

1.1 Overview

AT&T Switched Ethernet is a switched Ethernet transport service providing Ethernet transport functionality using fiber and copper facilities and a switched Ethernet core network. ASE provides a port with full duplex transport of data signals between Customer's Premises and an Ethernet switch in an AT&T central office which then may be interconnected with other ports.

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ASE supports point-to-point, point-to-multipoint, or multipoint-to-multipoint configurations. Point-to-point service provides a connection between 2 ports. Point-to-multipoint service provides multiple point-to-point connections to multiple ports in AT&T's ASE network. Multipoint-to-multipoint service provides a connection between 3 or more designated ports on AT&T's Service network. AT&T will determine the interface specifications for ASE in its sole discretion.

ASE is provided by the applicable AT&T Participating Carrier(s) that are described in Participating Carriers Table in Part 1, Section 1.

AT&T offers Service on a private carriage basis and reserves the right to make individualized decisions regarding the provision of ASE to individual Customers. AT&T may negotiate the specific prices and terms for ASE for each individual Customer.

Customer may not use ASE for the purpose of transporting "NG 9-1-1" calls in the State of California. See AT&T California's Network and Exchange Services Schedule Cal. P.U.C. No. 2, Section A21.

Commingling, as defined in Part 1, Section 2, of ASE is prohibited.

1.2 Service Availability

ASE provides transport service where suitable equipment and facilities are available in selected geographic areas. Where facilities are not available, facilities may be constructed subject to the Special Construction terms and conditions set forth in Part 1, Section 7. Special Construction charges may apply.

1.3 Provisioning and Service Arrangements

AT&T will provision ASE using the service components described below.

ASE is available in the following serving arrangements and types of Ports, subject to the terms and conditions set forth in those sections:

- Basic Arrangement and Basic Ports described in paragraph 1.4;
- Per Packet Class of Service (PPCoS) Arrangement and PPCoS Ports described in paragraph 1.5;
- Broadband Arrangement and Broadband Ports described in paragraph 1.6; and
- External Network-to-Network Interface (ENNI) Arrangement and ENNI Ports described in paragraph 1.7.

Unless specifically stated otherwise, all references to Ports or Ports in paragraphs 1.4, 1.5, 1.6, or 1.7 refer to only the type of Port addressed by that Section (e.g., Port in paragraph 1.4 refers to only Basic Ports, etc.). Unless specifically stated otherwise, all references to Ports or Ports in other Sections of this Service Guide refer to any of the Port types – Basic Ports, PPCoS Ports, Broadband Ports, and ENNI Ports.

The amount of Port capacity available for Customer's use is subject to overhead, including information that AT&T or other service providers require to deliver or receive Ethernet frames (packets) to or from the Port Customer purchased.

1.4 Basic Arrangement

This type of service provides transport of data using a fixed class of service for each Ethernet Virtual Connection (EVC).

1.4.1 Basic Customer Port Connection (Basic Port)

This component provides the physical transport facilities from Customer's Premises to an Ethernet switch at an AT&T central office. The Port is available at transmission speeds of 100 Mbps, 1 Gbps, 10 Gbps, and 100 Gbps.

1.4.2 Committed Information Rate (CIR) and Class of Service (CoS)

CIR, sometimes referred to as the "Logical Channel" of the Port, provides the bandwidth available on a Port. CIR is available in increments ranging from 2 Mbps to 100 Gbps.

The table below summarizes the range of CIRs available for each Port.

