

Exhibit B - Technical Requirements

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Instructions:

For each requirement listed in this document, select **Yes** or **No** to indicate whether the proposed 9-1-1 Call Processing Equipment (CPE) solution meets the stated requirement.

Yes:

Select **Yes** if the Bidder's proposed solution **fully complies** with the requirement **as written**.

This means the Bidder's solution supports, provides, or performs the capability exactly as described.

For requirement 1.2, please list the FedRAMP High provider.

No:

Select No if the Bidder's proposed solution **does not comply, partially complies, or cannot meet** the requirement as written.

If **No** is selected, the Bidder may be deemed non-responsive for that requirement.

1 Critical Requirements

- 1.1 The Call Processing Equipment (CPE) solution shall be commercially available and proven, with a verifiable installed base and supportable by certified local technicians. Any Bidder who has had call processing equipment removed from installation in the State of California (CA) due to technical issues within the last five (5) years does not have viable CPE.

Yes ☐ No ☐

2 Compliance and Standards Requirements

- 2.1 Shall follow the NENA i3 standard for call handling as defined by the Cal OES Interface Control Document (ICD).

Yes ☐ No ☐

- 2.2 Shall follow the Cal OES ICD for all connectivity, interfaces, and network architecture.

Yes ☐ No ☐

- 2.3 Shall use the PSAP Credentialing Agency (PCA) to generate certificates, the top-level certificate authority for NG9-1-1 in California, which is administered by the CA 9-1-1 Branch and is implemented by the NG Bidder.

Yes ☐ No ☐

- 2.4 Shall have redundant components such that no single component failure results in a loss of service or capability.

Yes ☐ No ☐

- 2.5 Shall ingress, display, and send Real Time Text (RTT).

Yes ☐ No ☐

- 2.6 Shall support integrated text-to-9-1-1, as defined by the Cal OES Interface Control Document (ICD).

Yes ☐ No ☐

- 2.7 Shall ensure that proprietary standards and or protocols are minimized within the proposed CPE system. Where systems utilize customized solutions, the

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Contractor shall identify the standard or protocol substituted and provide a narrative with regard to meeting the NENA i3 requirement.

Yes ☐ No ☐

- 2.8 Shall implement new industry standards in accordance with the Cal OES ICD, within the timeline directed by the CA 9-1-1 Branch after consultation with the Contractor.

Yes ☐ No ☐

- 2.9 Shall process and deliver all potential NENA i3 9-1-1 traffic from multiple NG 9-1-1 service providers per the Cal OES ICD.

Yes ☐ No ☐

- 2.10 Shall use the California Next Gen Service Provider's core services for all transfers of i3 calls in accordance with the Cal OES ICD.

Yes ☐ No ☐

- 2.11 Shall process SIP, CAMA, and analog traffic for both emergency and administrative call types.

Yes ☐ No ☐

- 2.12 Shall be designed to FCC best practices and NENA i3 standards, including NENA STA-040 (NG-SEC) and 75-502 (NG Security Audit Checklist).

Yes ☐ No ☐

- 2.13 CPE ANI/ALI display and refresh shall meet the minimum requirements in the NENA standard.

Yes ☐ No ☐

- 2.14 Shall accommodate the most current Statewide ALI format and must be configurable at no cost for any future changes.

Yes ☐ No ☐

- 2.15 Shall be NENA i3 compliant as defined by the Cal OES ICD at the time of NG network go-live. If call handling is not i3 compliant, Bidder will be provided 6 months to bring the call handling into compliance, at no cost to the State of California.

Yes ☐ No ☐

- 2.16 Any component (e.g. routers, firewalls, gateways, switches, servers, etc.) that has been announced as end-of-support within one year of installation is not acceptable. If a device or software goes into end-of-maintenance/support status within the contract period, its equivalent or better current manufacture will be installed at the contractor's expense unless agreed otherwise.

Yes ☐ No ☐

- 2.17 Shall be capable of requesting location from any LIS using HELD or SIP Presence Subscription as described in NENA-STA-010.3.

