

## Access Arrangements (AAs)

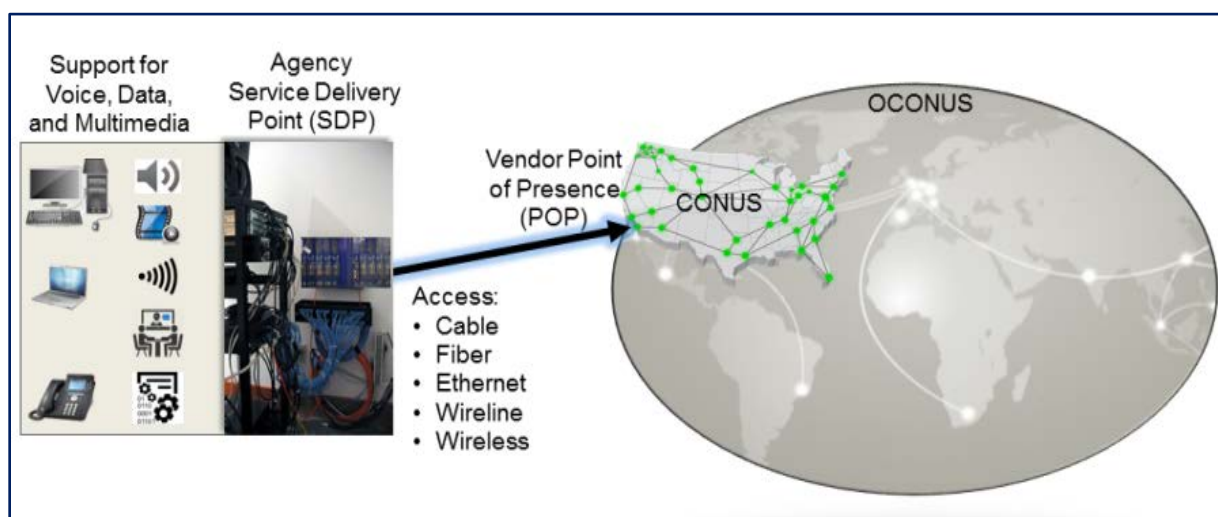
EIS Access Arrangements (AAs) provide a dedicated, reliable connection from an agency's location to the service provider's network. Specifically, AAs connect the Service Delivery Point (SDP) at the agency's location to a Point of Presence (POP) on the service provider's network (see *Figure 1* below). An agency can select from a variety of AAs line speeds and reliability options to meet their unique connectivity requirements. AAs can be used for any application such as voice, data, video, and multimedia. AAs cannot be ordered as a standalone access service, and no performance metrics specific to the AAs can be specified.

**Category:** Access Arrangements

**Complementary Services Needed:** Most EIS services require Access Arrangements.

**Definitions:** Please see EIS contract [Section J.12 Glossary of Terms](#) for clarification of technical terms and acronyms.

*Figure 1—Access Arrangements*



## 1. Why an Agency Might Select this Service

- AAs connect an agency's location with dedicated, reliable bandwidth to the service provider's network. This service is a necessity for most EIS services.
- An agency can select from a range of line speeds and reliability options to meet its unique requirements for accessing a contractor's networks.
- AAs can be used for any application including voice, data, video, and multimedia.

## 2. Examples of How AAs Could be Used

- **Application Delivery:** Many agencies use AAs daily to deliver applications such as desktop video conferencing, distance learning, and transferring of large files intra- and inter-agency.
- **Reliable Data Transfer:** AAs can be used to seamlessly connect agency offices, data centers, ecommerce sites, and call centers.
- **Mandatory Access Connection:** An agency will require AAs in conjunction with any EIS service that requires an access connection, e.g., any of the EIS data or voice services described respectively in EIS contract [Section C.2.1 Data Service](#) and [Section C.2.2 Voice Service](#).

### 3. Key Technical Specifications

NOTE: This portion of the service guide has been abridged due to space considerations. For full technical details on AAs, please refer to EIS contract [Section C.2.9 Access Arrangements](#).

