE and/or ANSI Standards.

Customer is responsible for installation, operation and maintenance of any customer provided equipment (CPE).

Customers who choose Ethernet (10 or 100 Mbps) must specify if they intend to utilize full or half duplex. Customers who choose OC3c (155 Mbps) must provide their virtual circuit requirements to Company. All Customers must specify the originating and terminating locations.

Customer shall be responsible for obtaining permissions for Company's agents or employees to enter Customer's designated locations(s) at any reasonable hour for the purpose of installing, inspecting, repairing, or, upon termination of the service, removing the service components of Company.

Customer must provide to Company a point of contact with information to include the contact name, telephone number, mailing address, and electronic mail (e-mail) address for notification purposes.

In order for the facilities to work properly it is recommended that Customer not exceed facility capacity by over-booking or over subscribing the bandwidth of the inter-node links.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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(N)

115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ¹

(C)

115.3.0 General

This service is no longer offered to new Customers and has the following conditions:

Existing OPP customers may continue their service at the rates shown in Section 115.3 until their OPP expires or their service is disconnected, whichever occurs first. Existing month-to-month customers may continue their service at the rates shown in Section 115.3 until June 16, 2008, or until their service is disconnected, whichever occurs first.

Additions to Customer's existing service will be charged at the new Tariff rates and will not be considered a restructure of Customer's billing.

Deletions to Customer's service will not be considered a restructure of Customer's billing.

Moving a service (i.e., from location A to location B) will be considered a deletion of existing service and addition to new service, and the rate elements as defined in "Additions" and "Deletions" will apply. A move will not be considered a rate restructuring of Customer's service.

Upgrades to existing service will be considered a disconnect (deletion) of the service and an addition of new service. Upgrade charges will apply as detailed under Frame Relay Service in Section 16 of this Tariff. An upgrade will not be considered a restructure of Customer billing.

In the event Customer wishes to take advantage of the new rate structure, a complete conversion from the current rate structure to the new rate structure will be required. Conversion of individual rate elements will not be allowed. NRCs will not be applied for billing changes only. Any changes in service (i.e., upgrades, relocations, disconnects, changes in PVC parameters, such as CIR and B(e), etc.) will require the appropriate NRCs and Termination Liabilities be applied.

115.3.1 Description of Service

Frame Relay Service (FRS) is a "fast packet" network service that permits the transmission of data at speeds of 56 Kbps, 128 Kbps, 256 Kbps, 384 Kbps, 1.544 Mbps or 45 Mbps using Frame Relay Access lines and Permanent Virtual Circuits (PVCs). Clear Channel capability will be provided upon request and where deemed applicable by Company.

PVCs are logical circuits that define a specific path for data sent by Customer to another location. These circuits are virtual because they are established in software tables and do not tie up capacity when not in use. This also allows multiple PVCs to be defined over a single access line, thereby providing a single access line the capability to transmit data to multiple destinations.

In operation of Frame Relay Service, Customer premises equipment, such as routers, encapsulates arriving data into variable length frames. These frames contain information identifying which PVC in the network should be used to forward the frame to the proper destination. Customer premises equipment then sends the frame into the Frame Relay network. The Frame Relay switch reads identifying information and routes the frame to the proper destination based on a pre-established PVC.

The statistical multiplexing Frame Relay switches are able to provide shared network resources to end users of this service.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)

(N)

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered¹ (Cont'd)

(C)

115.3.1 Description of Service (Cont'd)

Frame Relay Service conforms to ITU-T (Telecommunication Standardization Bureau of the International Telecommunication Union), formerly Consultative Committee for International Telegraph and Telephone (CCITT) and American National Standards Institute (ANSI) standards.

115.3.2 Service Provisioning

Frame Relay is a transport service that facilitates the exchange of variable length information units (frames) between end user connections by way of assigned virtual connections. Each frame is passed to the Frame Relay network with an address that specifies the virtual connection.

Variable frame length capability is useful in communications between asynchronous Local Area Networks (LANs) and for transport of synchronous data traffic. Frame Relay is capable of handling the requirements of bursty data sources because of the ability of the service to allocate additional bandwidth when not in use by other sources.

Frame Relay is provided to Customer in the form of the Frame Relay User-to-Network Interface (UNI) Port with Access Line, or Frame Relay UNI Port Only, Frame Relay Network-to-Network (NNI) Private Port Only, based on Committed Information Rate (CIR) and CIR based Permanent Virtual Circuits (PVCs). The Frame Relay Access Line forms the component that provides Customer access to Customer's serving wire center and interoffice transport from Customer's serving wire center to the Frame Relay Switch. The Frame Relay Access line is provided for use only with Frame Relay Service. DS3 is not offered bundled with the Frame Relay Access Line. DS3 is available on a UNI or NNI port only basis and the DS3 access line is obtained as an ICB from Section 7. The Frame Relay UNI and NNI Port only offerings are provided for digital special access connections to the network supporting Frame Relay Service. Digital local channels and associated interoffice channels are available from Section 6.7.

