

Lake County Sheriff's Office

Request for Proposal

9-1-1 Call Taking System

June 14, 2019

RFP Checklist

- Have you signed the transmittal letter?
- Have you signed the required additional forms?
- Have you included 3 client references?
- Have you included 1 original, 2 copies and 1 electronic copy of your response?

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Introduction

The Lake County Sheriff's Office (LCSO) hereby requests that vendors submit proposals for a 9-1-1 call taking system. These proposals shall provide all of the material requested herein, including detailed cost proposals for the necessary hardware, software, and services. A vendor's failure to follow any of the provided instructions may result in rejection of the vendor's proposal.

The LCSO reserves the right to overlook any errors or omissions on the part of the vendor during the RFP process.

The LCSO is seeking to replace its existing 9-1-1 call taking system. The LCSO is looking for a NENA i3 compliant, Next Generation 9-1-1 (NG9-1-1) solution. The proposed solution should include all requisite application software, 3rd party hardware and software, and installation and support services.

Contacts

All communications regarding this RFP should be directed to:

Steven C. Olson
 Lake County Jail Administrator/PSAP Manager
 613 3rd Avenue
 Two Harbors, MN 55616
Steve.Olson@co.lake.mn.us

No vendor employee or consultant shall contact anyone else at the LCSO for purposes of soliciting information about this RFP, the evaluation of the proposals, or the selection process until after such time as the LCSO announces its intent to award the contract or otherwise completes the RFP process.

Public Notice

The LCSO publishes/posts notices on June 14th, 2019.

Dates

6/14/2019	RFP Published.
6/25/2019 @ 2359	Questions are due from vendors via email.
7/2/2019	Answers are due back to vendors via email.
7/19/2019 @ 2359	Hardcopy and electronic proposals are due from vendors.
7/22-8/5/2019	Vendor demonstrations and/or site visits begin.
8/13/2019	Vendors are notified of selection of preferred vendor.
TBD	Contract negotiation

Deliverables

As of the date specified in the [Dates](#) section for the proposals to be due, the vendor must submit the following to the person specified in the [Contacts](#) section:

- One bound original
- Two bound copies
- One electronic copy on CD or flash drive

The sealed package which contains the proposals must note the following prominently on the outside of the package in addition to address or mailing labels:

- Vendor name
- RFP name
- Proposal due date and time

The proposal shall follow the structure specified in the [Content](#) section.

RFP Questions

Any questions regarding this RFP should be submitted by the date stated in the [Dates](#) section via email to:

Steven C. Olson
 Lake County Jail Administrator/PSAP Manager
 613 3rd Avenue
 Two Harbors, MN 55616
Steve.Olson@co.lake.mn.us

Profile

The LCSO provides law enforcement services to Lake County in Minnesota. The county includes a population of approximately 11,000 people. The LCSO consists of 15 sworn officers and 14 non-sworn personnel. The following outlines the geography of the requested solution:

Primary Site	
Full-time Positions	2
Backup Positions	1

Secondary Site (if desired)	
Full-time Positions	0
Backup Positions	1

Current System

At present, the LCSO is using Plant/CML Sentinel. This system has been in place for 10 years. Our current system is at end of life. Upgrades are required in order to take advantage of the technology used by the public today.

Our upgraded system will need to be to receive emergency text messages and integrate with our Zuercher CAD and Zuercher map.

Scope of Services

It is the intention of these specifications that the selected vendor furnish to the LCSO: 1) a mature 911 Call Taking System that will enable the effective and efficient operation of the LCSO, and 2) is compatible with and identical to or nearly identical in operation to the system Lake County Sheriff's Office (LCSO) chooses. This Request for Proposal is published simultaneously with (or nearly simultaneously with) a nearly identical Request for Proposal published by LCSO. The objective is for each county to utilize a similar or identical system so that staff from each county could act as back-up to the other county's staff and so that the counties can save costs in maintenance, repair, and training REDUNDENCY. The entity awarded the Project will contract with Lake County individually, but, as described above, it is desirable that the same entity perform the Work of this RFP and the work described in Lake's RFP. At a minimum, the system shall support the following:

