EXCHANGE ACCESS FRAME RELAY SERVICE (REGION 1)

A. AVAILABILITY OF SERVICE

Exchange Access Frame Relay Service in Region 1 was previously offered under The Verizon Telephone Companies Tariff FCC Nos. 1 and 20 and is limited under this Product Guide to in-Service arrangements of existing Customers that (i) were grandfathered under The Verizon Telephone Companies Tariff FCC Nos. 1 and/or 20 and/or (ii) are not governed by a private carriage agreement. The Company has notified Customers that all remaining in-Service arrangements of Exchange Access Frame Relay Service are being discontinued, and the provisions of this Product Guide apply until such time as the in-Service arrangements are disconnected. Effective April 30, 2021, moves, additions and/or changes are no longer permitted. (C)

B. SERVICE DESCRIPTION

Exchange Access Frame Relay Service (**XA-FRS**) is a medium to high speed connection-oriented packet-switched data Service that allows for the interconnection of Local Area Networks (**LANs**) or other compatible Customer equipment across a wide area for the purpose of interstate access. XA-FRS allows for the transfer of variable length frames (packets). Frames are relayed by virtual connections, i.e., frames travel a fixed path through the network although bandwidth is not dedicated to each virtual connection.

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This Service, comprised of two Interfaces, a User Network Interface (**UNI**) and a Network-to-Network Interface (**NNI**), allows XA-FRS compatible Customer Premises Equipment (**CPE**) to originate or terminate interexchange Services. All UNI access facilities must be in conformance with American National Standards Institute (**ANSI**) standards T1.606-1990, T1.606 Addendum 1-1991, T1.606a-1992, T1.617, Annex D-1992. All NNI access facilities must be in conformance with ANSI standards T1.606b-1993 and Technical Reference TR-TSV061370, Issued: May 1993.

XA-FRS may be connected to the following Company provided Services, where such connections are technically and operationally feasible, as determined by the Company:

- asynchronous transfer mode cell relay Service
- digital subscriber line Service
- frame relay Service
- internet protocol virtual private network Service

XA-FRS provides high-speed throughput over digital facilities at speeds of 56 Kbps, 64 Kbps, 128 kbps, 256 kbps, 384 Kbps, 512 kbps, 768 kbps, 1.536 Mbps, 4 Mbps, 6 Mbps, 10 Mbps, 22 Mbps or 44.736 Mbps. Physical access to Company Frame Relay network is provided via a UNI Port With Access Line Connection, a UNI Port Only Connection or a NNI Port Connection with a digital transmission facility. A DS1 or a DS3 rated channel termination may be used as the NNI Port Connection transport link. Collocated Interconnection Services (**CISs**) provide interoffice transport for NNI and UNI Port Only Connections. When available, DS1 transport must be equipped with both B8ZS capability and Extended Super Frame (**ESF**), and DS3 transport must be equipped with B3ZS.

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B. SERVICE DESCRIPTION (Cont'd) (N)

1. User Network Interface Connections

The UNI is a standard interface used to connect the end user to the Company XA-FRS Network. It receives the data frame from Customer's LAN or other CPE devices and verifies that the DLCI is valid before relaying the frame to the destination end point.

a. The UNI Port With Access Line Connection consists of a 56 Kbps, 64 Kbps, 1.536 Mbps or a 44.736 Mbps digital facility from the Customer premises to the XA-FRS network and the appropriate port interface connection. UNI Port with Access Line Connection also includes the transport from a Customer's serving wire center to a Frame Relay Switch, when required. The effective data rate of this line is 56 Kbps and 64 Kbps for narrowband connectivity and 384 Kbps, 1.536 Mbps, 4 Mbps, 6 Mbps, 10 Mbps, 22 Mbps and 44.736 Mbps for wideband connectivity.

b. UNIs are also provisioned as a Port Only Connection. UNI Port Only Connection provides an XA-FRS Network connection based on the port connection speeds of 56 kbps, 64 kbps, 128 kbps, 256 kbps, 384 kbps, 512 kbps, 768 kbps, 1.536 Mbps, 4 Mbps, 6 Mbps, 10 Mbps, 22 Mbps and 44.736 Mbps. The channel speed of the access channel must be sufficient to accommodate the XA-FRS port speed. Each port can accommodate multiple PVCs.