Supported CIR by Port Speed	
Port	CIR Bandwidth Supported
100 Mbps	2 Mbps – 100 Mbps
1 Gbps	2 Mbps – 1,000 Mbps
10 Gbps	1,000 Mbps – 10,000 Mbps
100 Gbps	10,000 Mbps – 100,000 Mbps

Customer must select a single CIR for each Basic Port. The CIR selected cannot exceed the Port capacity. CIR is offered with multiple choices of CoS. CoS establishes the performance characteristics of the network that are suitable for certain applications. Each Port has a single CIR and CoS associated with it. CoS options are listed as a hierarchy, from highest to lowest based on network prioritization and performance as follows:

- Real-Time
Supports applications that require minimal loss, are latency-sensitive and require low latency variation (jitter), including voice. ASE parameters associated with Real-Time CoS are Latency, Jitter, Packet Delivery Rate (PDR), and Network Availability.
- Interactive
Supports high-priority business data applications or jitter-sensitive applications such as voice and video. ASE parameters associated with Interactive CoS are Latency, Jitter, PDR, and Network Availability.
- Business Critical-High
Supports most business data applications with moderate tolerance for delay and which are more sensitive to jitter and have a higher priority than Business Critical-Medium. ASE parameters associated with Business Critical-High CoS are Latency, PDR, and Network Availability.
- Business Critical-Medium
Supports most business data applications with moderate tolerance for delay and which are less sensitive to jitter. ASE parameters associated with Business Critical-Medium CoS are Latency, PDR, and Network Availability.
- Non-Critical High
Supports low priority business applications with more tolerance for delay and availability. ASE parameters associated with Non-Critical High CoS are Latency, PDR, and Network Availability.

1.4.3 Ethernet Virtual Connections (EVC)

An EVC provides a logical connection to enable the flow of Ethernet traffic for point-to-point and multipoint Customer configurations. EVCs may be established between Ports located in the same Local Access and Transport Area (LATA) or in different LATAs. AT&T does not bill Customer for standard EVCs. Customer assigns each EVC a CIR and CoS that must be equal to or lower than the CIR and CoS of the Port.

- For Port speeds of 100Mb, 1G, and 10G, Customer can order EVCs in any 1 Mbps increment up to the approved maximum EVC CIR.
- For Port speed of 100G, Customer can order EVC CIR in increments as follows:
 - 1 Mbps (from 1 Mbps to 100 Mbps);
 - 10 Mbps (from 100 Mbps to 1,000 Mbps);
 - 25 Mbps (from 1,000 Mbps to 10,000 Mbps); or
 - 250 Mbps (from 10,000 Mbps to 100,000 Mbps).

The default maximum EVC CIR will be 1,000 Mbps (except for point-to-point EVCs between Ports in the same LATA, which allow up to 2,000 Mbps), unless otherwise approved. AT&T will evaluate requests for EVC CIR above these limits on an Individual Case Basis, taking into consideration factors such as facility conditions and the impact of the requested configuration on network performance.

The total assigned bandwidth (sum of the CIR for all EVCs) on a single Port cannot exceed the selected CIR of that Port. Point-to-point EVCs must be symmetrical; the EVC CIR at each Port must be the same (except when one end of a point-to-point EVC terminates on a Broadband Port⁽¹⁾, in which case the end terminating on the Broadband Port⁽¹⁾ will not have a subscribed CIR). For multipoint EVCs, the CIR for any EVC may be set according to the bandwidth needed at that Port and does not need to be the same at all Ports. Ports that do not meet SLA objectives due to overloading of traffic in a multipoint arrangement will not be eligible for the PDR SLA.

The following chart provides the maximum number of EVCs supported for point-to-point and multipoint configurations on each Port:

Per Port	EVCs
100 Mbps	Up to 8 EVCs
1 Gbps	Up to 64 EVCs
10 Gbps	Up to 508 EVCs
100 Gbps	Up to 4089 EVCs

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement for service to new or existing customers. Refer to paragraph 1.6.

Customers may configure EVCs as point-to-point (connecting 2 locations) or as multipoint (connecting 3 or more locations), as defined above. Point-to-point EVCs can be associated with an unlimited number of Media Access Control (MAC) addresses. Multipoint EVCs will be limited to 250 MAC addresses per EVC on each Port, unless Customer purchases the Additional MAC Addresses optional feature. For example, a Port that is provisioned with 3 separate multipoint EVCs may have up to 250 MAC addresses associated with each of those EVCs, for a total of 750 MAC addresses in use on that Port, but each EVC is still limited to a maximum of 250 MAC addresses.