Optional: List of items the system should support. This is usually an overview of the functionality detailed on the requirements spreadsheet. SEE APPENDIX "B"

Please note the following:

- Submissions from vendors who submit acceptable proposals of identical or nearly identical (in operation) 911 call-taking systems to both Lake County Sheriff's Office and Cook County Sheriff's Office will be given additional consideration.
- The proposal shall consider that the current system needs to remain operational during the transition to the new system and must include a transition plan to minimize outages.
- The proposal shall describe included security hardware and software systems. The proposal shall meet or exceed security requirements identified by the State of Minnesota's ESINet.
- The LCSO desire a NENA i3 compliant solution for voice and data.
- The LCSO are interested in an off-the-shelf system.

- The selected vendor must provide all services including, but not limited to, installation, implementation, training, technical support, and ongoing maintenance for the LCSO to enter into and maintain full use of the system.
- The system must be designed to be easy to use and easy to administer at all application levels.
- Acquisition and implementation of a new 911 Call Taking System is a project that will impact the LCSO for years to come. Key goals for the project are to:
 - Replace the legacy system currently being used with an off-the-shelf solution that meets or exceeds the needs of the LCSO
 - Deliver a 911 Call Taking System on time and within budget
 - Achieve sufficient knowledge transfer through training to allow staff to be capable of and confident in using the new system
 - Provide a technologically sound platform for expansion of information services into the future
 - Establish a NG9-1-1 call taking system

Service Requirements

Project Management

The vendor must provide a dedicated project manager as part of the project. This person will be responsible for interacting directly with his or her counterpart here at the LCSO for the duration of the project.

System Configuration and Setup

The vendor must provide detailed system configuration and setup services to the LCSO as part of this project. These services are necessary to ensure that the new system is configured to match the processes and call flow of the LCSO to reduce the learning curve and improve the rate of adoption by the users.

Training

The vendor's training program shall be designed and conducted to provide complete familiarization with the proposed system(s), including functional training for user and Supervisory personnel and system administration training for select LCSO management, administrative, and/or technical personnel. The LCSO shall provide a suitable environment for training. Training may be combined for LCSO/CCSO so that each center can work around the work schedules of their staffs. All handouts, pamphlets, or other written material used in training shall be provided to LCSO who shall retain rights to utilize the training materials for future training.

Response Format

The vendor must provide its proposal in accordance the structure and content specified in the following sections:

Cover Page

This must include the vendor's legal name and contact information, as well as the name of the RFP, federal Tax Identification Number, DUNS number, and the date the proposal is due.

Transmittal Letter

This must be provided on the vendor's letterhead and must include the following:

- A list of all addenda to the RFP, including the vendor's statement that any responses required by those addenda have been made within the proposal
- A list of any sub-contractors who will be used for the project
- A statement that the proposal will be valid for 6 months from the due date

Failure to provide a transmittal letter in accordance with the provided instructions will result in rejection of the vendor's proposal.

Table of Contents

This must include a paginated list of the information provided within the proposal.

Qualifications

This must include a minimum of the following information:

- Company Overview – Current context, history, year the company was established, type of ownership of the company and parent company (if applicable), philosophy/approach to doing business, sectors in which the vendor does business, financial status and company health, current number of agencies under maintenance and support, and number of agencies who are no longer customers.
- Benefits - Describe how working with the vendor would be to the LCSO's particular benefit.

Experience and References

The vendor needs to provide a summary of its experience in implementing a system of this nature and relate its relevance to the proposed project in terms of the technical scope, tasks involved, deliverable products, etc.

Provide a minimum of 3 references of a similar size and scope to the LCSO. Each reference must include the following information:

- Agency name and address
- Contact person with email and telephone number
- Number of positions
- Installation date for each major product

The vendor must ensure that all information for the references is current and that the contact person is willing to provide a reference. References are likely to be checked by phone and will require a minimum of 10 to 15 minutes of the contact person's time.

If the vendor is proposing to use subcontractors, a minimum of two (2) references need to be provided for each subcontractor. All subcontractors will be subject to the written approval of the LCSO. The selected vendor shall itself be solely responsible for the performance of all work set forth in any contract resulting from the RFP, and for compliance with the price and other terms provided in the contract. Vendor shall be solely responsible for the performance or non-performance of any subcontractor.