PVCs are provisioned on a specific speed and Committed Information Rate (CIR) basis, depending on Customer's request. The actual throughput of aggregated PVC bandwidths in use at the same time on the same port cannot exceed the port speed. Since multiple PVCs may be defined on one physical port, it is possible for the cumulative CIRs to exceed the physical bandwidth of that port. This is referred to as over-subscription and when this occurs, there can be no guarantee that the CIR defined for that port and PVCs will be available at any point in time.

If the information provided by Customer on the requested PVCs results in an interstate arrangement, the PVC falls under federal jurisdiction and the PVC CIR capacity as specified in Frontier Telephone Companies, FCC No. 8 Tariff is applicable.

No PVC can have a CIR greater than the lower of the two port speeds connected by PVC segments.

A PVC must be associated with at least one Frame Relay Port. A Frame Relay Port can be associated with multiple PVCs.

Customer subscribing to a FRS port or port with access line will be referred to as the Controller of the Frame Relay Port. A separate entity may subscribe with written authorization from the Controller, to a PVC, which allows communication between entities. A disconnect of a PVC does not result in the disconnect of the underlying access line and port. Only the Controller may order the disconnect of the Frame Relay Access Service. Both Customers must have a Frame Relay Service. The Controller of each Frame Relay Access Service must have written permission from the Controller(s) of each of the Frame Relay Services to which a PVC is requested.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)
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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.3.2 Service Provisioning (Cont'd)

The Frame Relay Port and PVC CIR capacity may be ordered and billed independently from an associated Frame Relay port and PVC and can have different Customers as Controllers.

CIR is the maximum information rate at which Customer's traffic will be admitted to the Frame Relay network without being designated eligible for discard. CIR are traffic management parameters that allow Customer to fine tune implementation of Frame Relay Service.

Company does not undertake to originate data, but offers the use of its service components, where available, to Customers for the purpose of transporting Customer-originated data.

Frame Relay Service is available where facilities and conditions permit.

115.3.3 Obligations of Company

In addition to the general conditions described in Section 0, when Customer orders a PVC which is related to other Local Exchange Carriers, Interexchange Carriers, or other Frame Relay networks, Company will provide assistance in establishing this PVC.

Company has the service responsibility up to and including the network interface.

Occasionally, in order to perform software updates and other maintenance, it may be necessary to take the Frame Relay Switch out of service, during the predetermined maintenance window of 12:01 a.m. to 6:00 a.m. In these cases, all attempts will be made to notify Customer in advance as to the time and duration of these outages. Company reserves the right to temporarily interrupt Frame Relay Service at other times in emergency situations.

115.3.4 Obligations of Customer

In addition to the general conditions described in Section 0:

- (A) Customer's Frame Relay terminal equipment has the responsibility for retransmitting frames which are discarded due to errors or network congestion.
- (B) Customer, upon request, shall furnish such information as may be required to permit Company to design and maintain the Frame Relay Service it offers and to assure that the service arrangement is in compliance with the regulations contained herein.
- (C) It shall be the responsibility of Customer to ensure the continuing compatibility of Customer-provided equipment (CPE) that is used in conjunction with the Frame Relay Service. The CPE shall be in compliance with FCC rules and regulations.
- (D) Customer shall be responsible for obtaining permission for Company's agents or employees to enter the premises of Customer or its users at any reasonable hour for the purpose of installing, inspecting, repairing, or, upon termination of the service, removing the service components of Company.
- (E) At service subscription, Customer should specify the CIR and B(e) of each PVC ordered. CIR is the maximum information rate at which Customer's traffic will be admitted to the Frame Relay network without being designated eligible for discard. One hundred percent CIR will be allowed when conditions and infrastructure permit.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.3.4 Obligations of Customer (Cont'd)

- (F) Error correction is the responsibility of Customer's terminal equipment and/or applications. If the FRS network experiences congestion or failures, Customer data may be discarded. In addition, frames that are received in excess of the MBR, with bad addresses, or other errors, will be discarded on ingress to the network.

115.3.5 Rate Regulations

(A) Minimum Period

The minimum period for Frame Relay Service is one month, except when provided under a Optional Payment Plan (OPP) arrangement.

Optional Payment Plans (OPPs) for 12 months, 36 months, and 60 months are available as described in 115.3.5(D) following. 45 Mbps Frame Relay UNI Ports are offered on a 1 year, 3 year, or 5 year basis. CIR based PVCs are not offered under an OPP.

When PVCs are added to existing Frame Relay Service, the minimum period for the added PVCs is one month.

(B) Rate Elements

(1) Frame Relay UNI Port and Access Line

A monthly rate, based on the speed of the port connection (i.e., 56 Kbps, 128 Kbps, 256 Kbps, 384 Kbps, or DS1), apply per port for each Frame Relay access line connection to the network supporting Frame Relay Service. Each port can accommodate multiple PVCs.

(2) Frame Relay UNI or NNI Port Only

A monthly rate, based on the speed of the port connection (i.e., 56 Kbps through DS3) apply per port for digital private line connection to the network supporting Frame Relay Service. Each port can accommodate multiple PVCs.

(a) Private Network-to-Network Interface (NNI) Port Only

The NNI port configuration is used for connecting two networks together for bi-directional messaging. Special access rates to the nearest Company Frame Relay switch are available from Section 7 of this tariff. Applicable special access rate elements include the appropriate digital local channel and interoffice channel rate elements.