1.4.4 Frame Size

ASE Ports will support Ethernet frame sizes up to 9126 bytes with the following exceptions:

- Ports deployed using Ethernet over copper loop transport (EoCu) will be limited to 1526 bytes.
- 100 Mbps Ports installed prior to July 2013 may be limited to 1526 bytes.

1.5 Per Packet Class of Service Arrangement

This service arrangement provides transport of data with variable Classes of Service within an EVC, using a feature called Per Packet Class of Service or PPCoS. With this serving arrangement, Customer applies a priority identifier to each Ethernet frame (packet) within an EVC, and the packet is given the associated CoS priority level within AT&T's network. AT&T offers PPCoS Arrangements where suitable PPCoS facilities exist and may not be available at all locations where the Basic Arrangement is available.

PPCoS Arrangement cannot be used with an ENNI Port.

1.5.1 PPCoS Customer Port Connection (PPCoS Port)

This component provides the physical transport facilities from Customer's Premises to an Ethernet switch at an AT&T central office. A PPCoS Port is available at transmission speeds of 100 Mbps, 1 Gbps, 10 Gbps, and 100 Gbps.

1.5.2 Committed Information Rate (CIR) and Class of Service (CoS) Packages

CIR, sometimes referred to as the Logical Channel of the Port, provides the bandwidth available on a Port. CIR is available per Port in increments ranging from 2 Mbps to 100 Gbps as set forth in the Table below.

Supported CIR Bandwidth by Port Speed	
Port	CIR Bandwidth Supported
100 Mbps	2 Mbps – 100 Mbps
1 Gbps	2 Mbps – 1,000 Mbps
10 Gbps	1,000 Mbps – 10,000 Mbps
100 Gbps	10,000 Mbps – 100,000 Mbps

Customer must select a single CIR for each PPCoS Port. The CIR selected cannot exceed the Port capacity. Under the PPCoS Arrangement, CIR is offered in packages that specify the maximum percentage of traffic that Customer may assign a given CoS in a variety of combinations.

Customer must order each PPCoS Port with a single PPCoS CIR Package. Customer may select a PPCoS CIR Package that best matches the characteristics of its data and its associated priority levels.

PPCoS CIR Packages (listed in hierarchical order from highest priority to lowest priority):

- Multimedia High – Allows Customer to designate up to 100% of Port CIR as Real Time CoS and remaining percentage (if any) can be divided among any/all other CoS (below Real Time) as ordered.
- Multimedia Standard – Allows Customer to designate up to 50% of Port CIR as Real Time CoS and remaining percentage can be divided among any/all other CoS (below Real Time) as ordered.
- Critical Data – Allows Customer to designate up to 80% of Port CIR as Business Critical – High CoS and the remaining percentage can be divided among any/all other lower CoS (below Business Critical - High) as ordered.
- Business Data – Allows Customer to designate up to 90% of Port CIR as Business Critical – Medium CoS and the remaining percentage can be divided among any/all other lower CoS (below Business Critical - Medium) as ordered.

These CoS settings are only available in 5% increments (between 5% and 30%) and in 10% increments (from 40% to 100%).

1.5.3 Per Packet Class of Service – Classes of Service

The PPCoS CIR Packages are provisioned on PPCoS Ports and allow Customer to apply a CoS priority indicator to each Ethernet frame (packet) and AT&T will route the packet with the assigned CoS priority. Customer-assigned priority will signify which of the following 6 CoS AT&T will apply to that frame. PPCoS Ports support the same CoS as are supported by the Basic Arrangement, plus an additional CoS (Non-Critical – Low) as described below. CoS options are listed as a hierarchy, from highest to lowest based on network prioritization and performance as follows:

- Real-Time
- Interactive
- Business Critical-High
- Business Critical-Medium
- Non-Critical High; and
- Non-Critical Low (Supports the lowest priority traffic)

1.5.4 PPCoS Scheduling Method

ASE network components will create a separate queue for each CoS served according to its weight/priority to ensure that higher CoS packets are prioritized over lower, but that even the lowest CoS is not starved. PPCoS Ports can be ordered in 1 of 2 available configurations in order to support different egress scheduling methods. Requests to change the type of PPCoS Scheduling Method of an existing Port may require Customer to order a new Port.

