SERVICE BACKGROUND

EXISTING INFRASTRUCTURE

The State relies heavily upon telecommunications to provide government services to the citizens of Alaska and to facilitate the internal communications necessary to conduct daily business operations. Although the State maintains local offices in many of the more remote areas of Alaska, the vast majority of the State’s telecommunications needs center on the triangle described by the major cities of Juneau, Anchorage, and Fairbanks (“the Core”). Each of these key population centers is connected via telecommunications systems that are served by local OIT telecommunications Network Operations Centers (NOC) and Data Centers. The Core is connected to community locations via distribution routers and several are co-located at facilities shared by the State and a private provider (LEC, ATT, ACS, GCI, etc.). The systems consist of telecommunications equipment at each node, high-speed transmission lines between nodes, circuits linking outlying communities to the closest node, and local lines connecting State agencies within these outlying communities. Various other systems, which are otherwise independently maintained and operated (e.g. the University of Alaska, Alaska Railroad) are also inter-connected to, and served by, this network.

The State relies on several backbone transport mechanisms as well as ancillary systems and services to meet its telecommunications needs. Many of these systems and related components are interconnected and not easily separated.

- **Core Phone System**: Growing number of 140 buildings in Juneau, Anchorage, Fairbanks, Ketchikan and Palmer.
  - 15,028 phones serving executive branch and partner agencies.

- **Small PBX (3rd party) & loop telephone maintenance and support services; locations & staff**
  - Anchorage (11-200), Juneau (5-120) and Fairbanks (3-250) – approx. 570 handsets
  - Matsu area (32 - 800) – approx. 800 handsets
  - Kenai Peninsula including Kodiak (52- 1000) – approx. 1000 handsets
  - Approximately 179 small PBX (s) in 57 communities with 3000 handsets

- **Long distance service**
  - Toll bypass using converged infrastructure(s) has eliminated much of the in-state long distance toll (Juneau, Anchorage, Fairbanks) using call manager programming, virtual telephony network methodologies, and our core backbone.
  - In-state long distance occurs in locations where direct connectivity to core VOIP systems are difficult and/or unreliable. These are small PBX (3rd party) served State sites.
  - Interstate long distance is provided using normal PSTN methods

- **Teleconferencing**
  - Audio-conferencing – There are several types of audio conference system options. Traditionally, contractors and OIT have provided several managed and unmanaged audio bridge services.
TELEPHONE SERVICE

OIT provides local and long-distance phone service to agencies in Juneau, Anchorage and Fairbanks through an interconnected voice switching system that includes three primary components:

- **Voice Platform using Cisco Call Manager, Unity voicemail, Contact Center, Survivable remote site telephony (SRST), Cisco emergency responder (CER 911), Meeting Place, Telecommunication relay services (TRS), Splunk for call detail records (CDR) and other components. I.e. Analog & PSTN gateways, IOS & QOS tools, ASA firewalls, Compression/quality CODECs, testing/monitoring software, leased circuits such as metro Ethernet, T-1, ISDN, OPX, and foreign exchange lines.**

- **Computer Telephony Integration services exist which may be purchased and maintained by agency business units based on the voice platform. The current list of CTI are IVR, instant messenger, call Recording, fax, paging/broadcast/random announcement, alerting, Leased circuits such as metro Ethernet, T-1, ISDN, OPX, and foreign exchange lines.**

- **Toll bypass through a variety of means**

As opportunities arise, agency locations will periodically ask to join the Core phone system. It is the State’s intent to support agency efforts, where agency funding is available, to convert agency-owned PBX and small (3rd party) services within any well-connected area of Alaska. This is estimated to be 10 or fewer locations per year.

**MEASURED TELEPHONE SERVICES (LONG DISTANCE)**

Long Distance (LD) for Interstate calls and Intrastate calls to destinations other than the three major Alaska population centers of Juneau, Anchorage, and Fairbanks, are provided by the Contractor on Primary Rate T1 Interface (PRI). Long-distance trunking and analog capacities for call manager, site survivability (SRST) and special purpose are: in Juneau 229, Fairbanks 111 and Anchorage 385. There are also several Line side t1 route patterns: in Juneau 22, Fairbanks 53 and Anchorage 112.

