# Private Line Service (PLS)

The EIS Private Line Service provides a dedicated, reliable, two-way path over which voice, video, multimedia and encrypted information can be transmitted between two or more designated points. The service can be used to meet custom agency network requirements, and to ensure reliable data exchange between mission critical applications. PLS offers a standard variety of speeds ranging from 56 Kbps to 10 Gbps. Some EIS contractors may also offer additional data rates, such as 40 Gbps or the 4 KHz Analog Line (see Table 1 below for details).

Category: Data Service

Complementary Services Needed: In order to use PLS, an agency would need Access Arrangements (AAs).

Definitions: Please see EIS contract Section J.12 Glossary of Terms for clarification of technical terms and acronyms.

Figure 1—PLS for point-to-point and point-to-multipoint connections
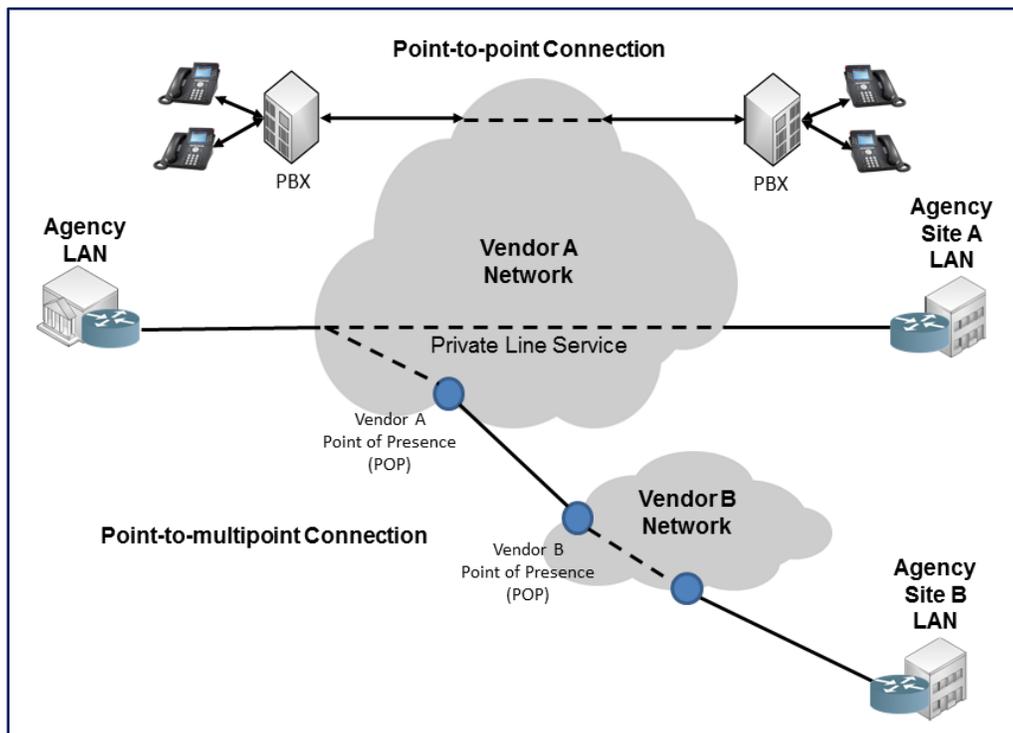
1. Why an Agency Might Select this Service

- Secure, fast, end-to-end, private connection that can transport growing volumes of data, video and voice over great distances.

- Reliable, dedicated, high-speed data exchange for mission-critical applications.

- Optional special cable routing (i.e., Transport Diversity and/or Transport Avoidance) that increases line survivability in the event of a disaster; can enhance agency's Disaster Recovery Planning (DRP) and Continuity of Operations Planning (COOP).

2. Examples of How PLS Could be Used

- **Single Point to Single Point:** A single point to single point PLS can seamlessly connect two different LANs on the same campus to create one network. Service can also be used to connect two different LAN site locations that are geographically distant for seamless and secure transfer of data.

- **Single Point to Multi-Point:** A single point to multi-point PLS can connect one LAN server or site location to multiple network devices and/or locations. A configuration such as this might be useful for an agency headquarters needing direct connections to

multiple site office locations. Hence, the site locations are tied into the agency's headquarters without necessarily being networked to each other.

- **Multi-Point to Multi-Point:** A multi-point to multi-point PLS can connect LANs or WANs at several different site locations to each other. An example would be connecting several servers at different data center locations to serve as a backup data network using a configuration that ensures data integrity in the event of a hardware failure. Having data split across multiple servers in different locations creates redundancy and security beyond a single-storage device.   Multi-point PLS connection(s) can allow each of these devices to send and receive data without interruption, thus delivering a better customer experience and more reliable service.