Port-Level Egress Scheduling

Under this method, AT&T will prioritize all egress traffic on the Port using a single queue schedule, so that the specified percentages of each priority are allowed to egress the network according to a single egress schedule for the Port. This is the only option applicable to Port-based service. Customer may also use this method for VLAN-based Ports if Customer desires CoS priority to be applied as a single queue at the Port level.

VLAN Level Egress Scheduling

Under this method, there are individual egress scheduling queues for each EVC (VLAN) on the Port and the priority or volume of packets on 1 EVC have no impact on another EVC. This may be appropriate when Customer needs each EVC to have its own egress prioritization schedule without impacting other EVCs on the Port.

1.5.5 Ethernet Virtual Connections (EVC)

An EVC provides a logical connection to enable the flow of Ethernet traffic for point-to-point and multipoint Customer configurations. Customer may establish EVCs between Ports located in the same LATA or in different LATAs (due to current systems limitations, interLATA EVCs are not available at all locations or for all Port types). AT&T does not bill Customer for standard EVCs. Customer assigns each EVC a CIR that must be equal to or lower than the CIR of the Port. Under the PPCoS serving arrangement, Customer must also give each EVC a CoS profile specifying the proportion of each desired CoS (percentage of each CoS) on that EVC. Customer must allocate the CoS within the limits of the CIR package subscribed to on that PPCoS Port.

Customer may order EVCs in any 1 Mbps increment up to the maximum EVC CIR of 1000 Mbps, except for point-to-point EVCs between 2 Ports in the same LATA which have a maximum of 2000 Mbps. AT&T will evaluate requests for EVC CIR above these limits on an Individual Case Basis, taking into consideration factors such as facility conditions and the impact of the requested configuration on network performance. The total assigned bandwidth (sum of the CIR for all EVCs) on a single Port cannot exceed the selected CIR of that Port. Point-to-point EVCs must be symmetrical; the EVC CIR at each Port must be the same (except when 1 end of a point-to-point EVC terminates on a Broadband Port⁽¹⁾, in which case the end terminating on the Broadband Port⁽¹⁾ will not have a subscribed CIR).

For multipoint EVCs, Customer may set the CIR for any EVC according to the bandwidth needed at that Port and the bandwidth does not need to be the same at all Ports. Ports that do not meet SLA objectives due to overloading of traffic in a multipoint arrangement will not be eligible for the PDR SLA.

The following chart provides the maximum number of EVCs supported for point-to-point and multipoint configurations on each Port:

Per Port	EVCs
100 Mbps	Up to 8 EVCs
1 Gbps	Up to 64 EVCs
10 Gbps	Up to 508 EVCs
100 Gbps	Up to 4089 EVCs

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement for service to new or existing customers. Refer to paragraph 1.6.

Customers may configure EVCs as point-to-point (connecting 2 locations) or as multipoint (connecting 3 or more locations), as defined above. Point-to-point EVCs can be associated with an unlimited number of MAC addresses. Multipoint EVCs will be limited to 250 MAC addresses per multipoint EVC on each Port, unless Customer purchases the Additional MAC Addresses optional feature. MAC addresses associated with point-to-point EVCs do not count against this limit. For example, a Port that AT&T provisions with 3 separate multipoint EVCs may have up to 250 MAC addresses associated with each of those EVCs, for a total of 750 MAC addresses in use on that Port, but each EVC is still limited to a maximum of 250 MAC addresses.

1.5.6 Frame Size

ASE Ports will support Ethernet frame sizes up to 9126 bytes with the following exceptions:

- Ports deployed using Ethernet over copper loop transport (EoCu) will be limited to 1526 bytes; and
- 100 Mbps Ports installed prior to July 2013 may be limited to 1526 bytes.