**Table 1—AAs Technical Capabilities**

Capability	Description
<b>Integrated Access of Different Services</b>	Primary mandatory capability.
<b>Transparent to any protocol</b>	Primary mandatory capability.
<b>Access Arrangement Types</b>	<ol style="list-style-type: none"> <li>1. <b>T1</b> supports a line rate of 1.544 Mbps (channelized or unchannelized)</li> <li>2. <b>ISDN PRI</b> supports 23 separate DS0 @ 54/64 Kbps or (23B+D) with a line rate of 1.544 Mbps.</li> <li>3. <b>ISDN BRI</b> supports 2 separate DS0 @ 56/64 kbps or (2B+D) with a line rate of 144 Kbps.</li> <li>4. <b>T3</b> supports a line rate of 44.736 Mbps (channelized or unchannelized)</li> <li>5. <b>E1</b> supports a line rate of 2.048 Mbps (channelized or unchannelized)</li> <li>6. <b>E3</b> supports a line rate of 34.368 Mbps (channelized or unchannelized)</li> <li>7. <b>SONET OC-3</b> supports a line rate of 155.520 Mbps (channelized or concatenated)</li> <li>8. <b>SONET OC-12</b> supports a line rate of 622.080 Mbps (channelized or concatenated)</li> <li>9. <b>SONET OC-48</b> supports a line rate of 2.488 Gbps (channelized or concatenated)</li> <li>10. <b>SONET OC-192</b> supports a line rate of 10 Gbps (channelized or concatenated)</li> <li>11. <b>SONET 768</b> supports a line rate of 40 Gbps (channelized or concatenated). <b>(NOTE: May not be available from all contractors.)</b></li> <li>12. <b>Analog Line (4 KHz)</b> supports 2 wire analog lines and trunks without access integration for voice service. <b>(NOTE: May not be available from all contractors.)</b></li> <li>13. <b>DS0</b> supports rates of 56 kbps and 64 kbps.</li> <li>14. <b>Subrate DS0</b> supports Subrate DS0 at rates of 4.8, 9.6, and 19.2 kbps. <b>(NOTE: May not be available from all contractors.)</b></li> <li>15. <b>Optical Wavelength</b> Bi-directional wavelengths (WDM) connections at rates of 1, 2.5, 10, and 40 Gbps <b>(NOTE: 40 Gbps may not be available from all contractors.)</b></li> <li>16. <b>Dark Fiber</b> supports both single-mode and multimode fibers, fiber of minimum 80 DWDM wavelengths, also fibers operating in "C," "D," "L," and "S" bands. <b>(NOTE: May not be available from all contractors.)</b></li> <li>17. <b>Digital Subscriber Line (DSL)</b>. Supports:             <ol style="list-style-type: none"> <li>(1) Asymmetric DSL (ADSL) with upstream speeds from 16 to 768 Kbps, and downstream speeds from 1.5 to 8 Mbps. <b>(NOTE: Some contractors may also offer speeds up to 50 Mbps.)</b></li> <li>(2) Symmetric DSL (SDSL) with both upstream and downstream traffic rates up to 1.5 Mbps. <b>(NOTE: Some contractors may offer speeds up to 2.3 Mbps.)</b></li> <li>(3) ISDN DSL (IDSL) upstream and downstream rates up to 144 Kbps. <b>(NOTE: May not be offered by all contractors.)</b></li> </ol> </li> <li>18. <b>Ethernet</b> supports both dedicated access and/or shared access at rates from 1 Mbps up to 100 Gbps. <b>(NOTE: Speeds from 2 Gbps to 100 Gbps may not be available from all contractors.)</b></li> <li>19. <b>Cable High-Speed</b> supports data rates of 256 Kbps to 150 Mbps. <b>(NOTE: May not be available from all contractors.)</b></li> <li>20. <b>Fiber-To-The-Premises (FTTP)</b> supports upstream rates 2Mbps to 5Mbps and Downstream 5 Mbps to 30 Mbps. <b>(NOTE: May not be available from all contractors.)</b></li> <li>21. <b>Wireless</b> supports 4G Long Term Evolution (LTE) Cellular Service at 100 mbps (downstream) and 50 mbps (upstream) and Line of sight connection, using licensed frequencies: DS1, NxDS1 (where N=2 through 27), DS3, E1 (Non-domestic) and NxE1 (where N=2 through 15) (Non-domestic), E3 (Non-domestic), SONET OC-3, 1 Gbps, 5 Gbps and 10 Gbps.</li> </ol>

**Table 2—AAs Access Diversity and Avoidance**

<b>Item</b>	<b>Description</b>
Access Route or Path Diversity	Provision of at least two physically-separated routes.
Access Route or Path Avoidance	Capability for a customer to define a geographic location or route to avoid between an SDP and its associated connecting network point.

**Table 3—AAs Features**

<b>Feature</b>	<b>Description</b>
Channelized (i.e., non-concatenated) Access Circuit	This feature can be specified by the agency, at no additional cost, instead of a concatenated (i.e., non-channelized circuit).

NOTE: EIS contract [Section C.2.9 Access Arrangements](#) contains no Features. However, EIS contract [Section B.2.9.1.11 Access Feature Pricing Instructions Table](#) contains the AAs feature listed in this table.

## 4. Pricing Basics for AAs

Please visit the [EIS Resources Listing](#) and locate the [Basic EIS Pricing Concepts Guide](#) to gain an understanding of EIS pricing fundamentals.

### 4.1 Access Arrangements

Appropriate access arrangements must be selected for each endpoint. This service guide contains basic information for acquiring AAs between the agency Service Delivery Point and the contractor’s Point of Presence.

### 4.2 Service Related Equipment (SRE)

- SRE must be chosen based on equipment required at each location. NOTE: SRE uses catalog-based pricing.
- Request that contractor provide pricing for any SRE that would be required, in addition to the agency’s existing infrastructure, to deliver the service.
- Please visit the [EIS Resources Listing](#) and locate the [Service Related Equipment Service Guide](#) for more detailed information.

### 4.3 AAs Price Components

The price structure for AAs consists of the components shown in *Table 4* below.

