

## Circuit Switched Voice Service (CSVS)

The EIS Circuit Switched Voice Service (CSVS) comprises both traditional local and long distance service, and enables users to call, or receive calls from, any phone in the U.S. or the world. This service is functionally equivalent to the traditional phone technology that uses the global phone network to establish a temporary, dedicated circuit connecting the two end points for each requested phone conversation. That circuit remains in place for the exclusive use of the call's participants for the duration of the call.

CSVS supports all direct dialed voice calls throughout the U.S. regardless of whether the calls are initiated or terminated on the same or different networks (on-net and off-net respectively). It operates over the public switched telephone network (PSTN) (wireline and wireless) in CONUS, OCONUS and non-domestic locations.

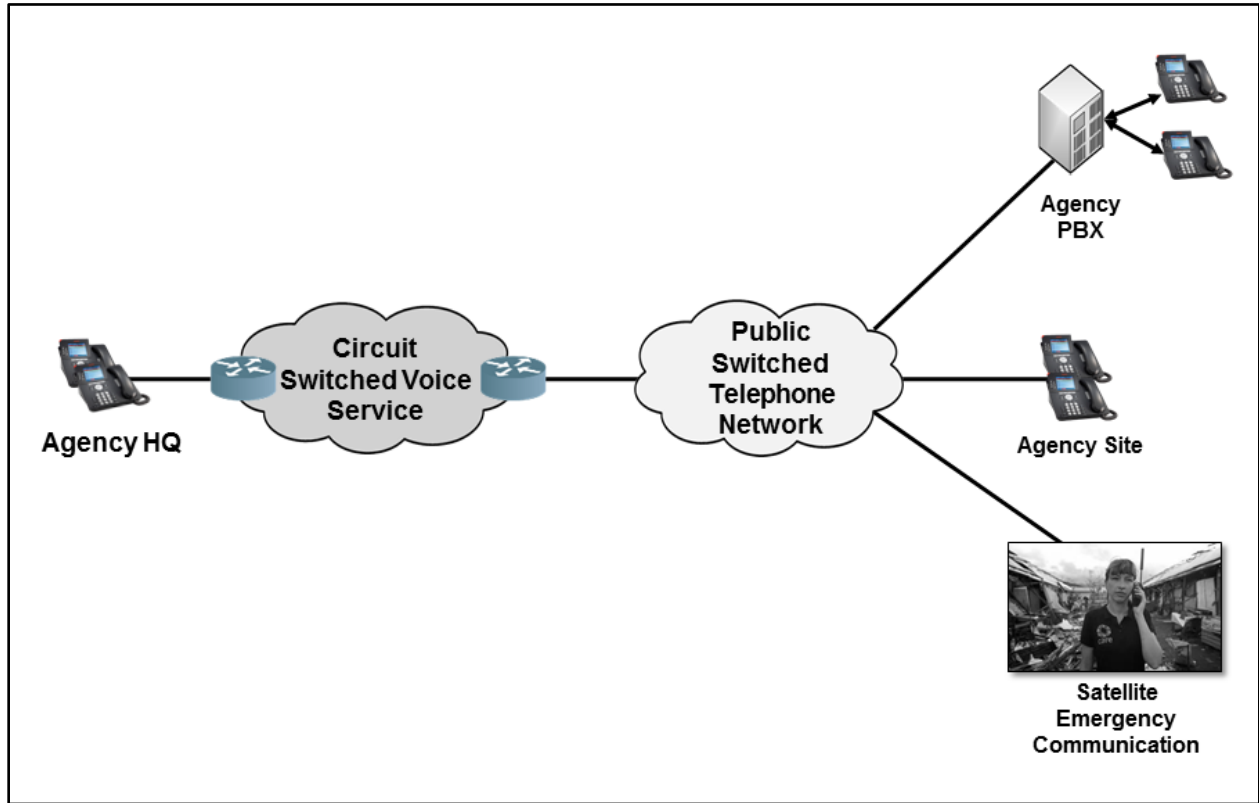
CSVS connects to and interoperates with a broad range of equipment including single-line telephones, secure terminal equipment, conference room audio equipment, modems, and facsimile machines.

