

16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)<sup>2</sup> (T)

(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 hubs<sup>1</sup>. 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.

<sup>1</sup> For definition, see Section 2.6 of this tariff.

<sup>2</sup> 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. (N)

## 16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS)<sup>1</sup> (Continued)

(T)

(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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(D) Service Components Continued

## (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 <sup>2</sup> charges, as set forth in Section 2.8 of this tariff may apply. (T)

## (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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<sup>2</sup> Effective February 15, 2013, Termination Liability will not apply to ATM Cell Relay Service (ATMCRS). (N)

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(D) Service Components Continued

(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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(D) Service Components (Continued)

(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.

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(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.
- (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.

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(1) 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 (CDVT):

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.)

c. Non-conforming cells:

Discarded

d. Cell Delay Variation Tolerance (CDVT):

DS1 = 600 microseconds  
 DS3 = 600 microseconds  
 OC3c = 600 microseconds  
 OC12c = 600 microseconds

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(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.

(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

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(M) Application of Rates and Charges (Continued)

## (1) Rate Elements (Continued)

## 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.

## e. Effective Bandwidth for Incremental UNIs

A monthly rate applies for incremental UNIs for CBR, VBR or UBR PVC and SVC bandwidth at 5 Mbps for DS3 or OC3c and at 15 Mbps for OC12c. Nonrecurring charges are not applicable.

The monthly rate for PVC and/or SVC UBR bandwidth will be waived when the combined VBR and CBR effective bandwidth purchased (either SVC or PVC or any combination) is equal to at least 50% of the effective bandwidth capacity of the UNI. When UBR bandwidth is made available, it is available for both PVCs and SVCs. Nonrecurring charges are not applicable.

## f. Closed User Groups (CUG)

A nonrecurring charge applies per order and per UNI for each CUG established and for each subsequent CUG member added to a CUG. The nonrecurring charge does not apply when a CUG is installed at the same time as the respective UNI.

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16. ADVANCED COMMUNICATIONS NETWORKS

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(M) Application of Rates and Charges (Continued)

(1) Rate Elements (Continued)

(g) 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 17.5.

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

a. Termination Liability<sup>2</sup>

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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 14 Special Construction in this tariff for terms and conditions.

(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.

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(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) Rates and Charges

(1) UNI Port with Access Line Connection (Continued)

	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

<sup>1</sup> 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.

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16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) <sup>1</sup> (Continued)

(T)

(N) Rates and Charges

(1) UNI Port with Access Line Connection (Continued)

	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

<sup>1</sup> 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.

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16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) <sup>1</sup> (Continued)

(T)

(N) Rates and Charges

(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

<sup>1</sup> 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.

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16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) <sup>1</sup> (Continued)

(T)

(N) Rates and Charges

(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

<sup>1</sup> 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.

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16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) <sup>2</sup> (Continued)

(T)

(N) Rates and Charges

(4) Permanent Virtual Circuits (PVCs) per order	Nonrecurring <u>Charge<sup>1</sup></u>
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

<sup>1</sup> Applies per order and in lieu of service charges found elsewhere in this Tariff or other Company Tariffs. If multiple UNIs are involved, a nonrecurring charge will apply to each UNI Port on which the virtual connections will reside. The nonrecurring charge does not apply when PVCs are installed at the same time as the respective UNIs.

<sup>2</sup> 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.

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16. ADVANCED COMMUNICATIONS NETWORKS

16.5 Asynchronous Transfer Mode (ATM) Cell Relay Service (CRS) <sup>3</sup> (Continued)

(T)

(N) Rates and Charges

(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) <sup>1</sup> , 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 <sup>2</sup> , per order	N/A	75.00

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.

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