1.6 Broadband Arrangement

This type of service provides transport of data using a single, fixed class of service for each EVC. This class of service does not include any defined service parameters or SLAs (i.e., Latency, Jitter, PDR, and Network Availability).

Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement for ASE to new or existing Customers. After that date, AT&T will not accept move, add, or change orders for Broadband Port Arrangements. Existing Customers may retain their Broadband Port Arrangements for the remainder of any existing EPP or other contractual term commitments. Upon the expiration of any existing EPP or other contractual term commitments, any remaining Broadband Port Arrangements will be provided on a month-to-month basis until AT&T withdraws the Broadband Port Arrangements on or after April 30, 2022.

Broadband Arrangement cannot be used with an ENNI Port.

1.6.1 Broadband Customer Port Connection (Broadband Port)

This component provides the physical transport facilities from Customer's Premises to an Ethernet switch at an AT&T central office. The Port has a maximum transmission speed of 1 Gbps and can synchronize with Customer-owned equipment at lower transmission speeds using Auto-Negotiation.

1.6.2 Broadband Speed Tiers and Class of Service (CoS)

Broadband Speed Tiers define the maximum bandwidth available on any Port.

Broadband Speed Tiers are offered in 6 asymmetric speeds (for which the downstream speed is higher than the upstream speed) and 2 symmetric speeds (for which the downstream and upstream speeds are the same). Broadband Speed Tiers represent the maximum downstream and upstream bandwidth that Customer can achieve; however, the actual rate of transmission may vary. Therefore, Broadband Speed Tiers are not committed or guaranteed transmission rates. Broadband Ports and/or certain Broadband Speed Tiers may not be available in all areas.

Broadband Speed Tiers (Maximum Bandwidth)	
Downstream	Upstream
3 Mbps	1 Mbps
6 Mbps	1 Mbps
12 Mbps	1.5 Mbps
18 Mbps	1.5 Mbps
24 Mbps	3 Mbps
45 Mbps	6 Mbps
2 Mbps	2 Mbps
4 Mbps	4 Mbps

Customer must select a Broadband Speed Tier for each Broadband Port⁽¹⁾. Broadband Ports⁽¹⁾ are offered with a single CoS, as follows:

Broadband Basic CoS – Intended for non-critical business applications with more tolerance for delay and availability. This CoS does not include any specified service parameters or SLAs (including Latency, PDR, Jitter, or Network Availability).

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement to new or existing customers. Refer to paragraph 1.6.

1.6.3 Ethernet Virtual Connections

An EVC provides a logical connection to enable the flow of Ethernet traffic for point-to-point and multipoint Customer configurations. AT&T does not bill Customer for standard EVCs.

Each EVC terminating on a Broadband Port⁽¹⁾ is capable of transmitting the full bandwidth of the Broadband Speed Tier; however, the aggregate transmission rate of all EVCs on that Port cannot exceed the Broadband Speed Tier. The distant end Port may be a Broadband⁽¹⁾, Basic, or PPSoS Port. Customer must assign a CIR to an EVC connecting a Broadband Port⁽¹⁾ to a Basic or a PPSoS Port at the end of the EVC terminating on the Basic or PPSoS Port. Customer is responsible for allocating an appropriate amount of bandwidth to each EVC and for shaping traffic so as not to exceed the amount of traffic that the Broadband Port⁽¹⁾ and distant end Port(s) can receive.

Customer must assign to every EVC a CoS at each Port on which the EVC terminates. At each such Port, the EVC's CoS must be one of the CoS supported by that Port; e.g., Customer must assign an EVC that connects a Broadband Port⁽¹⁾ and a Basic Port, the Broadband Basic CoS at the Broadband Port⁽¹⁾ and, at the Basic Port, Customer must assign one of the CoS supported by a Basic Port.

A Broadband Port can support a maximum of 8 EVCs.