**Category:** Voice Service

**Complementary Services Needed:** In order to use CSVS, the agency may need EIS Access Arrangements (AAs) or equivalent.

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

**Figure 1—Circuit Switched Voice Service**



## 1. Why an Agency Might Select this Service

CSVs can provide the following types of calls:

- CONUS to CONUS
- CONUS to OCONUS/Non-Domestic
- OCONUS or Non-Domestic to CONUS
- OCONUS or Non-Domestic to OCONUS or Non-Domestic

NOTE: Agencies considering this service may also want to compare it with Internet Protocol Voice Service (IPVS).

## 2. Examples of How CSVs Could be Used

- **Handle Incoming and Outgoing Calls:** The obvious use for CSVs is to handle an agency's incoming and outgoing calls for CONUS, OCONUS and Non-Domestic calls.
- **Record Message Announcements:** An agency could use CSVs's recorded message feature (see *Table 2* below) to communicate important information to callers.
- **Support Calling Card Program:** An agency could implement the authorization codes/calling cards feature of CSVs to support the issuance of pre- and post-paid calling cards.

### 3. Key Technical Specifications

NOTE: This portion of the service guide has been abridged due to space considerations. For full technical details on CSVS, please refer to EIS contract [Section C.2.2.2 Circuit Switched Voice Service](#).

**Table 1—CSVS Technical Capabilities**

<b>Capability</b>	<b>Description</b>
<b>Numbering Plan</b>	<ol style="list-style-type: none"> <li>1. Unique directory number for all on-net government locations, including support for existing government numbers.</li> <li>2. PSTN (including both wireline and wireless networks) numbers and any future changes to PSTN numbers.</li> <li>3. Non-commercial agency-specific private 700 numbers <b>(NOTE: May not be available from all contractors):</b> <ul style="list-style-type: none"> <li>○ Originating and terminating on-net calls. Incoming off-net calls from the PSTN will be blocked unless an agency-specific request for the service gateway has been received and implemented.</li> </ul> </li> <li>4. Transparency and interconnectivity between the contractor's network and other networks.</li> </ol>
<b>Network Intercept</b>	<p>Network intercept to a recorded announcement is provided as an inherent network capability when a call cannot be completed. At a minimum, such announcements can be provided for the following conditions:</p> <ol style="list-style-type: none"> <li>a) Number disconnected (a disconnected number will not be reassigned for at least 90 days if the contractor controls number assignment)</li> <li>b) Time-out during dialing</li> <li>c) Network congestion</li> <li>d) Denial of access to off-net and non-U.S. calls</li> <li>e) Denial of access to features</li> </ol>
<b>User-to-User Signaling via ISDN D-Channel</b>	<p>The service supports user-to-user signaling in accordance with ITU-TSS Q.931 standards, via the ISDN D-channel during a call. <b>(NOTE: May not be available from all contractors.)</b></p>
<b>Voice Quality</b>	<p>Voice quality at least equal to 64 kbps PCM (standard: ITU G.711).</p>
<b>Emergency Service</b>	<p>The service fully complies with emergency service requirements, including 911 and E911 services, and identifies the locations of originating stations and routes them to the appropriate Public Safety Answering Point (PSAP).</p>

**Table 2—CSVS Features**

<b>Feature</b>	<b>Description</b>
<b>Agency-Recorded Message Announcements</b>	<ol style="list-style-type: none"> <li>1. Enables authorized government personnel to record message announcements within the network after authentication of user-ID and password/token.</li> <li>2. The recording is assigned an on-net number and is accessible from on-net and off-net stations.</li> <li>3. The service provides the capability of a three-minute message announcement length.</li> <li>4. The length of each message provided by the government is determined on a case-by-case basis and will continue to three minutes in length (or longer if the contractor capability exists and is provided at no additional cost to the government).</li> <li>5. A call to the announcement must be answered within five rings and barge-in access to the announcement is permitted.</li> <li>6. The service provides a system-wide capability for storing a minimum of 500 recorded messages.</li> </ol> <p>This feature enables a minimum of 250 callers to concurrently access an announcement.</p>
<b>Authorization Codes/Calling Cards</b>  <b>(NOTE: May not be available from all contractors.)</b>	<p>Please refer to the table in EIS contract <a href="#">Section C.2.2.2.2 Features</a> for detailed information on the Authorization Codes/Calling Cards for this service.</p>
<b>Caller Identification (ID)</b>	<p>The service provides the calling number to the terminating stations for each incoming call.</p>