Software Overview

This must include a brief overview of the software solution, including how all of the products and modules work together.

Implementation

This must include both an overview of the general implementation process as well as timeline which shows the major milestones of the project from contract signing all the way through system acceptance. Also include a description of the process and practices used by the vendor to capture required dial plan and call flow necessary to ensure full and proper operation of the planned application software products and associated backroom PBX.

Acceptance Testing and System Acceptance

This section should include information describing the vendor's proposed methodologies for administering an Acceptance Testing Process that allows the LCSO to verify that all application software and interface deliverables comply with the resulting contract between the vendor and LCSO.

In this section vendors are expected to:

1. Describe the vendor's proposed methodologies for verifying the function of each delivered application software product and interface including any custom requested interfaces.
2. Describe at what point in the project testing will be completed (pre-cut items and post-cut items).
3. Describe the documentation the vendor uses to record acceptance testing results.
4. Describe the process for remediation of items that fail functional testing.
5. Describe the vendor's process for verifying system reliability and redundancy.
6. Describe the vendor's final system acceptance process, acceptance criteria, and soak period.

Training

This must include both an overview of the general approach to training, as well as a sample training plan. The proposal shall include a detailed summary of proposed initial training, which must be completed prior to system cutover, along with refresher training and new hire training available throughout the term of the contract.

Warranty/Maintenance Support

This must include a complete description of the maintenance and support services which are offered by the vendor as part of this proposal. As of this time, LCSO does not have 24/7 in house technical support. The proposal must include on-site technical support and response time to each center for support staff.

The proposal shall describe the process for remote monitoring, repair, and maintenance. If a failure interrupts the delivery of 911 calls, the vendor must provide a qualified technician, on site, ready and equipped to handle the problem within four (4)

hours of notification. The vendor shall have the capability of remotely accessing the solution for purposes of diagnosing the failure within thirty (30) minutes of notification.

The vendor shall guarantee all materials, workmanship, and the successful operation of all equipment furnished for the term of the contract. If any defect or malfunction occurs within the term of the contract, the vendor shall promptly repair or replace the defective unit (to include reinstallation of software) at the vendor's cost. The vendor's proposal shall include a comprehensive program of maintenance including help desk service, on site repair services, software updates, and hardware repair.

Technical Requirements

This must include the completed functional and technical requirements found in Appendix B and any extended explanations which may be needed for the vendor's answers to particular requirements.

Hardware/System Software

The LCSO requires the selected vendor to act as the Systems Integrator and propose, price, deliver, install, and configure all the appropriate hardware and related system software required to support the proposed application software products and related interfaces.

Vendor shall provide the LCSO with the workstation-based computer equipment and network communications infrastructure needed to support proposed application software products and related interfaces.

This section of the proposal shall include:

1. A thorough overview of the proposed hardware/system software solution.
2. An Architectural Drawing of the proposed solution, with all servers, network equipment, peripherals, interfaces, and workstation types clearly identified.
3. A complete listing of all hardware, system software and related 3rd party elements included in the proposed price.
4. A complete description of each proposed server and workstation.
5. The warranty included with each proposed software application and interface.
6. A complete list of all assumptions being made by the vendor regarding the expectations of the LCSO with respect to the computer equipment, system software, and network infrastructure required to support the proposed solution.

Pricing

This must include detailed pricing for the software, hardware and services included in this proposal.

Issues and Assumptions

Describe any issues or assumptions that could impact the successful outcome of the project.

Exceptions

This section should include any exceptions to the RFP terms and conditions. Please provide your exceptions by indicating the RFP section or subsection number, the specific item that is the focus of the exception, and an explanation for the exception, with alternative(s) where applicable.

Forms

Provide completed forms requested herein such as, but not limited to, the affidavit provided in the appendices:

See Attachment A-1 and A-2, 3 pages

Evaluations

The LCSO reserves the right to select the proposal which best meets its needs, regardless of the cost of that proposal relative to other proposals received. LCSO also reserves the right, without any liability, to right to reject any and all proposals based on the evaluation criteria. LCSO also reserves the right to cancel or amend this RFP at any time.