The State of Alaska Telecommunications System (SATS), a combination of State-owned microwave, fiber, copper along with leased lines, form a private network to carry calls between the major centers with no per minute costing. If the network is down or saturated it will automatically overflow calls to PSTN LD. A variety of line side trunk connections also exist from Anchorage for SATS network connectivity, customers in Wasilla (MTA), several locations on the Kenai Peninsula and Kodiak (ACS). These are primarily Public Safety and Department of Military and Veteran Affairs locations.

Virtual Telephony Network (VTN), is a service connecting some “3rd party” systems virtually into Core locations. The 3rd party locations interface to a LEC (GCI) with a PRI T1. Core VTN trunking capacities are: in Juneau (1 ea. PRI, 23 trunks), Anchorage (1 ea. PRI, 23 trunks) and Fairbanks (1 ea. PRI, 23 trunks).

Local calling is provided by standard T1 interface to a LEC. There are several direct terminations 800 inbound services for several customers. See Attachment J for recent minute usage, summary information.
AUDIO TELECONFERENCE BRIDGE SYSTEM

Audio-conferencing is available through a Cisco meeting place bridge maintained by the Contractor. OIT Help Center staff coordinates scheduling services and “800” toll free access as needed. State agencies are trending toward self-serve audio/video collaboration services. The State supports this approach and the phone system uses a hybrid configuration of Cisco WebEx.
SCOPE OF SERVICE

WIRED TELEPHONY SERVICES

The Contractor is required to take over all functions necessary to provide wired telephony services within Juneau, Anchorage, Fairbanks, Palmer (Palmer State office building currently), and Ketchikan (three buildings and the ferries of the Alaska Marine Highway System currently). This includes operation, maintenance, integration, routing, and repair of the State owned converged network, VOIP infrastructure, and all standalone PBXs and key systems, voice mail, ACD, and IVR systems.

The Contractor also provide services by third party Local Exchange Carriers (LECs), for example Centrex, local access trunks, long distance, etc.; and provides directory assistance service from their service centers located in the major metropolitan areas (Juneau, Anchorage, and Fairbanks).

Provide telephony services. Operate, maintain, and repair the State’s voice platform (IPT) telephony infrastructure to provide, at a minimum, the features that are in use today, including but not limited to: Cisco Call Manager, Unity voicemail, Contact Center, Survivable remote site telephony (SRST), Cisco emergency responder (CER 911), Meeting Place, Telecommunication relay services (TRS), Cisco Unified Border Element (CUBE), integration to Splunk or equivalent for call detail records (CDR), audio-conferencing, Caller Identification, Blocking, masking, call waiting, call forwarding, caller ID with name and number, Direct-Inward Dial (DID), call hold, multiparty conference call, call group pickup, last number redial, speed dial, automatic call back on busy, Analog & PSTN gateways, IOS tracks & QOS tools, ASA firewalls, Compression/quality CODECs, testing/monitoring software, and other features as required by State users.

- Provide Operations, Maintenance and coordination of Computer Telephony Applications
  Provide CTI platform support. Operate, maintain, and repair the State’s CTI Application infrastructure to provide support to current features that are in use today, including but not limited to: Call Center(s), IVR, integration to DOL call center software, Cisco Unified Border Element (CUBE), call Recording, fax, paging, broadcast, random announcement, intercom groups, instant messenger, alerting and other features as required by State users.

- Provide small PBX support (3rd party sites)
  Within Juneau, Anchorage, and Fairbanks, provide IP-based telephony services including consulting, needs assessment and design services. At agency request, provide design, acquisition, and deployment service to the core VOIP system.

Outside of Anchorage, Juneau and Fairbanks, and at agency request, provide consulting for design, acquisition, deployment and maintenance of small (3rd party) telephone systems. PSTN to IP network media gateway services for toll bypass will be considered during this process. In all cases, the provider must record requests, assOIT and activities in the SDM management system.
• **Identify and Eliminate Unused Voice and Data Lines**
  Monitor and update existing lines to reflect IMACD. Disconnect unused voice and data lines within 30 days of an IMACD. Ensure that costs to the State associated with line counts reflect active lines in use. Provide first report of disconnect proposal/status by end of first quarter after contract award. Provide annual report thereafter.