<b>Feature</b>	<b>Description</b>
<b>Call Screening for Users</b>	<p>Call screening consists of a set of features that determine a call's eligibility to be completed as dialed based upon Class of Service (CoS) information associated with the user, the station, or the trunk group. The following call screening features are supported:</p> <ol style="list-style-type: none"> <li>1. CoS and Restrictions. The service provides a minimum of 128 classes of service for each user, station, or trunk. <p>CoS is determined from the ANI, authorization code, traveling classmark, or trunk group. The CoS derived from an authorization code takes precedence over that derived from other means. Classes of service identifies, but is not limited to access and feature restrictions as follows:</p> <ol style="list-style-type: none"> <li>a. Access restrictions include but are not limited to access to toll free and 900 calls, access to off-net calling, access to other government networks, access to non-US calling, and access to other than specified NPA/NXXs.</li> <li>b. Feature restrictions allow or restrict access to network features by users or groups of users.</li> </ol> </li> <li>2. Code Block. This feature screens and prevents ineligible users, stations, and trunks with certain CoS access restrictions from calling specified area codes, exchange codes, and countries. Blocked calls are intercepted to appropriate network recorded announcements.</li> </ol>
<b>Customized Network Announcement Intercept Scripts</b>	<p>The service implements customized network intercept announcement scripts as requested by the government. The contractor records the customized network announcements after obtaining government approval of scripts.</p>
<b>Internal Agency Accounting Code</b>	<p>For calls involving a calling card or originating station with a special CoS, the following capabilities are provided:</p> <ol style="list-style-type: none"> <li>1. Entry of additional (up to a maximum of eight) digits to identify internal agency accounting codes for the call, i.e., these accounting codes will be transferred to the CDR with no further processing.</li> <li>2. CDRs reflect all relevant data on the call to include internal agency accounting code digits. Calls are charged to the authorization code rather than to the originating station.</li> </ol>
<b>Directory Assistance</b>	<p>Allows a user to call off-net directory assistance by dialing NPA-555-1212 or any other off-net directory assistance number. NPA also includes service access codes (e.g., 800) for this feature.</p>

<i>Feature</i>	<i>Description</i>
<b>Suppression of Calling Number Delivery</b>	Based on the CoS of the originating station or calling card, the service can inhibit the delivery of the calling number, i.e., Automatic Number Identification (ANI), by setting the Privacy Indicator at the originating end and honoring it at the terminating end. In addition, it is possible to block calling number delivery on a call by call basis by dialing a contractor-provided code.
<b>Voice Mail Box</b>	<p>The service offers voice mail capability that includes voice messaging transmission, reception, and storage for 24x7 except for periodic scheduled maintenance. The contractor provided voice mailbox meets the following minimum requirements:</p> <ol style="list-style-type: none"> <li>1. At least sixty minutes of storage time (or 30 messages)</li> <li>2. Ability to remotely access voice mail services</li> <li>3. Secure access to voice mail via a password or PIN</li> <li>4. Automatic notification when a message is received</li> <li>5. Minimum message length of two minutes</li> <li>6. Capability to record custom voice mail greetings</li> </ol> <p>This capability can be administered on a station basis according to the ordering agency's needs.</p>
<b>Basic Subscriber Line: Multi Appearance Directory Number</b>	A Multiple Appearance Directory Number is a telephone number that appears on two or more telephones.
<b>ISDN PRI: Backup of Shared-D Channel</b>	Backup of a single D channel that is controlling multiple PRIs.
<b>ISDN BRI: Multi Appearance Directory Number</b>	A Multiple Appearance Directory Number is a telephone number that appears on two or more ISDN telephones.
<b>Multilevel Precedence and Preemption (MLPP)</b>	DOD requires the CSVS to have Multilevel Precedence and Preemption (MLPP) capability as defined in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6215.01C and DOD Instruction 8100.3, Department of Defense Voice Networks, to specified users and on trunks connecting to the Defense Switched Network (DSN).