UNI Port Only Connections do not include transport from a Customer's serving wire center to a Frame Relay Switch. Such transport, when required, is the responsibility of the Customer and must be ordered separately. Rates and charges for transport to the Frame Relay Switch apply in addition to UNI Port Only rates and charges. For UNI Port Only Connections ordered to provide an XA-FRS Network Connection from a Collocation Interconnection Service Cross Connect, associated transport must be ordered from The Verizon Telephone Companies Tariff F.C.C. No. 1, Section 18 or 19, as applicable.

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 terms and conditions, rates and charges for the specific type of access Service apply as specified in the applicable Tariff/Product Guide. The access facilities rates and charges are in addition to the rates and charges for XA-FRS. 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 Customer.

c. Additional UNI Port With Access Line Connections and UNI Port Only Connections may be ordered for disaster recovery of one or multiple UNI Port With Access Line Connections and UNI Port Only Connections and are referred to as Backup UNIs. (N)

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B. SERVICE DESCRIPTION (Cont'd) (N)

2. Network-to-Network Interface Port Connection

The NNI, specifies how an XA-FRS switch sends and receives data from a Frame Relay interexchange carrier's or other Customer's network.

The NNI Port Connection provides connection of a digital transmission facility, including 1.536 Mbps/DS1 and 44.736 Mbps/DS3, to Company's XA-FRS Network.

NNI Port Only Connections include interoffice mileage from a Customer's serving wire center to a Frame Relay Switch. Rates and charges for applicable Channel Terminations are also as specified in the applicable Tariff/Product Guide.

3. Committed Information Rate

The Customer is required to specify either a Standard Committed Information Rate (**CIR**) per PVC or an Exchange Access Frame Relay Service to Exchange Access Asynchronous Transfer Mode Cell Relay Service Interworking (**FRASI**) CIR per PVC. Standard CIR provides Customer with a mechanism for prioritizing data on a per PVC basis across a given UNI. Both Standard and FRASI CIR allow a sustained throughput at a chosen rate without having any frames designated "discard eligible" under normal operating conditions. FRASI CIR enables the creation of a PVC that traverses both a Frame Relay switch and an ATM switch. FRASI CIR permits PVC paths to be established between Exchange Access Frame Relay Service subscribers and Exchange Access Asynchronous Transfer Mode Cell Relay Service users when interworking is available. Various CIR rates are available.

The Customer must specify which UNI Port with Access Line Connection or UNI Port Only the Standard PVC CIR will be billed against. FRASI CIR will be billed against the Exchange Access Frame Relay Service. CIR cannot be billed against an NNI port. In the State of Virginia, when a PVC is provided between a Frame Relay UNI port provided under this Part J Section 1 and a Frame Relay UNI/NNI port provided under Part J, Section 3, PVC CIR rates will be billed against both port connections ordered. (N)

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B. SERVICE DESCRIPTION (Cont'd) (N)

4. Optional UNI Features

a. Additional PVCs per UNI

This feature provides the assignment of additional DLCIs. When any two DLCIs are mapped together, a PVC is created. Additional PVCs per UNI are subject to availability of facilities.

b. Group Addressing

Effective October 2, 2003, Group Addressing is no longer available to new Customers. Moves, additions or changes to existing Group Addressing assignments will not be permitted. This feature allows Customer to send a single data unit across established PVCs to several intended recipients. The recipients are identified by an assignment of a group address used as the destination for the Frame Relay data unit. The DLCI assigned is now a group address.

c. Committed Information Rate Optional Feature

CIR is no longer available to new Customers as an optional feature. Effective October 2, 2003, CIR is a chargeable basic component of Frame Relay Service as specified in Section A3 preceding.