The evaluation process will begin after the proposals are due and is anticipated to take several weeks. During this review process, the evaluators may request additional clarifying information from the vendor. Failure of a vendor to provide any information requested in the RFP may result in disqualification of that proposal.

Evaluation criteria include the following:

- **Completeness** – Did the vendor provide everything which was requested and in the proper format?
- **Functionality** – Does the proposed solution include the functionality which is essential to the LCSO?
- **Compatibility** – Does the proposed solution offer compatibility with a similar identical proposal the Vendor has offered to Cook County?
- **Cost** – Does the proposed solution provide the needed functionality at a reasonable cost to the LCSO?
- **Maintenance and Support** – Thoroughness of support program, reputation of company with customer's responsiveness, thoroughness of testing, and availability.
- **References and Experience**– Quality of overall System, experience with implementation, experience with existing LCSO systems, degree to which projects went over budget/schedule, company references.

As part of the evaluation process, the evaluators may request site visits and demonstrations or oral presentations (in person or via teleconference) on the part of the vendor. Vendors will be expected to pay for any costs associated with such site visits or oral presentations.

Data Practices

Upon submission, a solicitation response becomes the property of the LCSO and will not be returned. The LCSO retains the right to use any concept or idea presented in any solicitation response, whether or not that solicitation response is accepted. All information included in the submitted solicitation response will be classified in accordance with Minn. Stat. §13.591 governing data practices.

Trade Secret Information

Solicitation response data marked as, for example, "confidential" or "proprietary" or other similar designation, will not be considered by the County to be Trade Secret Information within the meaning of Minnesota Statutes Chapter 13 unless the data meet the criteria set forth in Section 13.37, subd. 1(b). The solicitation response shall not be contingent on the County accepting the vendor's claim that certain data is Trade Secret Information within the meaning of Minnesota Statute Section 13.37, subd. 1(b).

NEGOTIATION PROCEDURES

Proposals submitted in response to the RFP may become part of any subsequent contract. If for any reason the selected vendor deviates in any way from previous proposed services, LCSO may reject the proposal and begin negotiations with another vendor. LCSO reserves the right to cancel the award of any proposals, at any time before the execution of the contract documents.

Non-Discrimination

The responding vendor must agree not to discriminate in hiring practices on the basis of race, color, creed, religion, national origin, sex, age, marital status, public assistance status, veteran status, disability, or sexual orientation.

Appendices – A and B

Appendix A: Debarment and Judgment Affidavit

By signing this document, I certify to the best of my knowledge and belief that the aforementioned organization, its principals, and any subcontractors named in this proposal:

- a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from bidding or working on contracts issued by any government agency;
- b. Have not within the five (5) year period preceding the submission of this proposal:
 - i. Been convicted of or had a civil judgment rendered against them for fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal, State, or Local government transaction or contract;
 - ii. Been convicted of or had a civil judgment rendered against them for violating Federal or State antitrust statutes or committing embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or Local) with commission of any of the offenses enumerated in paragraph (b), subparagraphs (i) and (ii) of this certification;
- d. Have not within the five (5) year period preceding the submission of this proposal had one or more Federal, State, or Local government transactions terminated for cause or default.

Name:	Title:
Authorized Signature:	Date:

Appendix B: Technical Requirements

Functional and technical requirements are below. The vendor must answer each requirement as part of the proposal. Failure to answer all of the requirements in accordance with the provided instructions may result in rejection of the vendor’s proposal.

Vendor Compliance Response Key	
Compliant	Current proposed software meets specification without modification. The function is fully developed and can be demonstrated in the proposed software package.
Partially Compliant	Proposed software meets part of the specification. An explanation is required.
Non-Compliant	Proposed software does not meet the specification and cannot be modified.

1. General Requirements

- a. The primary goal of these specifications is to provide a complete and satisfactory NG9-1-1-capable system.
- b. Vendors must propose a Call Taking System (CTS) solution that can ensure reliability, availability, and access 24 hours a day, 365 days a year.
- c. Vendors must detail the required hardware and software configuration to support the proposed system.