(b) User-to-Network Interface (UNI) Port Only

The UNI port provides for a user to carrier connection (i.e., Company to Local Exchange Carrier Extended UNI). Special access rates to the nearest Frame Relay capable service wire centers are available as noted in (a) above.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered¹ (Cont'd)

(C)

115.3.5 Rate Regulations (Cont'd)

(B) Rate Elements (Cont'd)

(3) Frame Relay CIR-PVC

A monthly rate applies for each PVC based on the CIR requested by Customer. The subscriber to Frame Relay Service must specify the CIR and B(e) for each PVC at the time of the order. 100% CIR will be allowed when conditions and infrastructure permit. Customers may purchase Express PVC-1 or Express PVC-2, to prioritize PVCs, at a higher rate and in lieu of CIR-PVCs. Express PVC will help to ensure maximum performance and satisfaction for applications such as voice over Frame Relay. The above CIR conditions apply to Express PVC.

If the information provided by Customer on the requested PVCs results in an interstate arrangement, the PVC falls under federal jurisdiction and the CIR capacity as specified in Frontier Telephone Companies, FCC No. 8 Tariff is applicable.

(C) Rate Application

Customer may access Frame Relay Service via a Frame Relay Access Line or Company provided digital dedicated access facilities offered under Section 7. If access facilities are arranged by Customer to access FRS, the associated regulations, rates and charges for such facilities shall apply in addition to the rates and charges associated with the FRS rate elements.

Customer utilizing special access facilities to access FRS would incur the monthly associated with the Frame Relay UNI or NNI Port Only charge for standard arrangements. The UNI Port provides for a user to Frame Relay switch connection; the NNI Port provides for a Frame Relay switch to Frame Relay switch connection.

The Frame Relay Access Line and PVC may be ordered and billed independently from an associated Frame Relay port and PVC and can have different Controllers, as discussed under 115.3.2. A request by one Customer to discontinue a PVC does not result in the disconnection of the Frame Relay Access Line and Port. Only the Controller of a Frame Relay Access Line may authorize a disconnect of that line.

Administrative changes to existing service will be made without charge(s) to Customer. Administrative changes are as follows:

- (1) Change of Customer name, i.e., Customer of record does not change but rather the name of record changes its name, e.g., XYZ Company to XYZ Communications,
- (2) Change of Customer premises address when the change of address is not a result of a physical relocation of facilities,
- (3) Change in billing data (name, address, or contact name or telephone number),
- (4) Change of Customer contact name or telephone number, and
- (5) Change of Customer service element identification.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered¹ (Cont'd)

(C)

115.3.5 Rate Regulations (Cont'd)

(D) Optional Payment Plan (OPP)

(1) General

The terms and conditions specified herein are applicable to Frame Relay Service and are in addition to other regulations as specified in this Tariff.

The Frame Relay UNI Port with Access Line, the Frame Relay UNI or Private NNI Port Only, rate elements are available under an OPP. CIR-PVC rate elements are not offered under an OPP. Nonrecurring charges (NRCs) apply for initial OPP orders. Digital special access lines and additional features are available at their tariffed rates and regulations.

Frame Relay OPP rates will not be greater than standard month-to-month Frame Relay rates, for the same rate elements.

Three-year and five year OPP rates will be equal to or less than the one year OPP rates. Decreases to the one-year OPP rates will flow through to the three-year and five-year OPP rates.

Payment periods of one year, three year, and five-year are available to all Customers at the applicable rates set forth in 115.3.6 regardless of when they subscribe to an OPP arrangement.

Customer must designate on the Service Request the payment period for the OPP.

(2) Termination Liability

When an OPP arrangement is discontinued prior to the end of the period, termination liability charges, as set forth below, will apply based on the remainder of the OPP period in effect at the time of disconnect.

Charges will also be applicable if the number of services falls below the minimal amount of Frame Relay services (port only or port and access) defined at the start of the contract. Charges are set forth below with the penalty assessed for each service that falls below the minimum number multiplied by the number to attain the minimum contract commitment.

In the event the service is terminated by Customer prior to completion of the initial contract period, Customer shall be liable for termination liability charges. The amount of the termination charge will be 25% of the remainder of the contract value.

(3) Termination Without Liability

During an OPP period, should the currently effective rate for Customer's service increase, Customer may, at his/her option, terminate the OPP arrangement without penalty or liability.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.3.6 Rates

(A) Frame Relay UNI Port and Access Line, each

	<u>Monthly Rate</u>
56 Kbps	
Month to Month	\$ 110.00
One Year OPP	105.00
Three Year OPP	95.00
Five Year OPP	85.00
128 Kbps	
Month to Month	200.00
One Year OPP	180.00
Three Year OPP	165.00
Five Year OPP	160.00
256 Kbps	
Month to Month	280.00
One Year OPP	250.00
Three Year OPP	235.00
Five Year OPP	220.00
384 Kbps	
Month to Month	365.00
One Year OPP	345.00
Three Year OPP	335.00
Five Year OPP	320.00
1.544 Mbps	
Month to Month	530.00
One Year OPP	510.00
Three Year OPP	490.00
Five Year OPP	470.00