For Customers of record prior to October 2, 2003, CIR is a feature that provides Customer with a mechanism for prioritizing data on a per PVC basis across a given UNI. A CIR allows a sustained throughput at a chosen rate without having any frames designated "discard eligible" under normal operating conditions. Various CIR rates are available; however, 0 (zero) CIR is only available with 56 Kbps and 64 Kbps ports.

d. Back-up UNI

Back-up UNI Service is a disaster avoidance and disaster recovery feature that consists of a Primary UNI and a Backup UNI and incorporates PVC remapping capabilities of the Frame Relay network. The Primary UNI is terminated at the primary Customer host location and in normal operation Services PVCs between the primary host location and various Customer remote locations. A second UNI, which is designated by the Customer as a Backup UNI, is installed and terminated at the Customer's backup host location. During normal operations, no PVCs are mapped to the Backup UNI. The Customer is required to purchase both UNIs.

A Customer ordering Backup UNI Service is responsible for the following:

- Determining network configuration before and after activation of Backup UNI Service.
- Providing the Company with the appropriate information required for joint development of the Backup UNI database.
- Maintaining its own port configurations and router tables (for seamless changes from the Primary UNI to the Backup UNI, the Customer must use the same addressing scheme on routers connected to the primary and backup sites) (N)

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B. SERVICE DESCRIPTION (Cont'd) (N)

4. Optional UNI Features (Cont'd)

d. Back-up UNI (Cont'd)

A Backup UNI, which may serve as a backup to one or more Primary UNIs, can only back up one Primary UNI at a time. A Backup UNI must be the same port speed or greater than the Primary UNI(s).

In the event of failure of a Primary UNI, digital access line or host location, the Customer must contact the Company to request that the Primary UNI be remapped to the Backup UNI.

Upon restoral of the Primary UNI Service, the Customer must contact the Company to request that the Backup UNI be remapped back to the Primary UNI.

A nonrecurring charge applies, per Backup UNI, per occurrence, when a Customer requests an activation of the Backup UNI Service.

There is no charge for deactivation of Backup UNI Service.

e. Southern Corridor Option

The Southern Corridor Option provides UNI subscribers (UNI Port With Access Line Connection and UNI Port Only Connection subscribers) in the Pennsylvania - New Jersey Corridor the ability to connect a PVC at a specified CIR between the Philadelphia, Pennsylvania and New Jersey rate centers specified in Part 0, Section 3.

f. Premier PVC

Premier PVC is a chargeable optional feature that enables Customers to assign a higher priority of Service to Customer-specified PVCs. Premier PVC is suitable for PVCs carrying delay-sensitive, loss-intolerant data. Premier PVC is offered with both Standard Committed Information Rate (**CIR**) and FRASI CIR.

5. Maintenance Window

Network maintenance and network upgrades for XA-FRS are performed during the hours of 11:00 PM and 8:00 AM. At times, during the hours of maintenance activity, it will be necessary to place Customer's Service in an inactive (out of Service) condition. The amount of time that this scheduled out of Service condition will exist is called a "maintenance window". Company will provide Customer notice prior to the maintenance window. Maintenance window activity could be scheduled for consecutive days.

C. APPLICATION OF RATES AND CHARGES

1. Premier PVC

A monthly recurring charge applies, on a per CIR basis, for each Premier PVC optional feature ordered. This charge applies in addition to the Standard or FRASI CIR rate element.

2. Administrative Charge

An administrative charge will be applied whenever a change is made to Customer's Frame Relay configuration, at Customer's request. Such changes are defined as those rearrangements necessary to add, delete, or rearrange Customer's configuration, including changes to Customer's selected carrier. Although multiple changes may be caused by such actions, only one administrative charge will apply. (N)