# GENERAL REQUIREMENTS

## 1.1 PROJECT OVERVIEW

This procurement will result in the qualification of one or more vendors of Hosted Call Handling/ Call Processing Equipment (CPE) whose proposed solution(s) and services meet the requirements specified in this RFP. The expectation is that the vendor(s) will deliver a hosted call handling platform that can deliver service to the State of Alabama or any geographical area therein. The CPE must include all existing capabilities, functions, components and ancillary services to Alabama’s PSAPs either directly or in collaboration with other systems, services and providers in Alabama.

The qualified vendor is responsible for implementing their solution within the State of Alabama ESInet and must integrate the solution with the ANGEN System Service Provider. Integration activities will include collaboration on the planning and design for each PSAP as well as all test and turn-up. Other coordinated activities with the ANGEN System Service Provider may include:

* System sizing
* Bandwidth
* Logging
* Reporting
* Monitoring
* Maintenance
* Redundancy
* Backup and Continuity
* Value add services
* Integrated traffic delivery

The PSAPs throughout Alabama currently utilize the Alabama Next Generation Emergency Network (ANGEN) next generation 911 system for ESInet connectivity and next generation 911 core services. ANGEN also provides the delivery of Text to and from 911, disaster recovery and the ability to upgrade and enhance 911 across the state.

The Alabama 9-1-1 Board (Board) seeks to provide PSAPs across the state with options to upgrade their existing CPE to take full advantage of the benefits and efficiencies available through the use of the ANGEN network. Therefore, use of the ANGEN system in any proposed CPE system is required.

The Board may select one or more respondents from the proposals and pricing provided to implement the hosted call handling platform to Alabama PSAPs.

Through this procurement the Board seeks to procure CPE solutions that:

* Are designed to industry standard and best practices including the NENA STA-010.3 standard
* Provides or supports a foundation for NG911 and is designed to support or interoperate with core NENA STA-010.3 functionality
  + NENA STA-010.3 is only recently approved and vendors may not yet be fully implementing the requirements. Where this is the case the vendor is responsible for clearly identifying the roadmap to become NENA STA-010.3 compliant within 18 months.
* Is capable of handling multiple traffic sources that may be used to create an emergency request for service and support:
  + Session Initiation Protocol (SIP) call delivery for all traffic types
  + Legacy 911 call integration
  + ALI interface and delivery
  + CAD interface to PSAP
  + Integration to existing logging systems
* Are secure and resilient to cyber-attack, penetration, abuse or misuse
* Provide the ability to alarm, report, monitor, manage and support on a 24/7/365 basis down to the workstation level
* Supports increased fault tolerance, reliability, resiliency, continuity of operations and disaster recovery for the PSAPs of Alabama
* Supports Enterprise wide call accounting and data collection of the 911 system
* Can deliver 911 traffic to a connected PSAP 99.999% of the time measured annually

# TECHNICAL REQUIREMENTS

## 2.1 ALABAMA 911 BACKGROUND

There are currently 122 PSAPs in Alabama that coordinate with 86 ECDs. Each of Alabama’s 67 Counties has an ECD and there are nineteen (19) Municipal ECDs. Included in this count are PSAPs operated on a handful of military bases and at least one tribal organization.

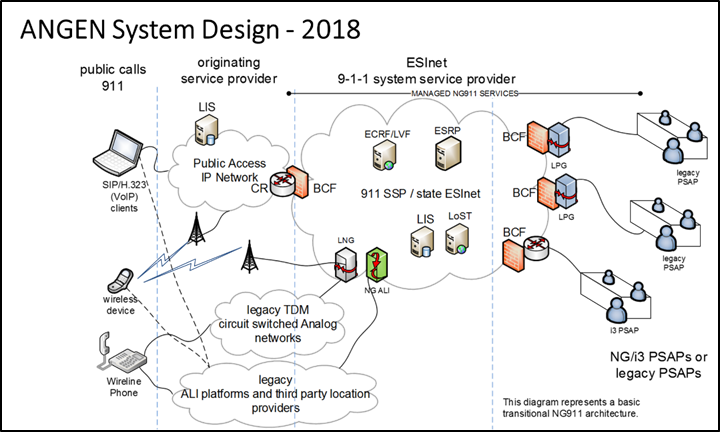
Alabama is currently in the process of deploying the ANGEN network. This is a build out of NG911 technology throughout the state. ANGEN is an NG911 system that will completely replace the analog 911 system in Alabama. The ANGEN network will adhere to the National Emergency Number Association’s (NENA) NG911 standard known as the NENA i3 standard (NENA STA010.2.2016). ANGEN includes features and functionality that allows for complete integration of Network, i3 functional elements, and hosted services for PSAPs.

The current evolution of ANGEN provides the following services to PSAPs:

* Next Generation Core Services (NGCS) – the receipt, processing, routing, and delivery of all 911 traffic types including wireless 911 callers, wireline 911 callers, Voice over Internet Protocol (VoIP) 911 callers, and text and other non-traditional call sources
* Enterprise-wide 911 Call reporting and data collection
* MEVO - Disaster Recovery and Continuity of 911 Operations
* Text for 911 Services - Text Control Center (TCC) operated for the receipt, processing, routing, and delivery of all Text to 911 and Text from 911 requests in AL

The Board’s primary goal for the 911 system in Alabama is to make the best use of the ANGEN system to provide the highest level of service to Alabamians and visitors. To that end, ANGEN also presents its users (the PSAPs) with the opportunity to take advantage of technological efficiencies and service improvement through integration with ANGEN capable CPE. Through the ANGEN project and this CPE selection, the Board seeks to ensure that state of the art public safety technology is available to every PSAP in Alabama.

The figure below illustrates the ANGEN NG911 Core Services (NGCS):



## 2.2 APPLICABLE STANDARDS

Respondents shall demonstrate their industry knowledge and describe their commitment to proposing standards based NG911 solutions and services.

The Board may disqualify or reject non-standard or proprietary systems that may hinder NG911 implementation, limit interoperability, or that might restrict the State from interconnecting to a regional or national 911 system in the future.