Customer should connect to a Broadband Port⁽¹⁾ using a routing device rather than an Ethernet hub, bridge, or switch. Only 64 MAC addresses are available per Broadband Port⁽¹⁾. If Customer transmits more than 64 MAC addresses and creates an impairment to services that AT&T provides to Customer or any third party, AT&T may temporarily discontinue Customer's ASE. During such period of temporary discontinuance, the credit allowance for ASE interruptions as set forth in Part 3, Section 2, paragraph 2.3 is not applicable and AT&T will continue to bill Customer for the ASE. If Customer has not corrected the impairment within 60 days after the temporary discontinuance, AT&T may terminate the ASE by written notice to Customer.

1.6.4 Frame Size

Broadband Ports⁽¹⁾ can support Ethernet frame sizes up to 1522 bytes.

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement to new or existing customers. Refer to paragraph 1.6.

1.7 External Network-to-Network Interface (ENNI) Arrangement

This service arrangement provides for a specialized configuration that is used to connect Customer's Ethernet network with AT&T's Ethernet network.

1.7.1 ENNI Port Connection (ENNI Port)

This component provides the physical transport facilities from Customer's Premises to an Ethernet switch at an AT&T central office.

The ENNI Port Connection is available only at the transmission speed of 10 Gbps.

An ENNI Port Connection is a Port that supports the exchange of Ethernet traffic between the ASE network and Customer's Ethernet network.

AT&T will determine the interface specifications for ENNI Port Connections in its sole discretion.

1.7.2 ENNI Committed Information Rate (CIR) and Class of Service (CoS)

Each ENNI Port Connection can only be provided with a single CIR and a single CoS.

Customer must select a CIR for each ENNI Port. An ENNI Port is available with CIR bandwidths in increments between 1,000 Mbps – 10,000 Mbps. The CIR selected cannot exceed 10,000 Mbps.

CoS establishes the performance characteristics of the network that are suitable for certain applications. The CoS options available to an ENNI Port are described in paragraph 1.4.2.

1.7.3 Ethernet Virtual Connection (EVC)

An ENNI EVC provides a logical connection to enable the flow of Ethernet traffic for point-to-point Customer configurations between an ENNI Port and another ASE Port.

EVCs may be established between Ports located in the same LATA or in different LATAs (due to current systems limitations, interLATA EVCs are not available at all locations or for all Port types), as described in paragraph 1.4.3.

EVCs terminating to an ENNI can only be supported in point-to-point Customer configurations.

The maximum number of EVCs supported for point-to-point configurations on each ENNI Port Connection is 2000 EVCs.

1.7.4 Frame Size

ENNI Ports can support Ethernet frame sizes up to 9126 bytes.

1.8 Optional Features and Functions

1.8.1 Regenerator

Regenerators provide detection and retransmission of Ethernet signals and are used to provide ASE when the distance to an Ethernet switch exceeds other applicable design limits. AT&T will determine whether regenerators are needed and what transport medium and equipment will be used to provide regeneration. Regenerators are available on a per Port basis and are available for 100 Mbps, 1 Gbps, 10 Gbps, and 100 Gbps Ports.

Regenerators are not available with Broadband Ports.⁽¹⁾

1.8.2 Additional MAC Addresses

AT&T offers the Additional MAC Address feature is offered on a per Port basis. When Customer subscribes to this feature, the MAC address limit associated with multipoint EVCs (as shown in paragraphs 1.4.3 and 1.5.5) will be increased from 250 to 500 for each multipoint EVC present on that Port.

An NRC and MRC will apply per Port for increasing the MAC address limit to 500 MAC addresses per multipoint EVC.

The Additional MAC Address feature is not available with Broadband Ports.⁽¹⁾

1.8.3 AT&T BusinessDirect® Customer Network Management

The AT&T BusinessDirect® web portal offers a Customer network management feature to all Customers subscribing to ASE at no additional charge. Available functions include network inventory map, performance reporting, and maintenance. Customer must have a web interface to access and monitor its network using the AT&T BusinessDirect web portal.

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1.8.4 Alternate Serving Switch

The Alternate Serving Switch option allows Customer to order ASE from a ASE switch that is different from the ASE switch that would normally serve Customer's Premises. The Alternate Serving Switch charges apply for mileage measured between the ASE alternate switch wire center and Customer's Premises serving wire center. Monthly rates apply for mileage from the alternate ASE switch to Customer's Premises serving wire center, are based on design, and AT&T will determine such charges at the time of order.