3. Key Technical Specifications

NOTE: This portion of the service guide has been abridged due to space considerations. Please see EIS contract Section C.2.1.4 Private Line Service for full technical details on this service.

Table 1—PLS Technical Capabilities

Capability	Description
Routing Requirements	All encrypted tunnels meet the routing requirements in EIS contract Section C.1.8.8, and are proxied to allow inspection.
Protocol Transparency	Transparency to any protocol used by government-furnished property (GFP).
Data Transparency	Transparency treatment of all bit sequences transmitted by GFP at the service delivery point (SDP)
Data Rate Requirements	PLS is offered with a standard variety of data rates, ranging from 56 Kbps to 10 Gbps. Some contractors may offer additional, rates as indicated by an "*" below: Analog Line: 4 KHz** DS0: 56 Kbps and 64 Kbps Subrate DS0: Rates of 4.8, 9.6, and 19.2 Kbps** T1****: 1.544 Mbps T3****: 44.736 Mbps Fractional T1: Two, four, six, eight, or twelve adjacent DS0 channels.** Fractional T3: Two adjacent T1 channels. E1****: 2.048 Mbps E3****: 34.368 Mbps SONET OC-1: 49.536 Mbps** SONET OC-1 (Virtual): 51.840 Mbps** SONET OC-3*****: 155.520 Mbps SONET OC-12*****: 622.080 Mbps SONET OC-48*****: 2.488 Gbps SONET OC-192*****: 10 Gbps SONET OC-768*****: 40 Gbps* ***May not be available from all contractors.** **These lines are also offered in channelized versions. ***These lines are offered in channelized and concatenated versions.

Table 2—PLS Features

Item	Description
Multipoint Connection	PLS allows interconnection of three or more subscriber premises as follows: (a) Branch-Off Mode: All service delivery points (SDPs) are treated as one shared medium and each point is able to autonomously send and receive data; (b) Drop-and-Insert Mode: Specified channels of a T1, T3, SONET OC-3, or SONET OC-12 line are able to be dropped, and new channels are able to be simultaneously picked up or inserted.
Special Routing	PLS provides different routes for circuits based on the following arrangements: (a) Transport Diversity: Between connecting points, there will be two or more physically separated routes for PLS circuits. These diverse routes will not share common telecommunications facilities or offices; (b) Transport Avoidance: Between connecting points, the agency has the capability to define a geographic location or route on the network to avoid.

4. Pricing Basics for PLS

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. Please visit the EIS Resources Listing and locate the Access Arrangements Guide for more detailed information.

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 PLS Price Components

The price structure for PLS consists of the components shown in *Table 3* below.

Table 3—PLS Pricing Components

Component	Charging Unit
Transport (MRC)	Per circuit
Features Fees (Multipoint Connection or Special Routing)	Priced per feature

Figure 2 below shows how the pricing components in *Table 3* are combined to produce the total cost for the service.

Figure 2—This figure shows how the various pricing components in Table 3 would be combined to calculate the total PLS charges. NOTE: One of these components may not be needed to price a particular service package.
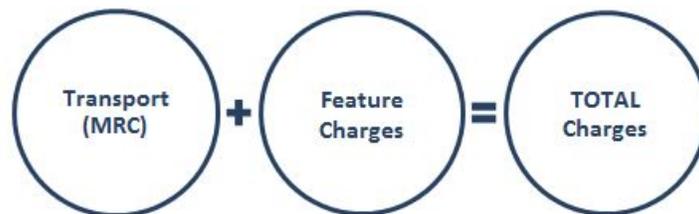
NOTE: A contractor may offer a custom variation of the service to meet an agency's unique requirements. Such a customization would be identified with a Task Order Unique CLIN (TUC), and would include charges that would have to be added to the items in *Figure 2* to determine the total cost for the service.

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.

Domestic Pricing

A domestic PLS transport price is mileage-dependent, and consists of *one* of the following:

- A distance-based MRC, or
- A monthly recurring fixed price and a distance-based MRC

The pricing table used to determine a price also depends on the originating and terminating Points of Presence (POPs), as summarized in EIS contract *Table B.2.1.4.1.1* (included below).

NOTE: The EIS Pricer will automatically calculate the distance between the originating and terminating POPs, and will use the correct price table(s) for the two locations.

Non-domestic PLS Pricing
A non-domestic PLS transport price consists of a fixed price MRC only, and is not distance-dependent.