Throughout the duration of the project, Respondents shall maintain compliance with all standards and ensure that the products, solutions and services provided for the State of Alabama evolve and adapt as the standards evolve. Examples include:

| **National Emergency Number Association (NENA)**  **NEXT GENERATION 911 (NG911) Standards and Information Documents** | | |
| --- | --- | --- |
| NENA-INF-024.2-2018 (originally 04-502) | E9-1-1 PSAP Site Characteristics Technical Information Document | 2018/02/14 |
| APCO/NENA 2.105.1-  2017 | NG9-1-1 Emergency Incident Data Document (EIDD) (ANSI accredited) | 2017/01/03 |
| NENA-INF-011.1-2014 | NENA NG9-1-1 Policy Routing Rules Operations Guide | 2014/10/06 |
| NENA-STA-003.1.1-2014 | NENA Standard for NG9-1-1 Policy Routing Rules | 2014/12/01 |
| NENA-REQ-002.1-2016 | NENA Next Generation 9-1-1 Data Management Requirements | 2016/03/10 |
| 04-503 | Network/System Access Security Information Document | 2005/12/01 |
| 75-001 | Security for Next-Generation 9-1-1 Standard (NG-SEC) | 2010/02/06 |
| 75-502 | Next Generation 9-1-1 Security Audit Checklist Information Document | 2011/12/14 |
| NENA-INF-015.1-2016 | NENA NG9‑1‑1 Security Information Document | 2016/12/08 |
| NENA-INF-023.1-2017 | NENA Call Blocking Information Document | 2017/11/02 |
| 08-002 | Functional and Interface Standards for NG9-1-1 | 2007/12/18 |
| NENA-STA-010.3-2019 (originally 08-003) | i3 Standard for Next Generation 9-1-1 | TBD |
| 08-501 | Interface between the E9-1-1 Service Provider Network and the Internet Protocol (IP) PSAP Information Document | 2004/06/15 |

Respondents shall describe in detail in the response how they shall meet such standards in their solution.

**Federal Communications Commission Rules**

All equipment must conform to Federal Communications Commission (FCC) Rules Part 15, Class A (commercial, non-residential radiation and conduction limits) for electromagnetic interference (EMI).

**Other Industry Standards**

The proposed solution will utilize a network and system that has been designed to support NENA STA-010.3. Therefore, all proposed equipment must comply with applicable industry standards and meet the minimal thresholds that may be required of the ANGEN NG911 network. Vendors may be required to adhere to additional standards imposed by the ANGEN service provider which may include:

* Underwriters Laboratories (UL)
* International Organization of Standards (ISO)
* Open System Interconnection (OSI)
* Institute of Electrical and Electronics Engineers (IEEE)
* American National Standards Institute (ANSI)
* Electronic Industries Alliance (EIA)
* Telecommunications Industry Association (TIA), (including ANSI/EIA/TIA-568 Commercial Building Telecommunications Wiring Standards), etc.

## 2.3 OPEN STANDARDS

Respondents shall propose a system that utilizes an Open Standards methodology.

The proposed system shall ensure that proprietary standards and or protocols are minimized within the proposed system. Where systems utilize customized solutions, the vendor must identify the standard or protocol substituted and provide a narrative with regard to meeting the NENA STA010.3 requirement.

If proprietary standards or protocols are used within a proposed solution; Respondents shall disclose the proprietary nature and discuss any limitations that may result.

## 2.4 SYSTEM SERVICE PROVIDER HOSTED CALL HANDLING AND CPE REQUIREMENTS

The State of Alabama requires the implementation of a Hosted Call Handling / Call Processing Equipment (CPE) solution(s) to offer to PSAPs across the state. The Hosted CPE desired must be designed as a reliable and system‑stable solution to facilitate the handling and processing of all emergency 911 call types.

The Hosted CPE will be placed at the core of the ESInet as a geographically diverse interconnected platform and housed within a minimum of two Tier 3 or better Data Centers. The CPE must be reachable through the ESInet and accessible to all PSAPs. Any Data Center that is used to house the CPE must be designed in a redundant, survivable manner and have multiple geographically diverse connections to the ESInet.

Per the NENA STA-010.3 standard the Hosted CPE must be IP-based and shall fully comply with current NENA standards for NG911. The CPE shall provide the ability to process and deliver all potential 911 traffic. Per the NENA standard the CPE system must be capable of receiving and delivering Session Initiation Protocol (SIP) traffic to the PSAPs and will utilize the ANGEN NG911 system for connection.

The CPE solution must be a commercially available, and proven product that has a verifiable installed base and can be supported by certified local technicians.

Respondents shall describe the Hosted CPE solution in detail and explain the features, functions and connectivity necessary to operate the Hosted CPE solution. Network diagrams specific to the Hosted CPE solution should be included to identify the location of all points of interconnection, aggregation points, interfaces, primary and any additional routes and interconnection to data centers.

The description narrative shall explain the functionality of the CPE system by describing the traffic flow from ingress through the CPE to egress of the traffic at the PSAP.

The Hosted CPE system operation narrative must explain the system’s ability to process a variety of different call types including:

* Traditional analog E911 calls
* Wireless calls in compliance with the FCC Phase I and Phase II
* Voice over IP (VoIP) in native format
* Text Message (SMS)
* Multimedia messages
* Telematics messages such as Automatic Crash Notifications (ACN) through services like OnStar

### 2.4.1 SYSTEM CAPACITY

The Hosted CPE must provide the capacity to support the current PSAPs call volume and positions. At this time the Board recognizes 125 primary PSAPs with a call volume of 3.714M 911 calls annually, using 451 hosted answering positions. The vendor shall describe in detail how the CPE supports a flexible and scalable configuration that will accommodate the addition or subtraction of PSAP locations and meet any expected call volume increases over time.

The vendor shall describe in detail how the proposed system will support the ability for remote positions that may be needed during an incident and explain the flexibility for the CPE to aid in alternate and contingency routing to PSAPs.

The Vendor(s) shall recommend the size of the Hosted CPE based upon the capacity required to meet the requirements of this section. The capacity of the CPE and any sizing metrics used should be explained to allow the Board to evaluate the potential impacts on the entire systems.

### 2.4.2 CALL PROCESSING EQUIPMENT (CPE) SPECIFICATIONS

The hosted CPE system must provide the same level of service and appearance to the PSAP as though the CPE were installed locally. All existing call treatment functionality used by the PSAP must remain possible within the proposed system.

The CPE must allow Call Takers to answer 911 calls, non-emergency and/or administrative calls, ring downs, VoIP, TDD/TTY Text to and from 911, and make outbound calls.

Availability, redundancy, resiliency and reliability of the hosted CPE solution is a critical component of the operation. The hosted CPE must be configured to maximize the capabilities offered by the ANGEN NG911 platform and increase continuity of operations for all 911 traffic across the State.

The hosted CPE must be configured to avoid all single points of failure within the system or at the PSAP demarcation point. The vendor shall also describe the ability their solution to ensure that no traffic destined for a PSAP is blocked, delayed, or dropped.

The Board anticipates that in some cases the final configuration may depend upon the ANGEN NG911 platform which may impact the design. The vendor must expect to configure their proposed solution to integrate with the ANGEN NG911 system service provider and operate in direct collaboration to ensure coordination across the platforms.