## 4. Pricing Basics for CSVS

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

Local and long distance CSVS may be usage-based or flat-rate (unlimited). These two options have different access requirements:

- When ordering usage-based CSVS, the agency can select switched access, the price of which is included in the CSVS usage fees, or it can purchase separately-priced dedicated access.
- If an agency needs flat-rate, unlimited voice service, then it *must* purchase separately-priced dedicated access (Basic Subscriber Line, ISDN PRI or ISDN BRI).

See EIS contract [Section B.2.2.2.1 Circuit Switched Voice Service Usage](#) for more details.

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 CSVS Price Components

CSVS supports both traditional local and long distance service. Prices may vary based on access arrangement used.

Price components required for full end-to-end service for CSVS include those listed in Table 3 below.

**Table 3—CSVS Pricing Components**

<b>Component</b>	<b>Charging Unit</b>
Usage-Based calling	Per six (6) second increments (if using switched access, access fees are included)
Flat-Rate, unlimited calling	Per line
Features	Feature dependent; could be per number, line, trunk, block of numbers, call, or completion of function-related action

Figure 2 immediately 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 CSVS charges. NOTE: One or more of these components may not be needed to price a particular service package.**



The actual charges for the different components in Figure 2 are calculated using details provided in the pricing tables in EIS contract [Section B.2.2.2 Circuit Switched Voice 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.)

NOTE:

(1) If an agency already has local phone service from a non-EIS contract, and then purchases long distance through EIS, then the EIS long distance service would be usage-based. This is because unlimited CSVS requires the purchase of dedicated access, and in this scenario, the agency has already acquired access from a non-EIS contract. (See *Pricing Example 3* below.)

(2) CSVS can be either usage-based (measured in six-second increments) or flat-rate/unlimited. For usage-based pricing, costs vary according to the originating and terminating locations, as shown in *Table 4* below.

(3) 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.

**Table 4—CSVs Usage-Based Pricing According to Originating and Terminating Locations**

<b>From Location</b>	<b>To Location</b>	<b>Pricing</b>
CONUS	CONUS	Single price for all CONUS
CONUS	OCONUS or Non-Domestic	Varies according to terminating country/jurisdiction
OCONUS or Non- Domestic	CONUS	Varies according to originating country/jurisdiction
OCONUS or Non- Domestic	OCONUS or Non-Domestic	Varies according to originating and terminating countries/jurisdictions