The Alternate Serving Switch feature is not available with Broadband Ports.⁽¹⁾

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement to new or existing customers. Refer to paragraph 1.6.

1.8.5 Diverse Access

Diverse Access is a feature that provides transmission paths, which are diverse from each other as provided in this Section, between 2 designated ASE Ports at the same Customer Premises and a ASE switch. The same Customer must purchase these 2 designated Port Connections and the Port Connections must be 1 Gbps, 10 Gbps, or 100 Gbps. AT&T will charge Customers purchasing Diverse Access a Diverse Access feature charge associated with each of the 2 designated Ports.

AT&T will provision each designated Port on different NTE. The fiber path from each designated Port to the ASE switch will be diverse from the path for the other designated Port, from the closest available point of divergence (e.g., the closest manhole to Customer's Premises or the closest Serving Wire Center to Customer's Premises, etc.) and, where alternate switches are available, AT&T will terminate each designated Port on a different ASE switch. In the event of an outage affecting one of the designated Ports, Customer is responsible for re-routing its traffic to the other designated Port.

Diverse Access does not include construction of dual-entrance facilities. If Customer desires dual-entrance facilities and they do not currently exist, Customer must make arrangements for constructing dual-entrance facilities at Customer's expense.

The Diverse Access feature is not available with Broadband Ports.⁽¹⁾

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement to new or existing customers. Refer to paragraph 1.6.

1.8.6 Advanced Access Failover (AAF)

AAF is designed to provide automatic failover to a redundant facility in the event of a failure of a protected facility.

When Customer orders a Port with an AAF serving arrangement, AT&T will construct it with a single Customer interface, but with additional facilities within the network. There will be 2 fiber pairs (instead of the normal single pair) connecting the NTE to 2 different core Ethernet switches in the ASE core network. These 2 fiber pairs will be diverse from each other from the closest available point of divergence (e.g., the closest manhole to Customer's Premises or the closest Serving Wire Center to Customer's Premises, etc.). The 2 facilities will operate in a hot/standby arrangement where hot represents the actively used transmission path and standby represents an alternate path that is unused until needed. In the event the ASE network senses a disruption to a diverse portion of the facilities, it will automatically failover from the hot path to the standby path, and the EVCs associated with that Port will continue to operate over the standby path.

Notwithstanding the previous paragraph, under certain circumstances, the standby path may become unavailable, preventing AAF from functioning properly. AT&T's monitoring of AAF arrangements may not detect all potential failures of standby paths, and AT&T does not guarantee standby path availability in case of a disruption of a hot path. Customers may use AT&T Express Ticketing (available at <https://expressticketing.acss.att.com/expressticketing/>) to check the status of an AAF arrangement, including the availability of standby paths. If AT&T Express Ticketing identifies an issue with an AAF arrangement, the system will generate a trouble ticket regarding the issue. AT&T recommends that Customers use AT&T Express Ticketing to check their AAF arrangements periodically, and Customers may do so as often as they wish. AT&T is not liable for any service disruptions due to the unavailability of a standby path.

AAF does not include construction of dual-entrance facilities. If Customer requires dual-entrance facilities and they do not currently exist, Customer must make arrangements constructing dual-entrance facilities at Customer's expense.

AAF is available only for 1 Gbps, 10 Gbps, or 100 Gbps Ports and is ordered on a per Port basis.

The AAF feature is not available with Broadband Ports⁽¹⁾ or ENNI Ports.

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement to new or existing customers. Refer to paragraph 1.6.