If the hosted CPE in one data center fails for whatever reason the CPE in the other data center(s) must be capable of routing all traffic and ensure that calls in progress are not “lost.”

The hosted CPE will deliver the following functionality and be designed and implemented to achieve the following:

* An expandable switch configuration that results in a non-blocking fault tolerant platform
* Capable of scaling to meet the expected demand over time
* Every interface port will be able to detect and generate tones associated with 911 traffic delivery and will support audio conferencing directly at the PSAP and through the ANGEN NG911 system
* A failure within an active operational component will result in an automatic failover switch to a second server automatically resulting in no loss of service or capability

The hosted CPE solution will interface with current and future technologies. The CPE design and implementation will include a projected roadmap that identifies:

* That the hosted CPE is commercially available and has a proven track record with an identifiable installed base
* Potential decommission of existing equipment that may be eliminated at the PSAP and by the Originating Service Providers (OSP)
* Capability for integrating with CAD system(s) that are currently in use at the PSAP
* Flexible mapping capabilities to allow integration with existing mapping systems
* Coordination with existing local 911 system service providers and the ANGEN NG911 system service provider to ensure routing of calls to the CPE and out to the PSAP
* Coordination with existing OSPs and the ANGEN NG911 system to ensure routing of calls to the CPE and out to the PSAP
* Future technologies and enhancements to the hosted CPE that are planned or are being considered
* Ability to provide end-to-end IP connectivity and the delivery of SIP traffic to the PSAPs
* Ability to send real-time call detail records (CDR) for any 911 call and be capable of providing NENA STA-010.3 based logging features long term
* Ability to provide i3 logging information to the ANGEN NG911 system service provider as necessary
* That the hosted CPE allows for custom configuration changes made by an authorized PSAP support person
* Hosted CPE solution must support the use of Genovation keypad or other work aid input devices used by the PSAPs
* That the CPE is capable of integration with PBX system(s) that may be currently in use at the PSAP or by the ANGEN NG911 system service provider
* That the hosted CPE includes the ability for administrative lines to terminate on the system and be configured to allow the backhaul of admin line traffic
* That the hosted CPE provides SNMP compliant performance data to be monitored
* That the hosted CPE will be implemented in a hosted fashion that performs the functions of an ANI/ALI controller system and interface directly to the ANGEN NG911 system service provider for connectivity to the PSAP’s
* In the event of a failure of the active CPE host controller, switchover to the second CPE host controller must be automatic and result in no loss of active 911 calls, traffic or service
* The system will be configured to have a non-blocking, fault-tolerant switching configuration which expands as interface cards are added
* Have fault-tolerant site infrastructure with expected availability of 99.999 percent availability measured monthly
* Every interface port will have dedicated resources to detect tones, generate tones and support audio conferencing
* Power to each system will be delivered to the equipment such that the failure of a single power supply will still allow the redundant systems to function without loss of ability to process calls
* CPE specifications for power, heating, cooling, and uninterruptable power supply will be provided for both the equipment located at the CPE host locations as well as the PSAP answering positions
* All CPE will utilize dual processers for redundancy and operational resiliency and be deployed in active configurations at each host
* All ports utilized by the CPE for traffic associated with configuring the system will be shared with the ANGEN NG911 system service provider to ensure that traffic behavior is not limited due to ports blocking

Respondents must provide detailed descriptions of the hosted CPE equipment features, functions and capabilities as identified throughout this section. The response should include a narrative that demonstrates the full benefits of the solution as proposed and provide insight into the long-term plan for how NG911 Hosted CPE will operate.

### 2.4.3 CPE REQUIREMENTS

The hosted CPE shall be capable of hosting multiple PSAPs that are remotely located from the system controllers. All PSAP and end site locations require the ability to process all traffic and interconnect with the ANGEN NG911 system service provider. In addition, the hosted CPE must accommodate multiple telecommunication service providers that may provide direct connection to the PSAP. Each individual PSAP will access the hosted CPE through the ANGEN NG911 system service provider.

The vendor must ensure that the proposed hosted CPE system:

* Shall be configured to avoid 911 calls from being “lost.”
* Shall adhere to NENA STA010.3 and NG911 switch standards
* Shall be designed to support the negotiation of call fidelity via G.711 codec
* Shall meet the industry standard up time of 99.999%
* The hosted CPE interface shall comply with NENA STA-010.3 for the delivery of callback and location information to CAD, mapping applications and voice recorders
* Shall be capable of delivering location information to CAD and mapping applications via IP without a hardware or software upgrade being required
* Shall be compatible with the ANGEN NG911 system and the legacy 911 system

Respondents shall describe how the hosted CPE solution meets the requirements listed and provide examples that can aid the evaluation team in fully understanding the proposed solution.

### 2.4.4 HOSTED CPE SYSTEM AVAILABILITY AND RELIABILITY

The hosted CPE system must be designed and implemented to meet the 99.999% goals of reliability and availability. As defined:

* Reliability is the ability of a system or component to perform its required functions under stated conditions for a specified period of time.
* Availability is the degree to which a system or component is operational and accessible when required for use.

The hosted CPE solution must be designed and configured to ensure all traffic can reach a destination on the ANGEN NG911 system to meet 99.999% availability measured on an annual basis.

Availability will be measured according to the following calculation:



Reliability will be measured according to the following calculation:



Respondents must provide a detailed description of their hosted CPE and discuss the reliability and availability thresholds proposed. The description shall include discussion about process, practice or documented Mean Time Between Failure (MTBF) or Mean Time To Repair (MTTR) that may impact the availability of the system to deliver traffic.

### 2.4.5 GEO-DIVERSITY

The proposed CPE solution must have multiple physical geographically diverse connections to the ANGEN NG911 system to prevent a single point of failure. The implementation must ensure that the ANGEN NG911 system including the hosted CPE is physically and logically diverse and redundant.

Geo-diverse CPE equipment locations must be identified and adhere to the design criteria outlined in this document. The CPE must be configured as survivable nodes within the NG911 System operating in an active/active configuration. The primary metric of the potential geo-diverse configuration and mandatory requirement is that the hosted CPE will not allow 911 calls to be “lost” due to a local network segment failure present within the configuration.

The hosted CPE must accommodate the potential for interconnection to PSAPs that have their own CPE which may be provided from a different vendor. This may require a virtual separation for some PSAP implementations.

Respondents shall describe the hosted CPE system geo-diversity and include references to the ANGEN NG911 system where appropriate.

### 2.4.6 NG911 FUNCTIONALITY

The hosted CPE configuration shall be designed and implemented to ensure the ability to expand without a substantial upgrade. The desire is to implement a platform that is capable of meeting NENA STA-010.3.