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ² (Cont'd)

(C)

115.3.6 Rates (Cont'd)

(B) Frame Relay UNI Port Only, each ¹

	<u>Monthly Rate</u>
56 Kbps	
Month to Month	\$ 45.00
One Year OPP	43.00
Three Year OPP	41.00
Five Year OPP	38.00
128 Kbps	
Month to Month	80.00
One Year OPP	75.00
Three Year OPP	70.00
Five Year OPP	68.00
256 Kbps	
Month to Month	115.00
One Year OPP	110.00
Three Year OPP	105.00
Five Year OPP	100.00
384 Kbps	
Month to Month	160.00
One Year OPP	150.00
Three Year OPP	140.00
Five Year OPP	130.00
1.544 Mbps	
Month to Month	\$ 300.00
One Year OPP	285.00
Three Year OPP	265.00
Five Year OPP	245.00
45 Mbps	
Month to Month	1,180.00
One Year OPP	1,140.00
Three Year OPP	1,090.00
Five Year OPP	1,050.00

¹ Refer to Section 6 for appropriate Local Channel and Interoffice Channel rates. DS3 access line will be provided via ICB.

² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ² (Cont'd)

(C)

115.3.6 Rates (Cont'd)

(C) Frame Relay Private NNI Port Only, each ¹

	<u>Monthly Rate</u>
56 Kbps	
Month to Month	\$ 30.00
One Year OPP	27.00
Three Year OPP	23.00
Five Year OPP	20.00
128 Kbps	
Month to Month	45.00
One Year OPP	40.00
Three Year OPP	35.00
Five Year OPP	30.00
256 Kbps	
Month to Month	65.00
One Year OPP	60.00
Three Year OPP	55.00
Five Year OPP	50.00
384 Kbps	
Month to Month	78.00
One Year OPP	75.00
Three Year OPP	72.00
Five Year OPP	69.00
1.544 Mbps	
Month to Month	\$ 180.00
One Year OPP	170.00
Three Year OPP	160.00
Five Year OPP	150.00
45 Mbps	
Month to Month	800.00
One Year OPP	750.00
Three Year OPP	725.00
Five Year OPP	700.00

¹ Refer to Section 6 for appropriate Local Channel and Interoffice Channel rates. DS3 access line will be provided via ICB.

² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ² (Cont'd)

(C)

115.3.6 Rates (Cont'd)

(D) Committed Information Rate ¹ (CIR)

	<u>Monthly Rate</u>
1 - 32 Kbps CIR	\$ 8.00
Priority 1	10.00
Priority 2	8.80
33 - 64 Kbps CIR	15.00
Priority 1	18.75
Priority 2	16.50
65 - 96 Kbps CIR	22.00
Priority 1	27.50
Priority 2	24.20
97 - 128 Kbps CIR	27.00
Priority 1	33.75
Priority 2	29.70
129 - 192 Kbps CIR	36.00
Priority 1	45.00
Priority 2	39.60
193 - 256 Kbps CIR	42.00
Priority 1	52.50
Priority 2	46.20
257 - 320 Kbps CIR	48.00
Priority 1	60.00
Priority 2	52.80

¹ Refer to Section 6 for appropriate Local Channel and Interoffice Channel rates. DS3 access line will be provided via ICB.

² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ² (Cont'd)

(C)

115.3.6 Rates (Cont'd)

(D) Committed Information Rate ¹ (CIR) (Cont'd)

	<u>Monthly Rate</u>
321 - 384 Kbps CIR	\$ 54.00
Priority 1	67.50
Priority 2	59.40
385 - 512 Kbps CIR	60.00
Priority 1	75.00
Priority 2	66.00
513 - 768 Kbps CIR	70.00
Priority 1	87.50
Priority 2	77.00
769 - 1,152 Kbps CIR	80.00
Priority 1	100.00
Priority 2	88.00
1,153 - 1,536 Kbps CIR	90.00
Priority 1	112.50
Priority 2	99.00
1,537 - 4,000 Kbps CIR	120.00
Priority 1	150.00
Priority 2	132.00
4,001 - 10,000 Kbps CIR	250.00
Priority 1	312.50
Priority 2	275.00

¹ Refer to Section 6 for appropriate Local Channel and Interoffice Channel rates. DS3 access line will be provided via ICB.

² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.3 Frame Relay – Grandfathered ² (Cont'd)

(C)

115.3.6 Rates (Cont'd)

(D) Committed Information Rate ¹ (CIR) (Cont'd)

	<u>Monthly Rate</u>
10,001 - 15,000 Kbps CIR	\$ 330.00
Priority 1	412.50
Priority 2	363.00
15,001 - 20,000 Kbps CIR	410.00
Priority 1	512.50
Priority 2	451.00
20,001 - 25,000 Kbps CIR	490.00
Priority 1	612.50
Priority 2	539.00
25,001 - 30,000 Kbps CIR	570.00
Priority 1	712.50
Priority 2	627.00
30,001 - 35,000 Kbps CIR	650.00
Priority 1	812.50
Priority 2	715.00
35,001 - 40,000 Kbps CIR	730.00
Priority 1	912.50
Priority 2	803.00
40,001 - 45,000 Kbps CIR	800.00
Priority 1	1,000.00
Priority 2	880.00

¹ Refer to Section 6 for appropriate Local Channel and Interoffice Channel rates. DS3 access line will be provided via ICB.

² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered¹

(C)

Discontinued. Effective December 18, 2004 Asynchronous Transfer Mode (ATM) as described in Section 115.4 will be continued for existing customers only. Existing customers on an Optional Payment Plan (OPP) may continue their service until their OPP expires or their service is disconnected, whichever occurs first. Installations, moves, additions or changes will not be permitted. Termination Liability as described in this section will not apply if a customer with an existing OPP discontinues service to subscribe to Asynchronous Transfer Mode Cell Relay Service on an Extended Service Plan of equal or greater value than the remaining OPP.

115.4.1 Service Description

Asynchronous Transfer Mode (ATM) Service is a form of "fast packet" switching service for high speed networks which require flexible bandwidth, high-performance transport and switching for connectivity between and among widely distributed Customer locations. ATM is a cell-based, connection-oriented, switching and multiplexing technology designed to be a fast, general-purpose transfer mode for multiple services.

ATM Network Service conforms to protocol standards created by the ITU-T (Telecommunication Standardization Bureau of the International Telecommunication Union), formerly Consultative Committee for International Telegraph and Telephone (CCITT) and American National Standards Institute (ANSI), publications T1.511, T1.627 and T1.630.

ATM is a high-bandwidth medium with low delay and has the capability to be switched to a specific destination.

ATM Service is available where facilities and conditions permit.

115.4.2 Service Provisioning

ATM is a data networking technology that uses 53 byte cells, consisting of a 5 byte header which contains addressing, payload type and network priority information and a 48 byte payload for data. The cells are transmitted through an ATM network in a "real time" (low delay in transmission) or "non-real time" sensitive manner on virtual channels.

ATM Service can be provisioned over DS1, DS3, OC3c, and OC12c access channels.

(A) UNI Port and Access Line

Customers can subscribe to ATM Service based on the speed of the port connection (i.e., DS1, DS3, OC3c or OC12c facilities) applicable for each physical connection to the network switch supporting ATM service. A port is the entry point on the switch to which Customer is connected. Ports are available which allow connection to the ATM network at speeds of DS1 to OC12c. Each port can accommodate multiple PVCs. UNI Port and Access Lines are available on a one-, three- or five-year Optional Payment Plan (OPP).

(B) UNI Port Only

Customers can order port only access based on the speed of port connection (i.e., DS1, DS3, OC3c or OC12c facilities) applicable for each access line or digital private line connection to the network switch supporting ATM Service. Each port can accommodate multiple PVCs. UNI Port Only is available on a one-, three- or five-year Optional Payment Plan (OPP).

The associated regulations, rates and charges from Section 6 are in addition to the rates and charges associated with the ATM rate elements. Local channel, interoffice channel mileage and hub termination rates for DS3, OC3, and OC12c access channels and/or interoffice channels shall be provisioned on an Individual Case Basis (ICB).

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered¹ (Cont'd)

(C)

115.4.2 Service Provisioning (Cont'd)

Permanent Virtual Circuits (PVCs) are logical circuits that define a specific path for data sent by Customer to another location. These circuits are virtual because they are established in software tables and do not tie up capacity when not in use. This also allows multiple paths (PVCs) to be defined on any given port, thereby providing a single access line the capability to transmit data to multiple destinations.

Permanent Virtual Path (PVP) provides for aggregation of multiple PVCs into a single path. The traffic management parameters for all PVCs in the PVP must be defined at the same level of service. All PVCs in the PVP must have the same originating and terminating end ports. The applicable SCR and PCR rates apply for the aggregate SCR and PCR of all the PVCs in the PVP.

Customers can subscribe to pricing scheme(s), which charge for Sustained Cell Rate (SCR). SCR is an amount of bandwidth that Company commits to providing in the network for Customer traffic. SCR is set for every PVC defined.

Company ATM switches are responsible for guaranteeing the traffic priority parameter ordered by Customer. Traffic prioritization parameters refer to priorities given to cell transmissions and sensitivity of cells to delay variation and loss within the network. Constant Bit Rate (CBR) traffic is given first priority, Variable Bit Rate-Real Time (VBR-rt) traffic is given second priority and Variable Bit Rate-Non Real Time (VBR-nrt) traffic is given third priority, based upon the traffic in the network at any given point in time.

There are three traffic prioritization parameter categories:

- (1) Constant Bit Rate (CBR): An ATM traffic management parameter that supports the transmission of a continuous bit stream of traffic from those applications such as video, voice, and circuit emulation, which require rigorous timing control and performance parameters.
- (2) Variable Bit Rate-Real Time (VBR-rt): An ATM traffic management parameter that allows for applications where a PVC requires low cell delay variation. For example, VBR-rt would be utilized for applications such as variable bit rate video compression, and packet voice and video, which are somewhat tolerant of delay.
- (3) Variable Bit Rate-Non Real Time (VBR-nrt): An ATM traffic management parameter that allows for applications where a PVC can tolerate larger cell delay variation than VBR-rt. For example VBR-nrt would be utilized for applications such as data file transfers.