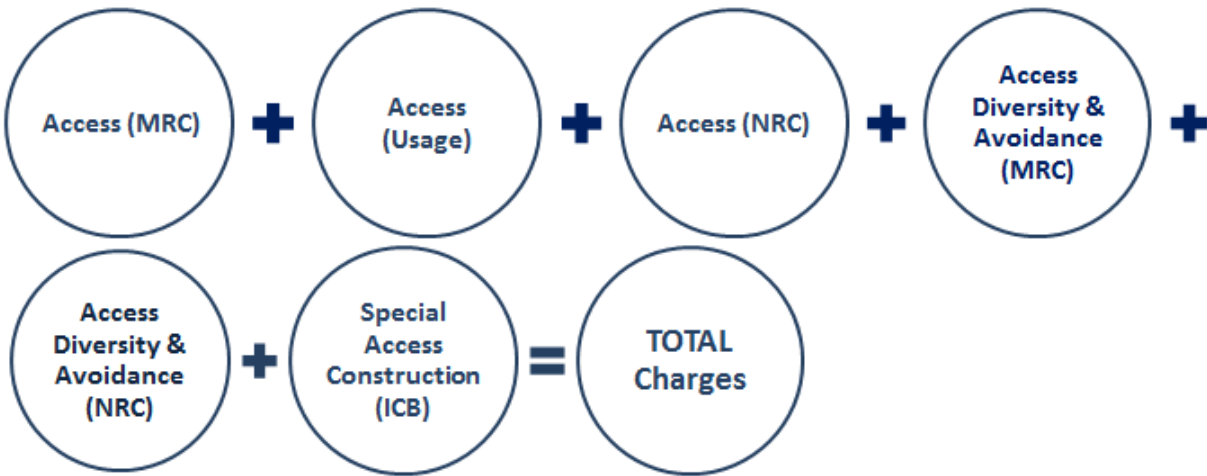
**Table 4—AAs Pricing Components**

<b>Component</b>	<b>Charging Unit</b>
MRC	Circuit (or Fiber Pair), Connection, Link
Usage	Mbps or Gbps per day
NRC	Circuit (or Fiber Pair), Connection, Link
Access Diversity & Avoidance (MRC, ICB)	Circuit
Access Diversity & Avoidance (NRC, ICB)	Circuit
Special Access Construction (ICB)	ICB

NOTE: As shown above in *Table 4*, the costs for “Access Diversity & Avoidance” and “Special Access Construction” are computed by the contractor on an Individual Case Basis (ICB).

*Figure 2* below shows how the pricing components in *Table 4* are combined to produce the total cost for the service.

**Figure 2—This figure shows how the various pricing components in Table 4 would be combined to calculate the total AAs charges. NOTE: One or more of these components may not be needed to price a particular service package.**



The charges for the different components in *Figure 2* are calculated using details provided in the pricing tables in EIS contract [Section B.2.9 Access Arrangements](#). (Please visit the [EIS Resources Listing](#) and locate the [Basic EIS Pricing Concepts Guide](#) for instructions on using the pricing tables to compute the cost of a service.) Charges are also dependent, in most cases, on the physical location of the site requiring service, identified by the Network Site Code (NSC).

NOTE: A contractor may offer a custom variation of the service to meet an agency’s unique requirements. Such a customization would be identified with a Task Order Unique CLIN (TUC), and would include charges that would have to be added to the components in *Figure 2* to determine the total cost of the service.

## 4.4 AAs Pricing Examples

### NOTE:

1. The examples below assume that the reader will be using the EIS Pricer.
2. In both examples, the price for the circuit would depend on the location of the site receiving service, as indicated by the NSC.

### **Example 1: T1 Access**

#### Service CLINs

- Choose CLINs AA00003 and AA00103 “T1 (1.536 Mbps)” (NRC and MRC) (see EIS contract table *B.2.9.1.5—Access Pricing Instructions Table*).

### **Example 2: Shared Ethernet Access 300 Mbps committed, scalable to 1 Gbps**

#### Service CLINs

- Choose CLINs AA00807 and AA00907 “Shared Ethernet Access 300 Mbps committed, scalable to 1 Gbps” (NRC and MRC) (see EIS contract table *B.2.9.1.5—Access Pricing Instructions Table*).
- Choose CLIN AA00922 “Ethernet Access Bandwidth-on-Demand temporary bandwidth increase of 100 Mbps per day; 100 Mbps ≤ committed bandwidth < 1 Gbps” (see EIS contract table *B.2.9.1.5—Access Pricing Instructions Table*).

## 5. References and Other Sources of Information

- For more technical details and information on AAs, please refer to EIS contract [Section C.2.9](#); for pricing details, [Section B.2.9](#).
- For more information on service-related items, please see:
  - EIS contract [Section B.2.10 Service Related Equipment](#)
  - EIS contract [Section B.2.11 Service Related Labor](#)
- Please refer to a contractor's individual EIS contract for specifics on the contractor's AAs offerings.
- For additional EIS information and tools, visit the [EIS Resources Listing](#).
- For guidance on transitioning to EIS, please visit [EIS Transition Training](#) where you'll find several brief video training modules.