• **Support Designation of Class of Service**
  The State’s voice system must support the capability to define and program users for a class of service as designated by authorized State personnel; For example, limiting long distance calling ability from courtesy and/or reception area phones.

• **Provide specialty Telephone services and Support Calling Features**
  Provide State users with single line or multi-line telephone sOIT, including various calling features as specified by the State. For instance, provide maintenance for the installed code red system in Anchorage used by the HSS McLaughlin Youth Center. This service rings phones, creates call queues and turns on lights. There are other accessory systems deployed with the core IPT and PBX systems which are considered in-scope.

• **Provide Local Telephone Services**
  Provide direct-dial local telephone access and services for cities served by the VOIP system, i.e. Juneau, Fairbanks, Anchorage, Palmer and Ketchikan.

• **Provide Long Distance Services**
  Provide both in-state and out-of-state direct-dial long distance access and services without the requirement for the user to dial additional access codes.

• **Provide Calling Card Services**
  Provide calling card services, including long distance access, for State employees as required and designated by authorized State staff.

• **Provide Redundant Voice Connectivity Services for Critical State Telecommunications**
  State public safety agencies rely upon voice services for critical Safety of Life (SoL) communications. As such, these state agencies require redundant, independent voice service design and failover for the Public Safety Answering Points (PSAPs), communications centers, and other State designated mission critical sites.

• **Provide an Integrated Voice Mail System**
  Operate, maintain, and repair the State’s Unity voice mail systems in order to maintain, at a minimum, the features and functionality provided today.

• **Ensure Least Cost Routing**
  Continually ensure that the voice switching and transmission facilities are appropriately designed, configured and programmed to minimize the overall cost to the State on all outbound calls and routes. There shall be no unidentifiable billable telephone number (BTN) payments.

• **Project Tracking Billing**
  The State requires the ability to track and allocate costs on a by-project basis for certain types of intergovernmental projects. Provide project code call tracking and billing. The State may also provide billing on certain items to State agencies. Several State of Alaska agencies
currently utilize account codes. Depending on the agency, the codes are of differing lengths and can be verified or unverified. Verified codes have to match a predefined table for the call to proceed, unverified codes will not.

- **Manage Wired Telephony System Performance and Operations**
  Monitor performance and operations of the State’s voice switching, voice mail and enhanced telephony services system, audio teleconferencing system, etc., to ensure that the network is meeting performance and operational requirements as specified in the SLAs. Monitor and store traffic patterns and volumes by location to aid in on-going system changes or upgrades. Use proactive management practices to spot congestion, line and trunk saturation, call blocking, identify options for alternative routing. Make appropriate recommendations and take action to alleviate problems.

- **Maintain Internal Numbering Plan**
  Maintain the State’s current dial plan. Ensure that new services provisioned fit within the existing dialing plan. Calls must be identified by group/department and bills must be allocated to a group/department. Identify how internal calls will be processed and billed.

- **Provide Caller ID and Call Blocking**
  Provide Caller ID for all on or off net (local and long distance) state calls, as well as Caller ID blocking on a per call and/or per line basis for State lines as required.

- **Provide Toll-Free Telephone Services**
  Provide inbound toll free (800) telephone access and services for calls terminating on the State phone network.

- **Provide for 911 and VoIP E911 compatibility with local PSAPs**
  Provide 911 and VoIP E911 compatible interfaces for Cisco Call managers in Fairbanks, Juneau and Anchorage to their respective PSAPs.

- **Provide VoIP Converged Telephony, Data and Video Services**
  The State’s Voice system has deployed approximately 15,028 Cisco IPT phones at 140 sites operating in a converged voice, data, radio and video network. See Attachment J.

- **Documentation of the State of Alaska Networks**
  Contractor periodically updates all existing and ongoing system and network documentation for the life of the contract. This documentation shall be in Visio and may also exist as AutoCAD or paper format(s) and will remain the property of the State of Alaska.