1.8.7 Enhanced Multicast Feature (EMF)

EMF allows the broadcast, unknown unicast, multicast (BUM) traffic limit associated with multipoint EVCs to be increased from 2 Mbps to 30 Mbps per EVC. AT&T offers EMF on a per Port basis. Once Customer orders EMF on a Port, each multipoint EVC on that Port may be provisioned to allow up to 30 Mbps of combined BUM traffic, orderable in 1 Mbps increments. Multipoint EVC orders for such Ports that do not specify a higher limit as allowed under this feature will be limited to the standard default of 2 Mbps BUM limit. MRCs apply to each Port provisioned with the feature. An additional charge will apply for adding or removing EMF on an existing Port.

EMF for Broadband Ports⁽¹⁾ applies only to Broadband Speed Tiers of 24 Mbps Downstream – 3 Mbps Upstream, 45 Mbps Downstream – 6 Mbps Upstream, and 4 Mbps Downstream – 4 Mbps Upstream.

EMF is not available for EVCs terminating to ENNI Ports.

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement to new or existing customers. Refer to paragraph 1.6.

1.8.8 Meet Point Arrangements

In some cases, AT&T and an unaffiliated Incumbent Local Exchange Carrier (ILEC, sometimes also referred to as an Independent Company or ICO) may agree to jointly provide ASE where such ASE will be provided to locations in both AT&T's and the ILEC's serving territories within the same LATA. In such cases, AT&T and the other ILEC may mutually agree to meet at a location (i.e., meet point) within the LATA utilizing facilities suitable for delivery of ASE. The rates and charges for ASE are applicable for the AT&T-provided portion of such ASE. AT&T is responsible for the ordering, provisioning, billing, and maintenance of such ASE up to the meet point.

Meet point arrangements, where available, may be offered in 2 configurations:

- *Direct LEC* is a dedicated ASE Port connection that provides connectivity from an AT&T Ethernet switch to a meet point with the other service provider. In addition to Port, CIR, and any other rates and charges applicable to the ASE, Direct LEC Additional Mileage charges will apply based on the airline distance measured from the meet point to the wire center in which the Ethernet switch for ASE is located. Mileage is provided in 4 mileage bands up to 50 miles. Direct LEC is not available with Broadband Ports.⁽¹⁾
- *ICO Network-to-Network (NNI) Arrangement (ICO Trunking Arrangement)* provides a shared trunk connection from the ASE switch to the meet point that is then connected to the ILEC (ICO) Ethernet switch, for purposes of providing multiple EVCs for the same or different Customers over this shared facility. The ICO Trunk Connection charge is applied to each EVC that is transported on the ICO Trunking Arrangement. The Additional Mileage rate is based on the distance measured from the ASE switch to the meet point for mileage that exceeds 10 miles and is applicable to each ICO Trunking Arrangement EVC transported across the shared facility. EPP MRCs apply for each EVC provisioned on the ICO NNI Arrangements.

ICO Meet Point Arrangements are not available for EVCs terminating to ENNI Ports.

(1) Effective September 4, 2020, AT&T will no longer offer the Broadband Port Arrangement to new or existing customers. Refer to paragraph 1.6.

1.8.9 AT&T Switched Ethernet on DemandSM (ASEoD) (T)

Customer may purchase ASE using an optional ASEoD ordering process. ASEoD is described in the On Demand Guide, available at: (C)
https://cpr.att.com/pdf/publications/NOD_Guide.pdf, which AT&T may change from time to time. Customer's use of ASEoD is subject to the On Demand Guide and Customer's acceptance of any terms and conditions associated with the Business Center online portal. To purchase ASE through the ASEoD ordering process, such ASE must be: (a) ordered and managed using the ASEoD functionality in the AT&T Business Center online portal; and (b) purchased under an agreement that expressly permits Customer to purchases ASE using the ASEoD ordering process. (C)

1.9 Traffic Controls and Limitations

AT&T may use controls to limit the amount of BUM traffic to protect the ASE network against traffic storms. The maximum throughput of combined BUM traffic will be set at 2 Mbps per multipoint EVC, unless Customer purchases the EMF, which is described in paragraph 1.8.7. Packets dropped by traffic controls are not included in SLA calculations. AT&T recommends that Customer enable controls for BUM traffic within Customer's network(s). There is no BUM restriction on point-to-point EVCs.