Respondents must prepare to collaborate with the ANGEN NG911 system service provider to transition PSAPs to the host and migrate traffic to the CPE. PSAPs will be migrated to the hosted CPE solution over a period of time through the ANGEN NG911 system. Therefore, the hosted CPE must also be capable of processing legacy 911 traffic while offering NG911 functionality across the same common system.

The hosted CPE shall integrate with, and allow configuration to the ANGEN NG911 system and support each of the following NG911 functional elements that may be configured during the contract period:

* Emergency Call Routing Function (ECRF) call routing functionality
* Location Validation Function (LVF) and Location Information Server (LIS) interconnection
* GIS capabilities
* Mapping systems that are operated through CAD or CPE locally at the PSAP.
* Emergency Service Routing Proxy (ESRP) ability to route traffic inside the NG911 core
* Border Control Function (BCF) and session border control
* Legacy Network Gateway (LNG) performance
* Legacy PSAP Gateway (LPG) performance
* Legacy Selective Router Gateway (LSRG) performance
* Text-to-911 capability that may require an interface to a Text Control Center
* Text-from-911 capability that may require an interface to a Text Control Center
* CAD interfaces to the PSAP’s

Respondents shall describe the NG911 functionality of the proposed solution and discuss how the hosted CPE operates. Furthermore, the CPE must allow for the following performance objectives (at a minimum):

* Legacy 911 traffic delivery to a Legacy 911 PSAP
* Legacy 911 traffic delivered to an NG911 PSAP
* NG911 traffic delivered to a Legacy 911 PSAP
* NG911 traffic delivered to an NG911 PSAP
* All traffic flow for scenarios above
* Administrative reporting and logging

### 2.4.7 MULTI-MEDIA SUPPORT

The hosted CPE shall support the call types and traffic identified as part of the initial design. However the hosted CPE must also be capable of adjusting to changes made to the standards for new call types and multimedia traffic that are not currently identified requirements in this RFP.

Respondents shall describe the ability of the hosted CPE to handle multimedia calls and discuss the ability of the platform to remain flexible to support future paths within the contract period.

### 2.4.8 REMOTE POSITIONS

The hosted CPE shall support the deployment of remote workstations, telephone sets or other stations as necessary. The hosted CPE must continue to operate seamlessly and transparently if any remote positions are used. All remote workstations must provide the same functionality and access as the current local PSAP positions. Remote positions may include mobile command units.

Respondents shall describe how remote positions can be implemented in the solution and discuss their operation.

## 2.5 HOSTED CPE REPORTING AND DATA COLLECTION SYSTEM REQUIREMENTS

The hosted CPE solution must support the State by collecting data and generating 911 call reports on a statewide/system wide basis as well as the ability to support local and PSAP specific 911 call reporting from a centralized system/application.

The hosted CPE solution reporting and data collection system must provide for the ability to link the secure user ID login and password used with other components of the Hosted CPE solution (i.e. answering position logon) and include the ability to enforce minimal password requirements.

The hosted CPE solution reporting and data collection system must allow scheduling of automatic report generation and the ability to customize reports and run ad-hoc reporting on an as needed basis. Typical data capture information to be collected includes:

* Electronically capture and buffer Call Detail Records (CDR) at each individual answering position at each PSAP
* Securely capture call, text and operational data
* Ability of the buffering device to batch CDR payload, stamp it with capture time, encrypt it and deliver the CDR data using a secure and encrypted methodology
* Seamlessly report PSAP and larger jurisdiction 911 call statistics from one web-based location regardless of the CPE at the PSAPs
* Capture of information regarding the Hosted CPE systems overall system performance
* Provide a graphical dashboard, or map view of the Hosted CPE systems health and status that is accessible by the Board/Staff
* PSAP resources must be able to access of the dashboard
* Integration with the existing 911 Logix platform for all data collected for reporting at the State level

Respondents shall explain how the proposed hosted CPE solution will support these reporting and data collection requirements.

### 2.5.1 HOSTED CPE EVENT LOGGING AND REPORTING

The hosted CPE system will support 911 call Event Logging and Reporting and shall log and record the timing of transit for each 911 call payload for purposes of diagnostics, troubleshooting and operation.

All event reports must, at a minimum, include the functional element being reported and the system time of such event.

The hosted CPE system must provide, at a minimum, the following event reports:

* Time of payload entry through BCF
* Time for each functional element to perform routing and PSAP assignment
* Time of answer at PSAP
* Time of disconnect at PSAP

Respondents shall describe how event reports are created, what specific 911 call data is collected and logged.

### 2.5.2 HOSTED CPE SOLUTION CONNECTIVITY

The hosted CPE must utilize the ANGEN NG911 system to connect to the PSAP’s.

The hosted CPE system is the primary and critical system used for the processing of all traffic and call types. Therefore, the hosted CPE connectivity to the ANGEN NG911 system must be designed:

* To be redundant
* To be fault tolerant
* To ensure all legacy gateways provided by the ANGEN NG911 system support the routing functionality for all call types
* To include security measures in collaboration with the ANGEN NG911 system such as vulnerability minimization either through denial of service attacks or other malicious activity
* To ensure that all connections to the hosted CPE within the ANGEN NG911 system are capable and functional for IP and SIP call delivery to the PSAP
* To operate 24x7x365 including all typical and normal operating conditions. This includes system updates, system refreshes, equipment and /or hardware replacements, etc.

Respondents shall describe the feature functionality of the hosted CPE and document the connectivity to the ANGEN NG911 system.

#### 2.5.2.1 HOSTED CPE SYSTEM PROTOCOLS

All 911 traffic will be delivered to the hosted CPE system and be routed to the PSAPs by the ANGEN NG911 system. The hosted CPE system must utilize the ANGEN NG911 system for all connectivity and must be implemented through cooperation with the ANGEN NG911 system service provider.

Vendors shall describe the protocols required by the hosted CPE and identify the interfaces utilized to deploy the hosted CPE in compliance with the NENA STA-010.3 standards, the ANGEN NG911 system service provider and the requirements set forth in this RFP.

#### 2.5.2.2 HOSTED CPE SYSTEM BANDWIDTH

Bandwidth requirements for the hosted CPE shall be calculated based upon the position count, call volume and quantity of PSAPs. This calculation is necessary to calculate the required bandwidth to meet the entire expected call load. Calculation of bandwidth should consider the potential for additional, supportive and supplemental data can be delivered to the PSAP. Examples include multimedia data files associated with pictures and video from the public or first responders. The hosted CPE systems’ bandwidth and data throughput capacity must be able to be expanded as needed without a significant upgrade of software, replacement of hardware, or significant cost.