Yes ☐ No ☐

- 2.18 Shall support STIR/SHAKEN. Attestation level, as determined by the STI-AS in the NGCS will be visually displayed to the call taker, and if less than "A" level, highlighted. Visual treatment shall be configurable by the PSAP.

Yes ☐ No ☐

3 Interface Requirements

- 3.1 Shall interface with the existing Computer Aided Dispatch (CAD) system in place at the PSAP regardless of age or interface type (IP or serial). If the CAD supports EIDO, shall support EIDO as defined in the NENA i3 standard.

Yes ☐ No ☐

- 3.2 Shall interface with analog and digital radio at the PSAP to support consistent audio levels between radio and CPE.

Yes ☐ No ☐

- 3.3 Shall generate i3 logs in accordance with the NENA i3 standard.

Yes ☐ No ☐

- 3.4 Shall generate call data record (CDR) in accordance with the CA 9-1-1 Branch defined CDR standard.

Yes ☐ No ☐

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- 3.5 Shall interface with CA 9-1-1 Branch's management information system (MIS) via NENA i3 logging standard and the CA 9-1-1 Branch defined CDR standard.
Yes ☐ No ☐
- 3.6 Shall provide logging of call-handling activities using a NENA-STA-010.3 conformant logging service.
Yes ☐ No ☐
- 3.7 Shall interface with the peripheral equipment configurations already in place at all PSAPs at no cost to the state. This equipment includes but is not limited to CAD, logging recorders, radio, mapping, etc.
Yes ☐ No ☐
- 3.8 Shall provide a SIPREC compliant interface for onsite logging recorder at the PSAP.
Yes ☐ No ☐
- 3.9 Shall display caller ID and other information from any non 9-1-1 line if provided by the originating service provider. Display of this information shall be configurable by the PSAP.
Yes ☐ No ☐
- 3.10 Shall implement standardized Application Programming Interfaces (APIs) for third-party system integration, enabling connection with mapping systems, logging recorders, and other PSAP applications while maintaining security and performance standards as may be directed by Cal OES.
Yes ☐ No ☐
- 3.11 Shall develop standardized Application Programming Interfaces (APIs) to integrate with any new technologies not outlined in these requirements as agreed upon between Bidder and Cal OES. API development shall align to the contract line items in the cost workbook.
Yes ☐ No ☐
- 3.12 Shall ingest and display any third party or State provided data as agreed upon between the Bidder and Cal OES. API development shall align to the contract line items in the cost workbook.

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- Yes ☐ No ☐
- 3.13 Workstations shall support the minimum memory and processing capability to support CPE software and shall be equipped with all necessary audio and video interface equipment, including but not limited to: keyboard, mouse, speakers, audio integration device, keypad dialer, arbitrator, and minimum 22 inch flat panel monitors.
Yes ☐ No ☐
- 3.14 CPE hardware components installed at the PSAP shall be nonproprietary when possible, with the sole exception of audio control devices, and shall support standard hardware interfaces.
Yes ☐ No ☐
- 3.15 Shall include a UPS for each workstation and all the backroom equipment that provides power for a minimum of 15 minutes.
Yes ☐ No ☐
- 3.16 All workstation peripherals shall be supplied by the Contractor and supported at the workstation: auxiliary keypad dialer, arbitrator, keyboard, mouse, headset, and headset box.
Yes ☐ No ☐
- 3.17 Shall connect to analog or digital audio interface devices at the PSAP, as directed by the PSAP.
Yes ☐ No ☐
- 3.18 Shall provide all required cabling, which may include cable paths through floors, walls, ceilings, and between buildings. Cabling may include connecting to controllers, NG Service Providers handoffs, demarcation points, CAMA trunks, admin lines, workstation, and ALI sources.
Yes ☐ No ☐
- 3.19 Electrical components installed at PSAP must run on 120 volt AC power.
Yes ☐ No ☐

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- 3.20 Shall connect to the State's Automatic Location Identification (ALI) provider for PSAPs accepting CAMA calls. Shall connect and query ALI in accordance with the Cal OES ICD.