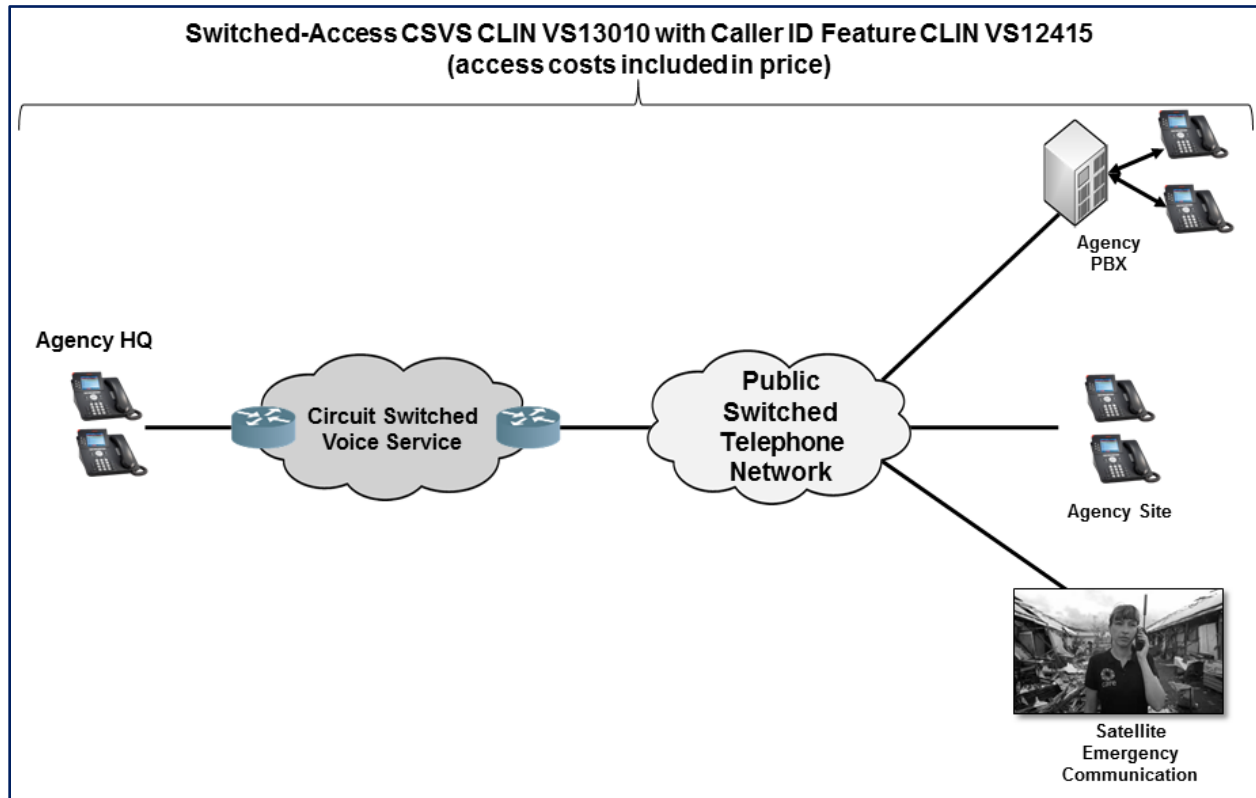
Unlimited CONUS or OCONUS calling plans are available and include:

- Unlimited on-net to on-net and on-net to CONUS off-net calling.
- Unlimited off-net calling within the same OCONUS country/jurisdiction, for service implementations located in an OCONUS country/jurisdiction.