Respondents shall provide a detailed bandwidth summary and calculation measurement for the hosted CPE solution. Include any future development or product road map information as applicable.

#### 2.5.2.3 HOSTED CPE ADMINISTRATION AND MAINTENANCE

Administration and monitoring of the hosted CPE must be implemented in a manner that allows for local and remote visibility. This includes the ability to coordinate in the creation of trouble tickets with the vendor, and the management, escalation and resolution of the trouble.

The administration and maintenance tools must allow for:

* A single point of administration and management for upgrades to software, revisions to operating systems and security updates.
* A secure virtual private network (VPN) tunnel configured solely for remote administration.

**1. Severity level 1**

1st Level Support / response – Within 15 minutes

Continuous problem resolution/workaround effort until issue is resolved or recovered

2nd Level Support – within 2 Hours

3rd Level Support – within 4 Hours or upon Customer request.

**2. Severity level 2**

1st Level Support / response – Within 15 minutes

Continuous problem resolution/workaround effort until issue is resolved recovered

2nd Level Support – Within 4 Hours

3rd Level Support – Within 8 Hours or upon Customer request.

**3. Severity level 3**

1st Level Support / response – Within 30 minutes

2nd Level Support – Within 8 hours

3rd Level Support -- Within 12 hours or upon Customer request.

**4. Severity level 4**

1st Level Support / response – Within 1 Hour

2nd Level Support – 12 hours

3rd Level Support – Within 24 hours or upon Customer or Management request.

Respondents shall describe the administration and management of the hosted CPE and discuss the operational capacity to meet the desired severity levels identified.

#### 2.5.2.4 THREAT DETECTION

All publicly accessible connections to the hosted CPE require additional protection against security attacks from internal and external sources. All network interfaces to the hosted CPE that utilize a public Internet connection must be documented and provided to the State. The IP address, protocol operation and system function must be included in the documentation to allow for administration and operational control if threats are detected.

* If any firewalls are implemented in conjunction with the hosted CPE the configuration of the firewall and routing tables must be provided to the State.
* Additional methods for threat detection will require review by the State.
* Deliver real-time logs of activity to the State.

Respondents shall describe the ability to detect threats to the Hosted CPE system and the method for preventing threats from occurring.

#### 2.5.2.5 NETWORK AND SYSTEM CLOCK

The hosted CPE shall utilize an interface to a master clock for synchronization. The Vendor is responsible for ensuring that system timing is coordinated with the ANGEN NG911 system and is implemented as a function of the network to support all PSAPs that utilize the hosted CPE for 911 call processing. The network and system clock functionality must comply with NENA Standard 04 002 v4.

#### 2.5.2.6 HOSTED CPE SYSTEM ALTERNATE ROUTING CAPABILITY

The hosted CPE must be configured to allow the routing of calls to the ANGEN SSP for call delivery to the PSAP. The CPE must also be capable of supporting the routing of traffic to an alternate location, and system if a primary location is unavailable. It is required that the CPE vendor coordinate with the ANGEN SSP to integrate any alternate, secondary and tertiary routing into the proposed CPE solution.

Alternate and contingency routes must be able to be configured by the hosted CPE through the ANGEN SSP system to allow proper routing to an available PSAP with the resources necessary to handle the call volume. The current ANGEN SSP provides a disaster recovery system (MEVO) that must be integrated into the proposed CPE call routing flow. Alternate routes must be able to be configured dynamically via a policy routing function in coordination with the ANGEN SSP.

Respondents shall describe how the alternate routing capability operates and discuss any limitations to create a flexible routing platform.

#### 2.5.2.7 911 TRANSFERS

The hosted CPE must allow for 911 traffic to be transferred to any other position internal to the hosted CPE system, the ANGEN NG911 system, and externally to networks such as the public switch telephone network (PSTN). The hosted CPE will allow 911 traffic to be transferred by the telecommunicator at one PSAP to a telecommunicator at another PSAP.

This functionality is required for all 911 traffic regardless of origination or call type. Transfer capabilities must also anticipate transferring calls to other destination(s) that may require information to support a call such as military installations.

* Legacy PSAP transfer traffic to a Legacy PSAP
* Legacy PSAP transfer traffic to an NG911 PSAP
* NG911 PSAP transfer traffic to a Legacy 911 PSAP
* NG911 PSAP transfer traffic to an NG911 PSAP
* All traffic flow for scenarios above
* Administrative reporting and logging

Respondents shall describe the 911 call transfer capability.

#### 2.5.2.8 HOSTED CPE SELECTIVE TRANSFER

The hosted CPE must include the ability to populate a list of responding agencies by discipline (law enforcement, fire, EMS, etc.), based on the ALI information presented at the PSAP. This function may be configured to utilize a separate window display and may also allow the telecommunicator to use a map display at some PSAPs to geographically select transfer locations via a map.

The hosted CPE shall allow connected users the ability to connect to or initiate calls to responders through a single mouse click, keystroke, or keypad entry.

Selective transfer information must be updated dynamically to avoid discrepancies and minimize errors.

Any selective transfer list that is populated must allow Call Takers the ability to sort and filter the contents to allow for the proper contact to be selected in a rapid manner.

Respondents shall describe the selective transfer capability of the hosted CPE solution

### 2.5.3 HOSTED CPE SOLUTION VOICE QUALITY

The Mean Opinion Score, or MOS is a measure that quantifies by numerical representation, the quality of received calls. MOS is a measure that can identify performance issues within the hosted CPE System. Therefore, MOS is an acceptable performance measurement to serve as a baseline for the call processing system.

The hosted CPE System shall maintain a MOS of four (4) or higher per the numerical measure set forth in the table below. Vendors must describe the methodology to be used to meet this target and provide ongoing measurement to ensure voice quality.

|  |  |  |
| --- | --- | --- |
| MOS | Quality | Impairment |
| 5 | Excellent | Imperceptible |
| 4 | Good | Perceptible but not annoying |
| 3 | Fair | Slightly annoying |
| 2 | Poor | Annoying |
| 1 | Bad | Very annoying |

Respondents shall describe how they measure, log and report on voice quality. If the MOS score is used provide a description of how the hosted CPE will be regularly tested to achieve a MOS score of 4 or higher.

#### 2.5.3.1 HOSTED CPE SYSTEM DIAGRAMS

Accurate as-built information in the form of configuration diagrams, subnet plans and implementation punch lists are required. All documentation between the hosted CPE and interconnections to the ANGEN network that provide call delivery and NG911 functions will be documented to support the administration and operation of the system. The documentation is required to show:

* Hosted CPE locations and configurations.
* Hosted CPE connectivity and redundancy.
* NG911 system interconnection and connectivity.
* Hosted CPE specific NG911 functionality including connectivity to legacy providers or ancillary systems as necessary.
* Equipment utilized for creating the 911 call path and its capabilities.
* Any hardware components that represent a potential access point external to the network that could present a vulnerability.