In ATM transmission, Peak Cell Rate (PCR) is the highest available rate of information that can be transferred on a Variable Bit Rate connection, and the continuous cell rate allowed for Constant Bit Rate. Cells exceeding the Sustained Cell Rate and below the Peak Cell Rate will be limited to a maximum burst size. Customers may purchase PCR in 1 Mbps increments.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered¹ (Cont'd)

(C)

115.4.2 Service Provisioning (Cont'd)

Frame Relay to ATM Service Interworking:

An end user may send data from a premise location with a Frame Relay User to Network Interface (UNI) or a Network to Network Interface (NNI) to another premise with an Asynchronous Transfer Mode (ATM) Service UNI. Frame Relay to ATM Service Interworking provides for the conversion of Frame Relay packets to ATM cells and the conversion of ATM Cells to Frame Relay packets. Frame Relay Service(s) and ATM Service(s) must be established in order to provision a Frame Relay to ATM Service Interworking PVC. This conversion occurs between bandwidth equivalent CIR (Committed Information Rates) and SCR (Sustained Cell Rates). Cell conversion occurs at VBR-nrt.

115.4.3 Obligations of Company

Company is responsible for service up to and including the network interface device.

Company shall provision service over facilities suitable for ATM transmission, where available, for the effective maximum data rates of a DS1 (1.536 Mbps per second), DS3 (44.2 Mbps per second), OC3c (155 Mbps per second, concatenated) or OC12c (622.08 Mbps per second, concatenated).

Occasionally, in order to perform software updates and other maintenance, it may be necessary to take the ATM switch out of service, during the predetermined maintenance window of 12:01 a.m. to 6:00 a.m. In these cases, all attempts will be made to notify Customer in advance as to the time and duration of these outages. Company reserves the right to temporarily interrupt ATM Service at other times in emergency situations.

115.4.4 Obligations of Customer

Customer must provide compatible equipment in accordance with interface specifications defined in ANSI Standards for ATM services.

Customer is responsible for the installation, operation and maintenance of any Customer provided equipment (CPE).

Customer must specify the speed for each ATM port ordered. Customer must specify the SCR, PCR, and traffic management parameters at the time of the order for each PVC.

Customer shall be responsible for obtaining permission for Company's agents or employees to enter Customer's designated location(s) at any reasonable hour for the purpose of installing, inspecting, repairing, or, upon termination of the service, removing the service components of Company.

Customer must provide to Company a point of contact with information to include the contact name, telephone number, mailing address, and electronic mail (e-mail) address for notification purposes.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered¹ (Cont'd)

(C)

115.4.5 Rate Regulations

(A) Minimum Period

The minimum period for ATM Network Service is one year, except when provided under an Optional Payment Plan (OPP) arrangement. The regulations applicable to ATM Network Service provided under an OPP arrangement are specified under 13.1.6.

(B) Rate Elements

(1) ATM UNI Port and Access Line

A nonrecurring charge and a monthly rate, based on the speed of the port connection (i.e., DS1, DS3, OC3c, or OC12c) apply per port for each ATM access line connection to the network supporting ATM Service. Each port can accommodate multiple Permanent Virtual Circuits (PVCs).

(2) ATM UNI Port

A nonrecurring charge and a monthly rate, based on the speed of the port connection (DS1, DS3, OC3c or OC12c) apply per port. Each port can accommodate multiple Permanent Virtual Circuits (PVCs).

Special access rates to the nearest Company ATM switch are in addition to the ATM UNI Port charges and are available from Section 6 of this Tariff. DS3, OC3c, and OC12c special access rate elements shall be provided on an Individual Case Basis (ICB).

(3) Sustained Cell Rate-Permanent Virtual Circuit (SCR-PVC)

A monthly rate applies for each PVC based on the SCR and traffic management parameter requested by Customer. SCR cannot exceed the port size.

(4) Sustained Cell Rate - Additional

Sustained Cell Rate - Additional provides for Customer to order additional SCR above the 50 Mbps available in this tariff. A monthly recurring charge applies for each 5 Mbps of Sustained Cell Rate - Additional ordered based on the traffic management parameter selected. This charge is in addition to the Sustained Cell Rate.

(5) Peak Cell Rate (PCR)

Peak Cell Rate is the maximum data rate Customer may send data into the ATM network on a Permanent Virtual Circuit (PVC). The Peak Cell Rate on a PVC is defined as the Sustained Cell Rate plus the incremental Peak Cell Rate. Incremental Peak Cell Rate is available in 1 Mbps increments and is in addition to the Sustained Cell Rate.

(6) Frame Relay to ATM Service Interworking

A monthly recurring charge applies, based on SCR ordered, for a Frame Relay to ATM Service Interworking PVC. Service includes SCR-PVC rates and equivalent Frame Relay CIR-PVC rates and provides for bandwidth transmission through the network. The minimum period for a Frame Relay Service to ATM Service Interworking PVC is one month.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered¹ (Cont'd)

(C)

115.4.6 Optional Payment Plan (OPP)

(A) General

The terms and conditions specified herein are applicable to ATM Service and are in addition to other regulations as specified in this Tariff.