## 4.4 CSVS Pricing Examples

### **Example 1: Usage-Based, Switched-Access CSVS with Caller ID; within CONUS**

**Figure 3—CSVS Usage-based Pricing Example**



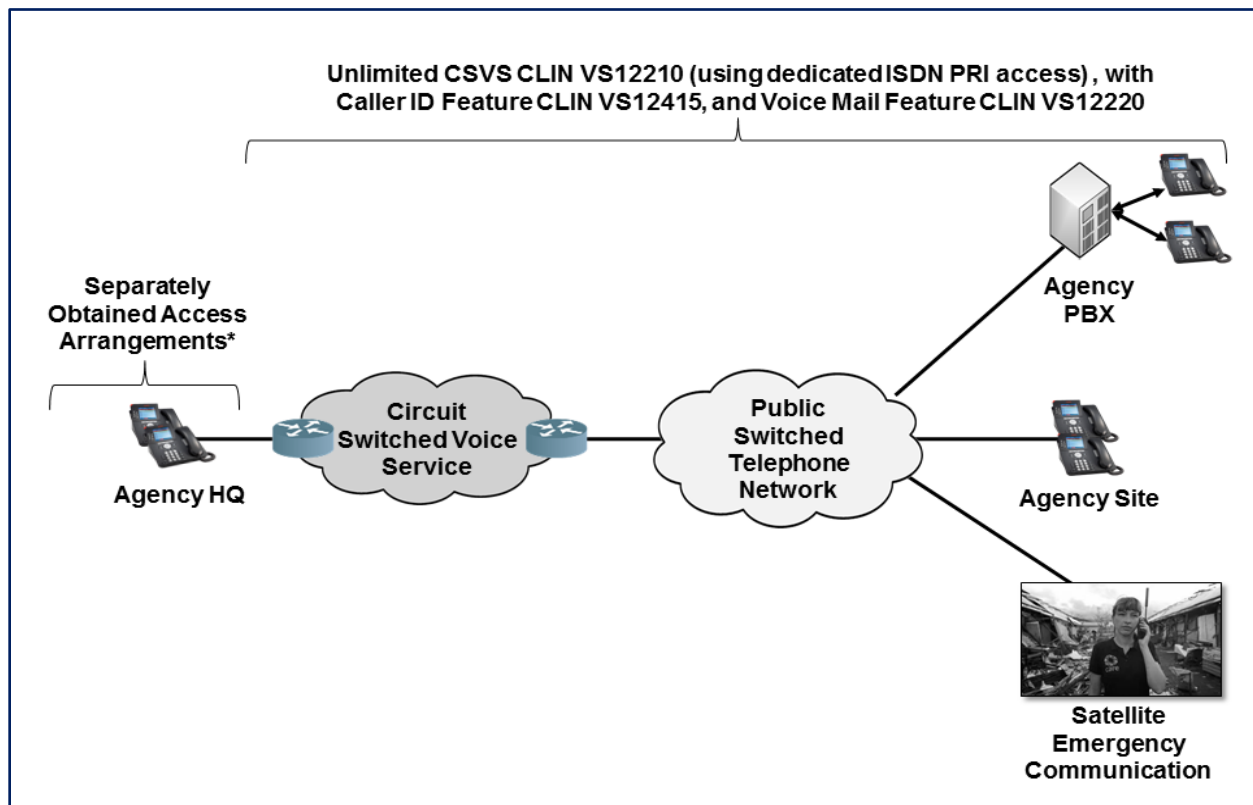
### Service CLINs

- Choose CLIN VS13010, “Switched Access Origination” (see EIS contract table *B.2.2.2.1.2—CSVS Usage-Based Pricing Instructions Table*).
- Choose CLIN VS12415, “Caller ID” (see EIS contract table *B.2.2.2.3.3—CSVS General Features Pricing Instructions Table*).

NOTE: Access costs for the above example are included in the CSVS pricing.