2. Global System Requirements

Global System requirements are those that apply to or affect all areas of the desired system. The proposed solution must meet the following mandatory requirements:

- a. Provide a CTS capable of displaying Automatic Number Identification (ANI) and Automatic Location Identification (ALI), as provided by the Local Exchange Carrier (LEC) and wireless telephone carriers. Vendor responsibilities include all equipment, installation, maintenance, and training needed to provide a fully operational CTS.
- b. No Single Point of Failure must render the CTS non-functional. Explain how the proposed CTS meets this requirement and how redundancy is built into the system. LCSO/LCSO would prefer to serve as each other’s back up for both equipment and call taking in the event of a failure or inability to take calls in either center at any given time.
- c. The equipment must be rack-mountable.
- d. The selected CTS must meet or exceed the National Emergency Number Association (NENA) standards for NG9-1-1 PSAP equipment, as revised. Vendors must confirm system compliance with these specifications or note any exceptions.

- e. ALI requests must be made immediately after the ANI has been decoded.
- f. The system must include security devices performing the role of a firewall for the ESINET.
- g. The CTS and Management Information System (MIS) must support the ability to use the GPS clock network to comply with the NENA standards for time synchronization.

3. NG9-1-1 Controller Requirements

- a. The NG9-1-1 controller must be equipped to perform voice transfers directly within the unit, or alternatively at a tandem central office.
- b. The system must allow for voice transfers to be speed-dialed and manually dialed.
- c. Once transfer connection has been established, the CTS must allow any party to disconnect or allow a three-party voice conference.
- d. The NG9-1-1 controller must support dedicated redundant data links to designated ALI database providers.
- e. The NG9-1-1 controller must be capable of collecting the ANI digits and processing the ALI lookup regardless of the condition of the call (i.e., on-line or hung up).
- f. The ANI and ALI of an abandoned caller must be available for viewing by the call taker.

4. System Security

- a. For security reasons, access to the CTS must be dependent upon a proper password.
- b. The CTS must support multiple levels of access in order to allow for system access and programming capability by service personnel and PSAP administrators based on their level of expertise or authorization.
- c. The proposed system must support remote access for outside support services via encrypted Virtual Private Network (VPN) protocol for authorized users.
- d. The proposed system must include the ability to ensure that the solution is protected from unwanted malware, spam, and viruses.
- e. The proposed system must include a solution to provide configured content web filtering to provide access to specific business use Internet resources.
- f. The proposed system must provide a means to indicate to PSAP personnel that system availability is at risk.

5. System Architecture

- a. All major components proposed must be fully redundant, allowing for full geographical split location of the system.
- b. The system must be designed to allow distribution of major components between multiple locations without requiring the purchase of multiple systems.

- c. No single major component failure must disable more than 50% of the system capacity.
- d. The CTS must be deployable as a single-site configuration or as a centralized configuration supporting geo-diverse deployment with full redundancy at each location.
- e. The CTS must be expandable (without adding controllers or an additional rack or backroom) to accommodate a 50% growth from current capacity.
- f. The CTS must provide a virtualized environment allowing the deployment and operation of multiple applications on the same virtualized servers.
- g. The CTS must provide proven i3 connectivity.
- h. Provide a detailed example of how the proposed system ensures remote survivability in the event that all network connectivity to the host system is lost.

6. Next Generation 9-1-1

- a. Describe your company's vision for migration of the proposed product to function in the NG9-1-1 environment. Address not only text messages, but also future receipt of photo and video files.
- b. Discuss the issue of storage for multimedia data received via NG9-1-1.
- c. The solution must not require a forklift upgrade to deliver NG9-1-1 functionality at any point along the migration path to true NG9-1-1 ("Network-of-Networks" as envisioned by the United States Department of Transportation [USDOT], NENA, and others).
- d. Immediate compliance with all new standards as soon as they are released is not expected but the Vendor must describe how the lag time between ratification of a new standard and compliance must be minimized.

7. Geographically Diverse Redundant Configuration

- a. The solution must support installation in a geo-diverse redundant configuration.
- b. The geo-diverse redundant solution must be composed of standalone controllers.
- c. Each individual controller must be fully redundant and fault tolerant.