The ATM UNI Port with Access Line and ATM UNI Port Only rate elements are available under an OPP. Nonrecurring charges apply for initial OPP orders. NRCs will not be applied for changes in OPP lengths of Ports or Port and Access Lines. Digital special access lines and additional features are available at their Tariffed rates and regulations.

Three-year and five-year OPP rates will be equal to or less than the one-year OPP rates. Decreases to the one-year OPP rates will flow through to the three-year and five-year OPP rates.

Payment periods of one-year, three-years, and five-years are available to all Customers at the applicable rates set forth in Section 15 regardless of when they subscribe to an OPP arrangement.

Customer must designate the payment period for the OPP.

Inside moves as specified in Section 6.6.4(A) will not incur termination liability charges.

Outside moves as specified in Section 6.6.4(B) will allow Customer to retain the same OPP payment period. Any other move will be treated as a disconnect of the service and termination liability charges will apply.

(B) Changes in Length of OPP Period

Prior to the completion of the selected OPP period, Customer may elect to convert to a new OPP period of the same or different length, subject to the following conditions:

- (1) No credit toward the new payment period will be given for payments made under the original OPP arrangement.
- (2) Nonrecurring charges will not be reapplied for existing service(s).
- (3) If the new OPP period is shorter in length than the time remaining under the existing OPP, the change to the new OPP period constitutes a discontinuance of the existing OPP service and termination liability charges apply.

(C) Renewal Options

At the expiration of an OPP period, Company will automatically renew the service at the same OPP period unless Customer chooses to convert to a different OPP period or discontinue service.

Conversion to a different OPP period will require Customer to submit a change order. Conversion of existing OPP service to a different OPP period will be allowed without application of any nonrecurring or ordering charges.

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered² (Cont'd)

(C)

115.4.6 Optional Payment Plan (OPP) (Cont'd)

(D) Notification of Discontinuance

A request for discontinuance of an OPP arrangement must be received by Company at least 30 days prior to actual disconnect of service. Recurring charges will apply for a period of 30 days from the date Company receives disconnect notification or until the requested disconnect date, whichever period is longer.

(E) Upgrade to Higher Speed Service

Customers may elect to upgrade service(s) to a higher speed during an OPP period, subject to the following conditions:

The order to discontinue a service at an existing speed or capacity and the order for the upgraded service are received by Company at the same time.

The fixed period plan for the upgraded service(s) meets or exceeds the remaining length of the existing fixed-period plan.

The total monthly rate of the new agreement is equal to or greater than the total monthly rate of the existing agreement period.

The monthly rates for the upgraded service and/or service elements will be those in effect at the time of the service upgrade.

Termination Liability charges will not apply as long as the upgraded service remains connected at the same point of termination(s) and is provided by Company.

Nonrecurring Charges will not apply to the upgraded Port or Port and Access Line. Special construction charges, if appropriate, may apply.

(F) Termination Liability¹

When an OPP arrangement is discontinued prior to the end of the period, termination liability charges, as set forth below, will apply based on the remainder of the OPP period in effect at the time of disconnect.

Charges will also be applicable if the number of services falls below the minimal amount of ATM services (port only or port and access) defined at the start of the contract. Charges are set forth below with the penalty assessed for each service that falls below the minimum number multiplied by the number of months required to attain the minimum contract commitment.

One-Year OPP - 50% of any remaining portion of the first year's recurring charges for the in-service quantity.

¹ Termination Liability will not apply if a customer with an existing Optional Payment Plan (OPP) discontinues service to subscribe to Asynchronous Transfer Mode Cell Relay Service on an Extended Service Plan of equal or greater value than the remaining OPP.

² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.4.6 Optional Payment Plan (OPP) (Cont'd)

(F) Termination Liability¹ (Cont'd)

Three-Year OPP - 50% of any remaining portion of the first year's recurring charges. In addition, for any remaining portion of the second and third years, Customer will be liable for 10% of the total monthly recurring charges in that time period for the in-service quantity.

Five-Year OPP - 50% of any remaining portion of the first year's recurring charges. In addition, for any remaining portion of the second through fifth years, Customer will be liable for 20% of the total monthly recurring charges in that time period for the in-service quantity.

(G) Termination Without Liability

During an OPP period, should the currently effective rate for Customer's service increase, Customer may, at his/her option, terminate the OPP arrangement without penalty or liability.

(H) Credit of Termination Liability

Credit of termination liability charges for ATM services may be applicable in the case of re-establishment of similar ATM service of equal to or higher speeds within six months of termination for the same length of the OPP. The amount of credit will be one-sixth of the penalty times the number of month's service is re-established until the sixth month.