Yes ☐ No ☐

4 Functionality Requirements

- 4.1 Shall include a Graphical User Interface (GUI) that allows PSAP and/or call taker to personalize the CPE screen layout, content, and visual styling.

Yes ☐ No ☐

- 4.2 Bidders who opt to provide automatic call distribution (ACD) shall provide a solution that is configurable by the PSAP.

Yes ☐ No ☐

- 4.3 Shall allow authorized users with appropriate system permissions in an ACD deployment the ability to temporarily remove themselves from a ring group (call queue) in order to conclude a previous call or perform another task such as radio dispatch.

Yes ☐ No ☐

- 4.4 Shall require users to manually log-on with a username/password combination. Two factor authentication must be provided as an option at no additional cost. Password parameters shall be flexible to meet PSAP needs. CA 9-1-1 Branch will validate two factor authentication method. PSAP shall have administrative rights controlling all account credentialing.

Yes ☐ No ☐

- 4.5 Shall display live streamed video when delivered natively by the carrier through the NG network in a standard format as defined by the Cal OES ICD.

Yes ☐ No ☐

- 4.6 Shall allow the call-taker to stop viewing the video even while the video is still recording when available and delivered natively through the NG network.

Yes ☐ No ☐

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- 4.7 Shall support instant recall recorder (IRR) play back of the recording of any call from an assigned workstation. The IRR shall interface with the existing operating environment within the PSAPs. IRR includes voice and video. (Video will only be required when delivered natively by the OSP in a standard format as defined by the Cal OES ICD)
Yes ☐ No ☐
- 4.8 Shall provide the PSAP with configurable recording retention for IRR. System shall provide a minimum of 8 hours of recording time.
Yes ☐ No ☐
- 4.9 Shall deliver caller ID of originating caller during a transfer from a 9-1-1 line to any non-9-1-1 line when the line supports it.
Yes ☐ No ☐
- 4.10 Shall provide IP phone set(s), if requested by PSAP
Yes ☐ No ☐
- 4.11 Shall perform language translations of text-to-9-1-1 and RTT (text, not voice) for inbound and outbound messages, including languages with non-English characters. If translation is automatic, call taker shall have the ability to toggle the translation on and off during text session. Languages to include the top 12 non-English spoken in CA according to the most recent census.
(<https://census.ca.gov/wp-content/uploads/sites/4/2019/06/LACAP.pdf>)
Yes ☐ No ☐
- 4.12 Shall have adjustable audio volume control at the individual workstation.
Yes ☐ No ☐
- 4.13 Shall provide notification for abandoned calls for any abandoned call that reached CPE. All available location information needs to be presented.
Yes ☐ No ☐
- 4.14 Shall synchronize internal system time to the CA NG 9-1-1 network service provider.
Yes ☐ No ☐

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- 4.15 Shall define a list of phone numbers that can be entered into the solution to be routed to a specific position or login credential.
Yes ☐ No ☐
- 4.16 Shall provide one-button callback as defined by the ICD.
Yes ☐ No ☐
- 4.17 Shall provide complete call progress detection including but not limited to idle, ringing, dial tone, ring back, and busy.
Yes ☐ No ☐
- 4.18 Shall provide configurable outbound caller-ID and outbound text-ID from the PSAP.
Yes ☐ No ☐
- 4.19 Shall have one button transfer capability to other PSAPs, configurable by the PSAP.
Yes ☐ No ☐
- 4.20 Shall provide local conferencing consisting of four (4) or more internal and/or external parties (including originator). The system's conferencing functionality shall allow the conference call to continue when the originating calling party disconnects.
Yes ☐ No ☐
- 4.21 Shall provide distinct audible ringing options for all call types configurable by the PSAP.
Yes ☐ No ☐
- 4.22 Shall provide speed dial functionality for both hold conference and no-hold conference for 9-1-1 calls as well as non-emergency calls.
Yes ☐ No ☐
- 4.23 Shall allow call taker muting capability during conference or transfer.
Yes ☐ No ☐