Respondents shall provide system diagrams of the hosted CPE solution to document the topology and demonstrate how the system is designed, built and implemented. The as-builts will become a foundation of the configuration management database used to support the PSAPs and to manage the hosted CPE solution/service.

#### 2.5.3.2 ABANDONED CALL INFORMATION

The hosted CPE shall support the collection of Automatic Number Identification (ANI) digits and processing the ALI lookup regardless of the condition of the call: active or on-hook.

* The hosted CPE will collect the ANI data immediately after a trunk seizure event on the 911 trunk and then process the ALI lookup.
* The ANI of the abandoned caller shall be available for viewing by the telecommunicator and the abandoned call shall remain in queue with still active 911 calls.

Respondents shall describe the abandoned call capability.

#### 2.5.3.3 AUTOMATIC CALL DETAIL RECORD

The hosted CPE must capture the Call Detail Record (CDR) automatically, and store all available information pertaining to each 911 call irrespective of call type, on the server that allows access by or connectivity for state-wide reporting purposes.

Respondents shall describe the automatic call detail record capability of the hosted CPE system and provide a copy of the CDR data schema for review and evaluation.

#### 2.5.3.4 HOSTED CPE SYSTEM REDUNDANCY

The hosted CPE configuration must be implemented so that any failure of one component or module will not result in total system failure. The hosted CPE will have dual processors.

Geo-diverse CPE controllers must provide backup and redundant capabilities in a manner that does not drop a 911 call. This requirement includes the ability to ensure that active calls on one host controller are not “lost” due to a failure of that hosted CPE controller. The second hosted CPE controller must be capable of processing the in progress/live 911 call with minimal disruption and without disconnecting the parties on the call at the time of the service disruption.

All vital system components must be protected through the use of redundant components where appropriate to avoid an outage due to a single component failure.

Respondents shall describe the redundancy capability of the hosted CPE and discuss how calls are handled in the event of a system failure of one of the hosts.

#### 2.5.3.5 HOSTED CPE SYSTEM FUTURE EXPANSION

The hosted CPE must be capable of meeting today's PSAP needs, as well as allow for future expansion of additional PSAPs and to meet anticipated future population growth in Alabama. The initial configuration of the hosted CPE solution deployed in contract year 1 must not require the wholesale replacement or forklift upgrade of the hosted CPE system equipment in contract year 5 in order to keep up with any system changes due to population growth or configuration as directed by the Board on behalf of a PSAP.

The hosted CPE must be capable of flexible expansion caused by an annual increase in the number of incoming 911 calls processed system wide (regardless of call type), changes in the number of answering positions at a PSAP or system wide, or changes to the number of PSAPs or end points served by the hosted CPE.

The hosted CPE system must be designed using open standards and industry best practices so that additional functionality may be added as it becomes available without requiring a major revision of the underlying application programming of the Hosted CPE controllers or answering positions.

Respondents shall describe the expansion capability of the hosted CPE solution.

#### 2.5.3.6 Hosted CPE System Maintenance and Remote Access

Respondents shall describe the maintenance access capability of the hosted CPE and discuss any potential access / authorization parameters that will be used to avoid unauthorized access.

#### 2.5.3.7 Instant Recall Recorder

Telecommunicators at the PSAP must have the ability to instantly play back the recording of any call from their assigned workstation. This includes calls that were not answered at their workstation.

The hosted CPE shall include a method to complete an instant call replay. A method for the use of Instant Recall Recorder (IRR) must be documented and training provided. The IRR must integrate with the existing operating environment within the PSAPs.

The hosted CPE shall support the IRR functionality between the components in use at the PSAPs (CAD, radio consoles, Logging). Initially the IRR will physically reside in the PSAP. Later this functionality will be offered as a hosted component to the PSAPs.

Interface to the IRR system must utilize simple to use controls such as those utilized with a DVR. The user must have the ability to move to any portion of a call during the playback and identify or mark a section of the call recording as needed. The hosted CPE must allow the telecommunicators to play back a call that is still in progress; either to another PSAP workstation internal to that PSAP or to an external location reachable through the ANGEN network. The time frame for providing access to calls with the instant recorder must be configurable by a system administrator and the minimum duration that calls are accessible through the instant call recorder is 48 clock hours, not recording time. Describe how the proposed solution will meet this requirement.

At a minimum, the IRR capability will provide the following features:

* Play
* Pause
* Stop
* Play forward/fast forward
* Mark
* Rewind
* Repeat
* Forward file to another position
* Display ANI
* Display Calling Line ID (if available)

Proposed solutions must accommodate multiple handset and headset configurations at the PSAPs as well as accommodating any integrated systems that might also produce audio for an IRR function (i.e. radio consoles). Two (2) channel IRR capabilities are a requirement.

Respondents shall describe the instant recall recorder capability and discuss how the functions will be integrated into PSAPs as they turn up onto the ESInet.

#### 2.5.3.8 Logging Recorder Interface

The hosted CPE must be capable of accommodating a variety of logging recorder configurations already in place at Alabama PSAPs. Many PSAPs have an existing logging recorder that is SIP capable and that will remain in operation. Other Alabama PSAPs may choose to maintain different logging recorder configurations.

The hosted CPE shall allow for a flexible interface or standardized API to those logging solutions that are not centralized with the Hosted CPE solution unless it is determined that a PSAP logging recorder is incompatible with NG911 and non-upgradable. In these circumstances the hosted CPE system should centrally record the calls by offering a hosted logging recording system associated with the host controllers.

Respondents shall describe the Hosted CPE systems logging recorder interface available to PSAP logging recorders in use by PSAPs today and discuss how the system may be augmented in the future to utilize a hosted logging solution supporting all PSAPs regardless of local logging recorder implementation.

### 2.5.4 HOSTED CPE SYSTEM CALL PRESENTATON

The hosted CPE shall allow both audible and visual methods of notifying a telecommunicator that a 911 call is being presented to the answering position. Telecommunicators must be able to hear the audible alert with or without a headset on and be able to clearly see a visual alert while they are at their workstation.

The following are call presentation requirements:

* Telecommunicators must be able to answer a call with either a mouse, keyboard, or keystroke
* The call presentation ability must be flexible to allow assignment of function keys for particular actions
* Telecommunicators must have the option of using either a handset or a headset at their workstation based on preference
* Selected CPE answering positions must support common six-wire plugged and wireless headsets marketed for PSAP use today, and not be “certified” to support just one specific headset
* The call presentation should also support the ability for two handset\headset devices per workstation (call taker and trainer)

Respondents shall describe the presentation capability of calls at the PSAP, including any limitations in the use of headsets or handsets as necessitated by individual PSAP workstation configurations.