## **Example 2: Unlimited CSVS (using ISDN PRI access) with Caller ID and Voice Mail; within CONUS**

**Figure 4—Unlimited CSVS Pricing Example**



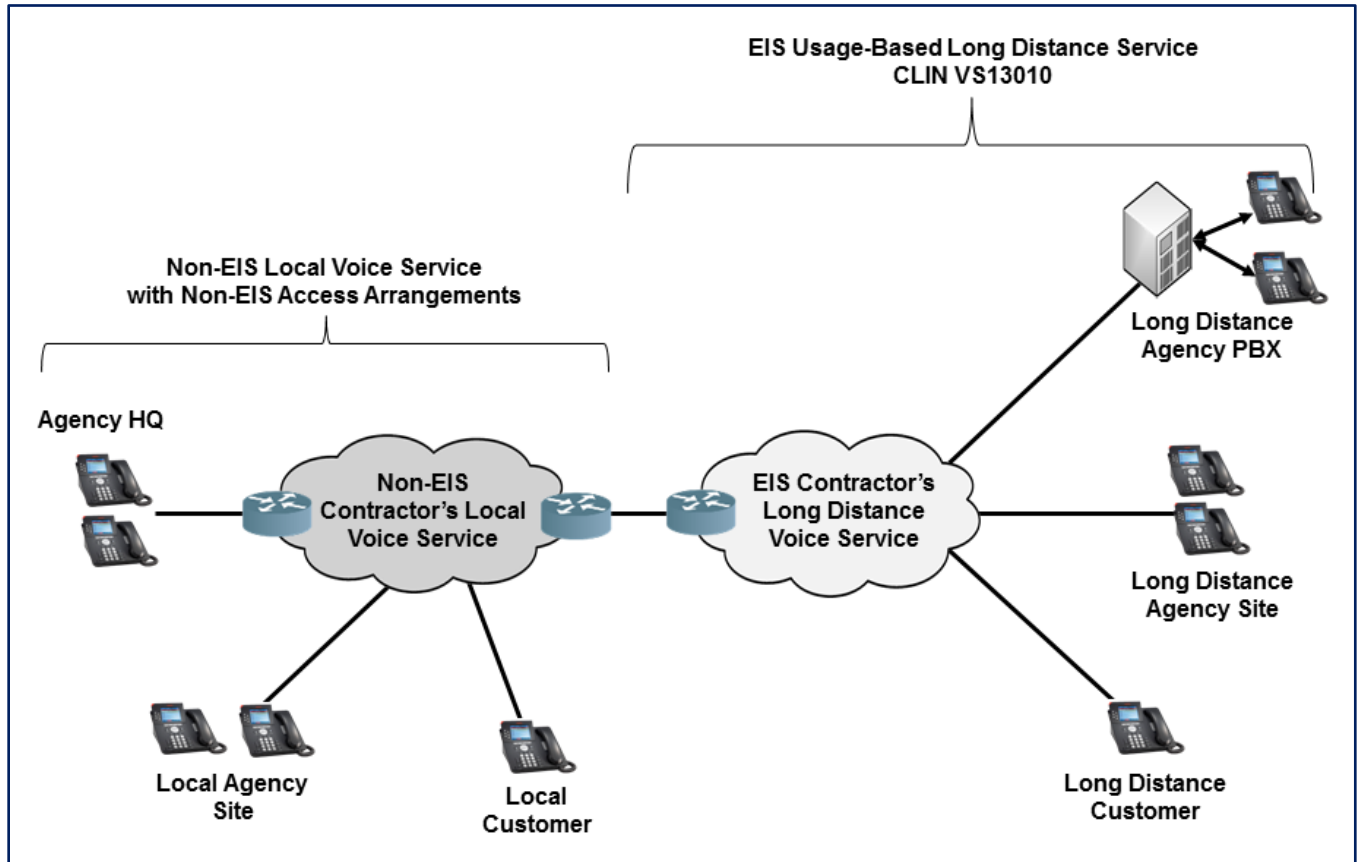
### Service CLINs

- Choose CLIN VS12210, “ISDN PRI: Unlimited Calling” (see EIS contract table *B.2.2.2.2.2—CSVS Unlimited CONUS or OCONUS Calling Plan Pricing Instructions Table*).
- Choose CLIN VS12415, “Caller ID” (see EIS contract table *B.2.2.2.3.3—CSVS General Features Pricing Instructions Table*).
- Choose CLIN VS12220, “ISDN PRI: Voice Mail” (see EIS contract table *B.2.2.2.3.4.2—CSVS Unlimited CONUS or OCONUS Plan-ISDN PRI Features Pricing Instructions Table*).

\*NOTE: Access charges for *Example 2* are not included in the CSVS fees as in *Example 1*. Hence, dedicated access for *Example 2*, must be obtained and purchased separately, and must be Basic Subscriber Line, ISDN PRI or ISDN BRI (see rows 1, 4 and 5 of EIS contract table *B.2.9.1.5—Access Pricing Instructions Table*).

### **Example 3: Non-EIS Local Voice Service with EIS Usage-Based Long Distance Service; within CONUS**

**Figure 5—CSVS Pricing Example using Non-EIS Voice Service with EIS Long Distance Service**



#### **Service CLIN**

- Choose CLIN VS13010, "Switched Access Origination" (see EIS contract table *B.2.2.2.1.2—CSVS Usage-Based Pricing Instructions Table*).

NOTE: This CLIN includes local and long distance service, but in this particular scenario, the agency, which has purchased local service elsewhere, would only be using the long distance service.

## 5. References and Other Sources of Information

- For more technical details and information on CSVS, please refer to EIS contract [Section C.2.2.2](#); for pricing details, [Section B.2.2.2](#).
- 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 CSVS 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.