8. Standards

- a. The system provided must meet the applicable NENA and APCO standards.

9. Line and Trunk Interfaces

- a. The CTS must support interfaces to CAMA lines, Analog FXO, and FXS lines.
- b. The CTS must be capable of converting legacy telephony interfaces to Voice over IP (VoIP) packets, such that all further CPE call processing is performed via VoIP.
- c. Gateways must be used to convert CAMA, POTS, and ISDN/PRI circuits to VoIP.
- d. The CTSs must support interfaces to digital T1 trunks using CAS or ISDN signaling.

10. Automatic Number Information (ANI)/ Automatic Location Identification (ALI)

- a. The call-taker workstation must provide visual display of the emergency caller's telephone number and any i3-compliant standards.
- b. The call-taker workstation must provide visual display of the calling party's street address information based on legacy ANI and ALI and any i3 compliant standards.
- c. The call taker workstation must also be capable of extracting geographical coordinate information from the ALI file received and transmitting this information to geographical mapping software with i3 standards.
- d. The call taker workstation must automatically update location information at regular intervals. This feature must be configurable by each PSAP as to the number and frequency of intervals on a per wireless provider basis.
- e. The call taker workstation 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).
- f. The CTS must provide the ability to configure multiple ALI links associated with specific trunk groups.
- g. Each ALI group must be configurable for a specific ALI protocol and assignable to individual trunk groups.
- h. The CTS must support ALI parsing to extract Class of Service, ESN, and Calling Party Number (CPN).
- i. The CTS must provide the ability to create an incorrect location information report and email to a pre-configured email address.
- j. The CPE must provide the ability to manually request ALI data as often as desired, with minimal delay.
- k. The solution must be able to store ALI data received from third-party ALI databases (e.g., Telco ALI database).
- l. The solution must send stored (cached) ALI information in response to subsequent queries for the same information providing faster ALI display on call taking workstations in the event the call is transferred to another system workstation or placed into conference.
- m. The ANI/ALI equipment must interface to the ALI database provided by the ESInet provider.
- n. Each controller must have at least two output interfaces for transmission and receipt of wireless and VoIP call data to the ALI database.
- o. The proposed solution must have auto ALI rebid capability and must also be configured to allow manual ALI queries.
- p. The ANI/ALI equipment must be compatible with eight- and ten-digit remote database query methods.
- q. The solution must also support advanced NENA Extensible Markup Language (XML) tags for standardized data exchange.

- r. The Vendor must provide for NENA i3 compliant serial interfaces for the delivery of callback and location information to CAD, mapping applications and voice recorders.
- s. The solution must be capable of delivering location information to CAD and mapping applications natively via IP without requiring a hardware or software upgrade.
- t. The solution must also support delivery of legacy serial ANI/ALI information.
- u. The proposed solution, including software, hardware, and interconnections, must be compatible with the ESInet provider network infrastructure.
- v. The solution must be able to connect to the ALI Database via IP or serial RS-232.
- w. The solution must provide a method for formatting the ALI for calls with 20-digit ANI CAS and 10-digit NCAS so the Calling Party Name (CPN) appears in the same location as it does for landline calls. This formatting or "normalizing" must provide the CPN to the ANI callback list for CAS and NCAS calls received.
- x. ALI pre-answer is a very desirable feature to facilitate enhanced queue management in combination with trunk groups (and future data filters) designed for specific call types. (e.g., landline trunks versus wireless trunks)
- y. Each ALI link must be configurable for a specific ALI protocol and assignable to individual trunk groups.