#### 2.5.4.1 Telecommunicator Log-on

The hosted CPE must allow users to log-on manually with a username and password combination. Upon successful completion of the log-on, each telecommunicator will be presented with a selection of preconfigured roles such as Fire Dispatch, Law Enforcement Dispatch, telecommunicator etc.

The screen layout presented to the telecommunicator must be based on the role accessed through the log-on process.

* If a user or role combination has not been defined for a specific telecommunicator, the screen layout presented to the telecommunicator must be based on a default role defined by the PSAP
* Telecommunicator must be able to log-on at any position associated with the Hosted CPE solution and will be presented with an identical screen layout associated with the selected role
* Telecommunicator must be able to utilize a single sign on (SSO) capability to log onto the system one time to reach the capabilities desired
* Specific Screen configuration shall be able to be saved and presented the next time a call taker logs on

Respondents shall describe the telecommunicator logon capability and discuss a single sign on (SSO) process. If the process uses Active Directory, discuss how the A/D function is integrated to or with any A/D function being used throughout the ANGEN NG911 system.

#### 2.5.4.2 Ring-tone and Trunk-Line Functionality

The hosted CPE must allow the ability to establish a distinctive ringtone. Ringtone distinctions must be customizable and configurable based upon the preferences of the PSAP.

Distinction in ringtones is commonly used for the following identified trunk lines:

* 911 calls must have different audible and visual signal from other calls
* Dedicated supervisor line
* Non-Emergency lines
* POTS lines
* Disaster lines
* Other specific lines identified for incoming calls

Respondents shall describe the capability of the hosted CPE to alter ring tones or alerts based upon line at the PSAP answering positions.

#### 2.5.4.3 Call Answering

The hosted CPE must allow calls in queue to be quickly identified and retrieved. The CPE must be configured so that no 911 call can be and/or remain in a queue if there is an available telecommunicator anywhere within the ANGEN system.

The following are call answering requirements:

* 911 will always take precedence over non-emergency, ring downs, alarm lines, etc.
* The answering of a 911 call will result in the oldest 911 call being displayed at the top of the call queue and presented to the next available workstation.
* Hosted CPE solution must support the ability for Automatic Call Distribution (ACD) for PSAPs having more than 3 positions.

Respondents shall describe how 911 calls are queued, identified and answered and the ACD capabilities available to PSAPs as part of the Hosted CPE solution.

#### 2.5.4.4 Call Distribution

The hosted CPE must allow for the distribution of calls to be configurable and include:

* Ability to distribute calls seamlessly from the ANGEN system to a PSAP based upon specific PSAP parameters
* The ability to override the call taking rules based upon extenuating factors which may require calls to be forced to a particular location
* The ability for emergency calls to integrate ten-digit lines at the PSAP if necessary
* Indication of incoming emergency and non-emergency calls by both audible and visual means
* Visual display of the status of each emergency and non-emergency call (connected, ringing or on hold)
* A method for a supervisor or other authorized staff member to modify the system sounds and button icons to meet their local preferences

Respondents shall describe the call distribution capabilities available from the hosted CPE.

#### 2.5.4.5 Terminating ESRP Routing Status

The hosted CPE should include the ability for a visual display of the routing status of any 911 call sessions being controlled by the terminating ESRP, including:

* Normal Status - the original attempt to route the call was successful.
* Overflow Status - the original attempted route was busy or congested.
* Alternate Status - the original attempted route failed or was unsuccessful and an alternate route was attempted
* Transfer Status - the call was transferred
* Not Available - no routing status was received

Respondents shall describe ability of the hosted CPE to display routing status of a 911 call.

#### 2.5.4.6 Graphical User Interface

The hosted CPE answering position must include a Graphical User Interface (GUI) that allows a telecommunicator to personalize the CPE screen layout according to the preferences of the individual PSAP. The GUI must allow for a quantity of windows to be located and docked in a position on the screen deemed most optimal by the supervisor.

* The hosted CPE must provide a user friendly, searchable help file accessible from the PSAP position
* The hosted CPE screen layout must be automatically locked when the Call Taker logs into the answering position
* Only the Supervisor may have the ability to restore the original screen layout
* The hosted CPE must ensure that an interface port for manual printing of location and TDD/TTY conversation or other media upon call release is functional at the PSAP

Respondents shall describe the graphical user interface.

#### 2.5.4.7 Status Windows

The hosted CPE should present the status of the following categories:

* Number of Active 911 Calls
* Number of 911 Calls on Hold
* Number of 911 Calls Ringing
* Number of Active Telecommunicators

Users must be able to open windows for each status category to obtain more information about calls in each category including:

* ANI data
* Trunk information
* Position and workstation identification
* Telecommunicator identification

Respondents shall describe the status window capability and provide details to support the bulleted items.

#### 2.5.4.8 Automatic Number Identification (ANI)

The hosted CPE must allow for a visual display of the emergency caller's telephone number and it must be viewable at the PSAP. The hosted CPE must be responsible ensuring that the ANI display meets the NENA STA-010.3 compliant standards for ANI display.

Respondents shall describe ANI display capability.

#### 2.5.4.9 Automatic Location Identification (ALI)

The hosted CPE must allow for a visual display of the calling party's street address information based on legacy ALI. This display must be viewable at the PSAP. The hosted CPE must be responsible for ensuring that the ALI display meets the NENA STA-010.3 compliant standards for ANI display.

The hosted CPE must also allow the ability to extract geographical coordinate information from the ALI file received and allow the transmission of the information to geographical mapping software within NENA STA-010.2 standards.

* The hosted CPE must include training and document how ALI rebid may be configured by each PSAP as to the number and frequency of intervals on a per wireless provider basis
* The hosted CPE must guarantee that ALI data is appropriately and consistently displayed when interfacing with different ALI providers that send their information in various formats (e.g. wireline versus wireless)

Respondents shall describe ALI display capability.

#### 2.5.4.10 Telecommunication Device for the Deaf/Teletype (TDD/TTY)

The hosted CPE must ensure the capability of receiving calls from TTYs and present them to the remote PSAP. To ensure TTY remains operational the CPE must recognize baudot tones and display text, as well as accept typed text and generate baudot tones on either 911 calls or ten-digit emergency lines. Many PSAPs utilize TTY for text services. The hosted CPE must ensure that the capability for receiving text to 911 is functional utilizing the hosted solution.