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- 4.24 Shall support TDD/TTY functionality until no longer required by the FCC and upon the direction of the CA 9-1-1 Branch.
Yes ☐ No ☐
- 4.25 Shall provide an on-line reference manual, user manual, help guide, live chat, or similar feature to PSAP. All reference materials must be continually updated to reflect CPE system updates and new functionality.
Yes ☐ No ☐
- 4.26 Shall automatically lock screen layout when user logs in as ready.
Yes ☐ No ☐
- 4.27 Shall allow a designated user to modify screen layout.
Yes ☐ No ☐
- 4.28 Shall allow a designated user to restore the last saved screen layout.
Yes ☐ No ☐
- 4.29 Shall display the information of at least the last 10 calls released at the answering workstation.
Yes ☐ No ☐
- 4.30 Shall provide the user with call holding as well as call parking (exclusive/non-exclusive hold) capability.
Yes ☐ No ☐
- 4.31 Shall allow designated users the ability to silently listen to another user's telephone conversation from their workstation. Such action shall not cause any audio or visual disturbance at the monitored answering station.
Yes ☐ No ☐
- 4.32 Shall allow authorized users the ability to barge into an existing call with one click functionality.
Yes ☐ No ☐
- 4.33 Shall support text-from-9-1-1.
Yes ☐ No ☐

- 4.34 Shall present historical details linked to a calling number. The details shall include information a call taker has previously entered for that phone number.
Yes ☐ No ☐
- 4.35 Shall provide role based/skillset-based profiling for call takers, and the ability to change roles.
Yes ☐ No ☐
- 4.36 Shall provide call taker the ability to flag, create, and send out incorrect location (mis-route) reports electronically.
Yes ☐ No ☐
- 4.37 Shall support maximum 60 second application start-up from the time user ID and password are entered.
Yes ☐ No ☐
- 4.38 Shall interface with a universal log in service at PSAP if available or shall support single sign on. Universal log in shall apply across CAD or other platforms as specified by the PSAP, and support where available.
Yes ☐ No ☐
- 4.39 Shall provide status indication ("ready/not ready/wrap up") at the workstation level, number of status states to be configurable by PSAP.
Yes ☐ No ☐
- 4.40 Shall allow PSAP personnel to play back a pre-recorded PSAP greeting on call answer and shall be configurable by call taker.
Yes ☐ No ☐
- 4.41 Shall provide a clearly visible visual alert to the call taker when 9-1-1 traffic is delivered via a policy-based route.
Yes ☐ No ☐
- 4.42 Shall ingest and display Z coordinates in accordance with the Cal OES ICD.
Yes ☐ No ☐

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- 4.43 If no NG 9-1-1 network or CAMA degradation is present, all audio input/output from the CPE shall meet MOS score requirements via third party verification. 99% of the MOS measurements shall exceed 2.6 and 90% shall exceed 3.8. Degradation caused by NG 9-1-1 network or CAMA shall not impact CPE MOS score.
Yes ☐ No ☐
- 4.44 Shall include the following telephony functionality: hold, dial, re-dial, release, transfer, conference, speed dial, ALI request, ANI/ALI display, PSAP defined line appearances, multi-function programmable keys (programmed as telephone line appearance or a feature of the telephone set), headset/handset interface, volume control for inbound audio signal for headset/handset, volume control for outbound signal and sidetone for headset/handset, volume control for the ringer, call status indication (ringing, answered or on hold).
Yes ☐ No ☐
- 4.45 Shall 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.
Yes ☐ No ☐
- 4.46 For i3 calls, shall be able to mute any participant in a conference and must be able to exclude any participant from hearing/seeing other parties in the conference to allow for private consultation if necessary.
Yes ☐ No ☐
- 4.47 All remote workstations must provide the same functionality and access as the current local PSAP positions.
Yes ☐ No ☐