115.4.7 Rates

(A) UNI Port and Access Line

	<u>Nonrecurring Charge</u>	<u>Monthly Rate</u>
DS-1		
(One Year)	\$ 650.00	\$ 650.00
(Three Years)	650.00	525.00
(Five Years)	650.00	500.00
DS-3		
(One Year)	1,500.00	1,950.00
(Three Years)	1,500.00	1,750.00
(Five Years)	1,500.00	1,700.00
OC-3c		
(One Year)	1,500.00	2,100.00
(Three Years)	1,500.00	1,950.00
(Five Years)	1,500.00	1,800.00
OC-12c		
(One Year)	3,000.00	4,800.00
(Three Years)	3,000.00	4,600.00
(Five Years)	3,000.00	4,350.00

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered ² (Cont'd)

(C)

115.4.7 Rates (Cont'd)

(B) UNI Port Only ¹

	<u>Nonrecurring Charge</u>	<u>Monthly Rate</u>
DS-1		
(One Year)	\$ 650.00	\$ 180.00
(Three Years)	650.00	175.00
(Five Years)	650.00	170.00
DS-3		
(One Year)	1,500.00	400.00
(Three Years)	1,500.00	370.00
(Five Years)	1,500.00	350.00
OC-3c		
(One Year)	1,500.00	680.00
(Three Years)	1,500.00	650.00
(Five Years)	1,500.00	630.00
OC-12c		
(One Year)	2,000.00	1,500.00
(Three Years)	2,000.00	1,430.00
(Five Years)	2,000.00	1,380.00

(C) Sustained Cell Rate - Permanent Virtual Circuit (SCR-PVC)

	<u>CBR</u>	<u>Monthly Rate VBR-rt</u>	<u>VBR-nrt</u>
0-32 Kbps	\$ 12.00	\$ 10.00	\$ 8.00
33-64 Kbps	22.50	18.75	15.00
65-96 Kbps	33.00	27.50	22.00
97-128 Kbps	43.50	36.25	29.00
129-192 Kbps	54.00	45.00	36.00
193-256 Kbps	63.00	52.50	42.00
257-320 Kbps	72.00	60.00	48.00
321-384 Kbps	81.00	67.50	54.00
385-512 Kbps	90.00	75.00	60.00
513-768 Kbps	97.50	81.50	65.00
769-1152 Kbps	105.00	87.50	70.00
1.153-1.536 Mbps	112.50	93.75	75.00
1.537-4 Mbps	180.00	150.00	120.00
4-6 Mbps	270.00	225.00	180.00
6-8 Mbps	360.00	300.00	240.00
8-10 Mbps	450.00	375.00	300.00

¹ The associated regulations, rates and charges from Section 6 are in addition to the rates associated with these ATM rate elements. Local channel, interoffice channel mileage and hub termination rates for DS3, OC3c and OC12c access channels and/or interoffice channel shall be provided on an Individual Case Basis (ICB).

² Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

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115. DISCONTINUED ADVANCED DATA SERVICES

115.4 Asynchronous Transfer Mode (ATM) Frame Relay – Grandfathered ¹ (Cont'd)

(C)

115.4.7 Rates (Cont'd)

(C) Sustained Cell Rate - Permanent Virtual Circuit (SCR-PVC) (cont'd)

	<u>Monthly Rate</u>		
	<u>CBR</u>	<u>VBR-rt</u>	<u>VBR-nrt</u>
10-15 Mbps	495.00	412.50	330.00
15-20 Mbps	615.00	512.50	410.00
20-25 Mbps	735.00	612.50	490.00
25-30 Mbps	855.00	712.50	570.00
30-35 Mbps	975.00	812.50	650.00
35-40 Mbps	1,095.00	912.50	730.00
40-45 Mbps	1,200.00	1,000.00	800.00
46-50 Mbps	1,305.00	1,087.50	870.00

(D) Sustained Cell Rate (SCR) –Additional

	<u>Monthly Rate</u>		
	<u>CBR</u>	<u>VBR-rt</u>	<u>VBR-nrt</u>
5 Mbps	105.00	87.50	70.00

(E) Peak Cell Rate (PCR)

	<u>Nonrecurring Charge</u>	<u>Monthly Rate</u>
1 Mbps, each	\$ 0.00	\$ 5.00

(F) Frame Relay to ATM Service Interworking

	<u>Nonrecurring Charge</u>	<u>Monthly Rate</u>
0-32 Kbps	\$ 0.00	\$ 14.00
33-64 Kbps	0.00	26.25
65-96 Kbps	0.00	38.50
97-128 Kbps	0.00	50.75
129-192 Kbps	0.00	63.00
193-256 Kbps	0.00	73.50
257-320 Kbps	0.00	84.00
321-384 Kbps	0.00	94.50
385-512 Kbps	0.00	105.00
513-768 Kbps	0.00	113.75
769-1152 Kbps	0.00	122.50
1.153-1.536 Mbps	0.00	131.25
1.537-4 Mbps	0.00	210.00
4-6 Mbps	0.00	315.00
6-8 Mbps	0.00	420.00
8-10 Mbps	0.00	525.00
10-15 Mbps	0.00	577.50
15-20 Mbps	0.00	717.50
20-25 Mbps	0.00	857.50
25-30 Mbps	0.00	997.50
30-35 Mbps	0.00	1,137.50
35-40 Mbps	0.00	1,277.50
40-45 Mbps	0.00	1,400.00

¹ Effective June 12, 2022, Frontier will no longer support Moves, Adds or Changes nor new installations for [Frame Relay/ATM] Services. Upon service term expiration, these services will transition to a Month-to-Month service arrangement.

(N)

(N)