Additional specifications are as follows:

* Telecommunicator must be capable of manually connecting to emergency calls originating from ASCII- type TDD/TTY equipment, as well as originating both baudot and American Standard Code for Information Interchange (ASCII) calls from their answering position
* Telecommunicator must be able to store and access a minimum of twenty (20) pre-programmed TDD/TTY messages, as well as to print the previous TDD/TTY conversations
* Telecommunicator must have the ability to create a conference between the TDD/TTY caller and up to four (4) non-TDD/TTY parties either in 911 call-taking mode or administrative call-taking mode
* The TDD/TTY function must allow a telecommunicator to transfer a TDD/TTY call to another telecommunicator position
* The TDD/TTY function must allow the telecommunicator to alter its operation to comply with Americans with Disabilities Act (ADA) requirements for Hearing Carry Over (HCO) and Voice Carry Over (VCO) calls
* Any two-way TDD/TTY conversation and text information shall also be stored on the CPE

Respondents shall describe TDD/TTY functionality and discuss the display capability.

#### 2.5.4.11 Hosted CPE system capabilities

The hosted CPE capabilities must at a minimum, deliver the same functionality as though the CPE were located at the PSAP. Capabilities listed below must be included in the CPE system to ensure that the CPE performs as desired.

* The hosted CPE must allow the telecommunicator to view the information of at least the last 10 calls released at the answering position
* The hosted CPE must allow for communication between workstations via broadcast messaging, or instant messaging from each PSAP workstation and be configurable or disabled according to individual PSAP requirements
* All messages must be logged and accessible by a system administrator
* The hosted CPE must allow for automatic updates to the location information at regular intervals and in particular when connected to CAD based mapping solutions
* The hosted CPE must allow telecommunicators to remain on a call and add a new party to the conversation without putting the original caller on hold; the original caller must remain on the line at all times
* At a minimum, the CPE must support up to 10 simultaneous conferences of up to 10 parties each with the allowance that individual parties may drop out without causing the entire call to drop
* The hosted CPE must maintain a log of all calls and include the ANI/ALI information associated with the call.
* The hosted CPE must maintain call history by call back number and allow accessibility to call history
* The hosted CPE must provide a clear display indicating which lines and or trunks are connected to an active call and demonstrate when a line has disconnected, either by the party or as the result of a forced disconnect.
* The hosted CPE must include status monitoring and display that presents the current status of the PSAP, including but not limited to: personnel on-duty, calls pending, calls active, abandoned calls, positions logged-on, positions available, positions busy, etc.
* The hosted CPE will allow telecommunicators to refuse an incoming 911 call
* The hosted CPE must allow a Supervisor to barge into an existing call by clicking on the appropriate indicator on their screen or pressing the appropriate line appearance on the telephone
* Any authorized telecommunicator supervisor will have the ability to silently monitor to another Call Taker’s 911 conversation
* Call Takers must have the ability to update their availability to answer calls without having to completely log out
* Telecommunicators must have the ability to add comments to a phone record that will automatically display on future calls from that phone number
* The hosted CPE must include the ability to alert telecommunicators, both visually and through a distinct tone, of a call that was abandoned and allow callback with a single action
* The hosted CPE must provide that all abandoned calls are clearly and distinctly displayed for the telecommunicator with ANI/ALI information
* The hosted CPE must provide logging of call-handling activities
* The logs must be accessible from a centralized location and available through the system’s reporting feature
* At a minimum, logs must capture login and logout, non-911 associated calls, and other such events
* Call Takers must be able to mute any participant in a conference and must be able to exclude any participant from hearing other parties in the conference to allow for private consultation if necessary
* Telecommunicators must have the ability to block a caller from **hearing and talking** during a conference
* Telecommunicators must be capable of releasing an existing E911 call at any time
* A speed dial function must be implemented with a pre-programmed list of contacts with flexible search capabilities
* Telecommunicators must be allowed to initiate a speed dial simply by clicking on an icon
* Calls must be capable of being transferred to other PSAPs utilizing a list for pre‑programmed star codes
* The hosted CPE must have the ability to callback a 911 caller by dialing the ANI received during the call setup
* All answering positions connected to the CPE must permit the Telecommunicator to place up to five 911 or administrative calls on hold
* The hosted CPE must store the ANI/ALI information while the call is on hold
* Telecommunicators, with appropriate system permissions, will be capable of temporarily removing themselves from a ring group (call queue) in order to conclude a previous call or perform another task such as radio dispatch while remaining logged on
* Telecommunicators will have the ability to click a single "Make Busy" icon to remain logged on but not in a queue to receive calls

Respondents shall describe the overall hosted CPE system capabilities and address each of the bullet item in the response.

### 2.5.5 HOSTED CPE / CAD INTERFACE

The hosted CPE must support a direct interface to the existing CAD system(s) in operation at the PSAP. Later a hosted CAD may be an option for the PSAPs. A seamless interface that permits full system integration between the CAD system and CPE to support the delivery of all calls to a PSAP regardless of type, version and method of CAD must be available.

The hosted CPE must allow the transfer of call information via CAD to external systems, consistent with applicable standards, guidelines and/or best practices, as they now exist or may exist in the foreseeable future.

Respondents shall describe the ability to interface with existing, disparate CAD systems that may be operational for some period of time.

### 2.5.6 MAINTENANCE SPARES

It is a requirement that the proposed Hosted CPE solution include maintenance spares and the respondent shall provide a list including functional descriptions and quantities of each item categorized as spare for the Hosted CPE system. All critical system components, including but not limited to; network routers, network hubs, Server hard drives, jack-boxes, gateways, monitors, fully equipped workstations, integrated & standalone power supplies, ACD circuit cards, audio interfaces, operating system & application recovery tools, etc. Describe how the proposed solution will meet this requirement.

### 2.5.7 ADMINISTRATIVE PHONE LINES

The Board is interested in maintaining, continuing or improving the administrative phone system options for PSAPs that currently utilize the CPE as an administrative telephone interface. Respondents shall describe how their proposed hosted CPE solution will accommodate the administrative phone system requirements for PSAPs that have administrative telephone lines configured within the CPE at their PSAP.

Respondents should provide pricing for administrative phone systems.

## 2.6 SYSTEM SERVICE PROVIDER COORDINATION REQUIREMENTS

The State of Alabama has implemented an Emergency Services IP Network (ESInet) and Next Generation Core Services (NGCS) to support all PSAPs. ANGEN is provided by a single System Service Provider (INdigital communications). Respondents to the requirements of this RFP must coordinate their entire hosted CPE package with the INdigital provided ESInet and utilize ANGEN for the primary connectivity.

Respondents must indicate their compliance with coordinating with the system service provider as required for the project.