5 Network Operations Requirement

- 5.1 Shall establish a network operation center (NOC) that includes alarming, reporting, monitoring, managing, and supporting CPE on a 24/7/365 basis, down to the workstation level.
Yes ☐ No ☐

6 Security Requirement

- 6.1 Shall provide end-to-end encryption for all recordings, including voice, text, and video. Access to all recordings shall be controlled by the PSAP that owns the recording.
Yes ☐ No ☐
- 6.2 Shall adhere to NIST 800-53 framework.
Yes ☐ No ☐
- 6.3 Shall follow NENA recommended cyber security practices and guidelines.
Yes ☐ No ☐

7 Service Management Requirements

- 7.1 Shall provide near real-time performance data (as described in 7.2), via API, to integrate with Cal OES's third party monitoring system.
Yes ☐ No ☐
- 7.2 Performance data shall include documented Mean Time Between Failure (MTBF) or Mean Time To Repair (MTTR) that may impact the availability of the system to deliver traffic.
Yes ☐ No ☐
- 7.3 Technical Service Bulletin (TSB) shall be provided to CA 9-1-1 Branch and PSAP for any update, patch, or bug fix.
Yes ☐ No ☐
- 7.4 Shall provide trouble ticket log that is visible to CA 9-1-1 Branch, originating PSAP, and the California Next Gen Service Provider.
Yes ☐ No ☐
- 7.5 Shall support trouble ticket e-bonding with a third-party monitoring system provided by Cal OES and the California Next Gen Service Provider.
Yes ☐ No ☐

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- 7.6 Shall maintain a database of CPE configurations, including CPE version, and make that database available to the CA 9-1-1 Branch.

Yes ☐

No ☐

8 Testing and Validation Requirements

- 8.1 Shall install two positions in the Cal OES lab for test and validation purposes. These positions will be connected to the California Next Gen Service Providers and must have a 99% availability.

Yes ☐

No ☐

- 8.2 Shall be subject to CA 9-1-1 Branch approved or contracted third party cybersecurity assessment and verification.

Yes ☐

No ☐

9 Change and Configuration Management Requirements

- 9.1 Any updates or changes must go through the Cal OES change management process. Changes may be subject to lab verification at Cal OES discretion as part of the change management process. Specifics will be available in the Cal OES Change Management Document.

Yes ☐

No ☐

- 9.2 All workstations shall have current operating system and software version, deployed within 30 days of discovery of the need for updating. CPE Bidder shall allow PSAP to control the update schedule such that no more than 25% of the workstations are updated at the same time for PSAPs with 4 or more positions or 50% of workstations for less than 4 positions. CPE Bidder shall also allow PSAP to set the update window based on operational needs.

Yes ☐

No ☐

10 Cloud/Data Center Specific Requirements (N/A for On Premise responses)

Confirm Bidder is responding for Cloud/Data Center solution ☐

(Do not respond to this section for On Premise responses)

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- 10.1 Browser based CPE shall work on a CA 9-1-1 Branch approved web browser based on system performance and security requirements.
Yes ☐ No ☐
- 10.2 Non-Browser based CPE shall be accessed through an application that can operate on any standard PC.
Yes ☐ No ☐
- 10.3 Shall be deployed as a geographically diverse interconnected platform, housed within a minimum of two Tier 3 or better data centers or as a native cloud solution within CONUS, and as a dedicated single tenant to California with demonstrated capability that provides 99.999% availability.
Yes ☐ No ☐
- 10.4 Any data center or cloud instance that is used to house the CPE shall be designed in a redundant, survivable manner and have multiple geographically diverse connections to any California Next Gen Service Provider.
Yes ☐ No ☐
- 10.5 All updates, fixes, upgrades, patches, etc. shall be executed in the cloud/data centers and pushed out to each PSAP in a manner consistent with traditional cloud-based evergreen software support.
Yes ☐ No ☐
- 10.6 Shall meet worst-case scenarios or dynamically expand without limitation of any physical onsite hardware, human intervention, or system resources (CPU, channels, etc.) during disasters or high demand events.
Yes ☐ No ☐
- 10.7 Shall interface with PSAP admin phone system if it is VoIP based. Bidder may choose to install a gateway to interface with analog phone systems but is not required to.
Yes ☐ No ☐
- 10.8 Shall provide connectivity to the PSAP that meets 99.999% availability.
Yes ☐ No ☐

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- 10.9 i3 calls will be delivered to datacenter or cloud interface via Next Gen Service Provider trunks as described in the CA 9-1-1 Branch ICD.