EIS Contract *Table B.2.1.4.1.1*—*PLS Summary of Pricing Tables Needed for Transport Pricing*

	POP in CONUS	*POP in OCONUS*	*POP in Non-Domestic Country/Jurisdiction*
POP in CONUS	*Table B.2.1.4.1.2*	*Tables B.2.1.4.1.2* and *B.2.1.4.1.3*	*Tables B.2.1.4.1.2* and *B.2.1.4.1.3*
POP in OCONUS	*Tables B.2.1.4.1.2* and *B.2.1.4.1.3*	Same Country/Jurisdiction: *Table B.2.1.4.1.2* Different Country/Jurisdictions: Table B.2.1.4.1.3	*Tables B.2.1.4.1.2* and *B.2.1.4.1.3*
POP in Non-Domestic Country/Jurisdiction	*Tables B.2.1.4.1.2* and *B.2.1.4.1.3*	*Tables B.2.1.4.1.2* and *B.2.1.4.1.3*	Same Country/Jurisdiction: *Table B.2.1.4.1.4* Different Country/Jurisdictions: *Table B.2.1.4.1.3*

4.4 PLS Pricing Example

<u>Example: CONUS Channelized T3 circuit</u>

Figure 3—PLS Channelized Circuit
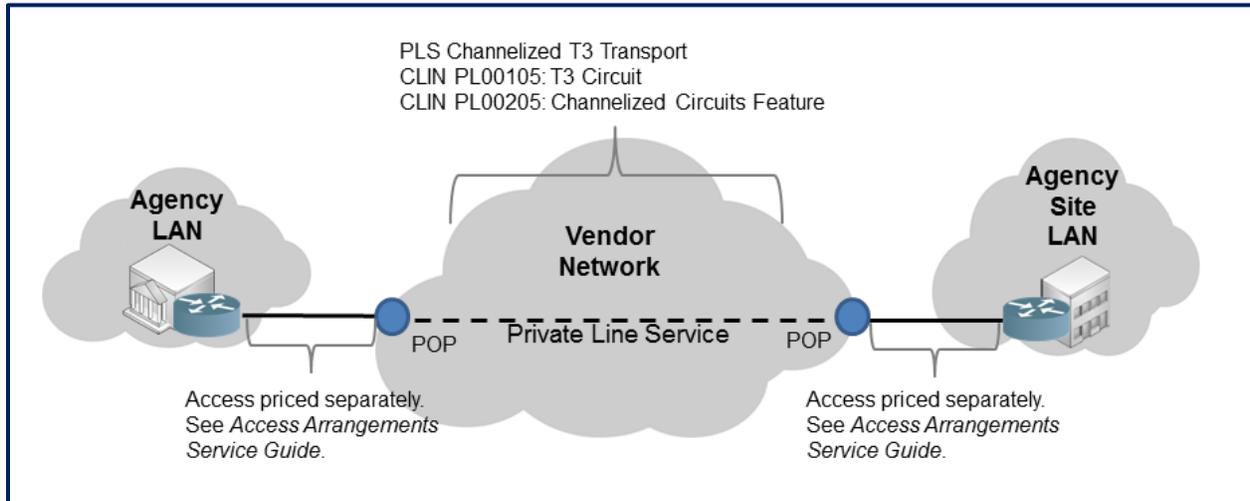
- Choose CLIN PL00105 "T3 Circuit." (see EIS contract table *B.2.1.4.1.5—PLS Full Channel Pricing Instructions Table*). NOTE: The EIS Pricer will automatically calculate the distance when given the originating and terminating locations.

- Choose CLIN PL00205 "Channelized Circuits." (see EIS contract table *B.2.1.4.2.2—PLS Feature Pricing Instructions Table*). NOTE: This is a feature used to indicate that a channelized or non-concatenated circuit is being ordered [instead of un-channelized or concatenated] at no additional cost.

5. References and Other Sources of Information

- For more technical details and information on PLS, please refer to EIS contract <u>Section C.2.1.4</u>; for pricing details, <u>Section B.2.1.4</u>.

- For more information on service-related items, please see:

    o EIS contract <u>Section B.2.10 Service Related Equipment</u>

    o EIS contract <u>Section B.2.11 Service Related Labor</u>

- Please refer to a contractor's individual EIS contract for specifics on the contractor's PLS offerings.

- For additional EIS information and tools, visit the <u>EIS Resources Listing</u>.

- For guidance on transitioning to EIS, please visit <u>EIS Transition Training</u> where you'll find several brief video training modules.