Yes ☐ No ☐

- 10.10 Shall provide a gateway to process all CAMA calls until PSAP has migrated onto the NG 9-1-1 network.

Yes ☐ No ☐

- 10.11 If any single connection or data center fails for any reason, the CHE shall maintain all active calls and continue accepting so that calls in progress are not lost.

Yes ☐ No ☐

- 10.12 Cloud native solution shall utilize a cloud service provider that holds a verified FedRAMP High certification.

Yes ☐ No ☐

Name of FedRAMP High provider:

11 On-Premise Specific Requirements (N/A for Cloud/Data Center solutions)

Confirm Bidder is responding for On Premise solution ☐

(Do not respond to this section for Cloud/Data Center responses)

- 11.1 Shall provide a local maintenance terminal for on-premises maintenance and diagnostics.

Yes ☐ No ☐

- 11.2 The CPE solution shall have a minimum of two physical servers each that process the packets for voice and data.

Yes ☐ No ☐

- 11.3 In the event of a failure of the active server, switchover to the second server shall be automatic and shall result in no loss of service.

Yes ☐ No ☐

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- 11.4 Shall have a non-blocking, fault-tolerant switching fabric which expands as interface cards are added.
Yes ☐ No ☐
- 11.5 Every audio interface port shall have dedicated resources to detect tones, generate tones and support audio conferencing.
Yes ☐ No ☐
- 11.6 Host remote CPE shall be capable of hosting multiple remote PSAPs. Each PSAP may be composed of a number of remote positions plus security appliances necessary to prevent intrusion by unauthorized personnel. It shall be configurable to send real-time Call Detail Record (CDR) to any PSAP for any 9-1-1 call that is being handled by that PSAP. Administrative lines shall be capable of terminating at the host or at the remote PSAPs. IP transport will also be used to backhaul admin line traffic to the host.
Yes ☐ No ☐
- 11.7 Host remote CPE shall allow for varying levels of administration and security for: all reconfiguration, monitoring, diagnostic and maintenance activities. Although the different jurisdictions are sharing a common hosted platform, from a PSAP perspective it shall appear to be a dedicated system. Individual PSAPs/jurisdictions shall not have visibility into the activities of other PSAPs/jurisdictions.
Yes ☐ No ☐
- 11.8 Host Remote CPE shall be installed in a geo-diverse redundant configuration. The geo-diverse redundant solution shall be composed of standalone controllers. Additionally, each individual controller shall be fully redundant and fault tolerant. The central equipment at each location shall be fully capable of supporting 100 percent of all the workstations. Each location shall have local survivability such that if one location becomes completely unavailable due to a catastrophic natural or man-made event, the other locations can continue to process all 9-1-1 traffic without intervention from the other unavailable controller.
Yes ☐ No ☐

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- 11.9 The controller of host remote CPE shall allow 9-1-1 traffic to be routed to a designated alternate location if all primary location workstations are busy.
Yes ☐ No ☐
- 11.10 In host remote configuration, there shall be no signal conversion between the controller and the remote workstations, and the connection shall be IP end-to-end. The system shall detect and compensate for any echo and latency at the remote positions.
Yes ☐ No ☐
- 11.11 Shall interface with PSAP phone system. This includes but is not limited to administrative telephone lines, ring down lines, business lines, PRI with caller ID, intercom, paging, local control circuits, PBX (IP or legacy), or Centrex, etc. with caller ID configured within the CPE at their PSAP.
Yes ☐ No ☐