11. Call taker Workstation (CWS) Functions

- a. The CWS must allow call takers to have on-screen access to all telephone features and must include a physical telephone instrument. All standard telephone functions must be available via the CWS. At a minimum, these must include pick up an incoming call; hold; release; transfer/conference; dial/last number redial; initiate an outbound call; and retrieve a held call.
- b. All types of lines, including 9-1-1, ten-digit emergency, and administrative lines must be capable of termination and appearance on the call taker's screen.
- c. The CTS must have the ability to display the ANI/ALI data on a number of types of screens.
- d. The CTS must be capable of displaying twenty-digit ANI, two ten-digit ANI, telephone company identification, and Phase I and Phase II Wireless ANI and ALI.
- e. The NG-1-1 controller must store the ANI/ALI information while the call is on hold, avoiding repetition of the ALI request.
- f. The call queue indicators must show the following types of information calls in queue: the time the oldest call has been in queue; the trunk number or line number of the incoming call; and line status (e.g., ringing, off-hook, etc.)
- g. The CWS must provide the ability to include a shared call appearance resource for any line or trunk of the CTS that must show the status of the line, pre-answer

- ALI of the caller, ability to pick up the line, join the call, or determine which call taker is on the line.
- h. The CWS must allow the operator to place multiple 9-1-1 calls on hold. To assist in retrieving the proper call, operators must be presented with a list of calls on hold, showing the ANI, ALI, and the time/date at which each call was placed on hold. Operators must also have the capability of retrieving 9-1-1 calls that have been placed on hold at another answering position.
 - i. The call taker must be capable of releasing an existing 9-1-1 call at any time, regardless of whether the calling party has hung up.
 - j. The CWS must provide the ability to transfer information, such as addresses or coordinates, to mapping system software with graphical display capability (e.g., ANI, ALI, Mapped ALI, CAD Mapping).
 - k. The CWS software must support a manual rebid of the ALI information as needed.
 - l. Call takers must be advised of the nature of incoming calls through the use of distinctive ring tones or zip tones (used currently, tones that could be heard in the head set as calls are being routed to them) for various types of incoming calls (NG-1-1, administrative, etc.).
 - m. The volume of the ring must be capable of being lowered to a preset minimum or increased at the call taker's discretion.
 - n. The CWS must be able to mute the transmit side of the handset.
 - o. The CWS must provide a window showing details of all agents currently logged into the CTS, including information such as their name, position, call status, and the name of the line if they are on a call.
 - p. The CWS must provide an output for recording position audio.
 - q. Describe the general screen layout and workstation functionality
 - r. If the proposed CTS must ride on the same network with the CAD system, explain whether account logon must be integrated with Active Directory, or if separate account and password administration must be required.
 - s. The workstation must provide the ability to display to a workstation the Calling Party Number and Location Information (ALI) of an incoming 9-1-1 call before the call has been answered.
 - t. The system must provide the ability to perform a manual ALI query while the call taker is idle or on a call.
 - u. Any manual ALI request must be reported to the MIS system.
 - v. The manual ALI request capability can be enabled on a per role basis.
 - w. The Caller ID of calls received over administrative lines must be capable of being displayed on the corresponding answering position's workstation.
 - x. Due to space limitations, the ANI of the Caller ID feature must be displayed in the same screen as that of an NG9-1-1 call.

12. User Interface Configurability

- a. The call taking workstation must permit customization of the user interface on a per user basis, including window and button layout, window sizes, control element sizes and properties, font size, and types.

13. Call Control

- a. The workstation must provide the ability to perform a conference, blind, or supervised transfer with one click to any contact in the contact list.
- b. The workstation must provide the ability to put a call on local hold, where only the agent who put the call on hold can retrieve the call, or on system hold, where any agent in the same agency can retrieve the call.
- c. The workstation must provide information for a call on hold such as how long the call has been on hold and which agent has put the call on hold.
- d. The workstation must also alert the agent when a call has been on hold longer than a pre-configured amount of time.
- e. The workstation must provide the ability for an agent to join a call on any of the shared line appearances configured on the workstation.
- f. When joining, the initial call taker must receive information that another agent has joined as well as identification of the agent.
- g. The workstation must provide the ability to perform a no-hold conference where the existing parties on the call are not put on hold when conferencing in a new party.
- h. The workstation must provide the ability to perform a hold conference where the existing parties on the call are put on hold when conferencing in a new party.
- i. The workstation must support a conference with up to 6 parties on the call, including the call taker.
- j. The workstation must support the ability to drop, hold, and un-hold parties of a conference call.
- k. The workstation must support the ability to drop the last party added to the conference call.
- l. The workstation must provide the ability for an agent to request supervisor help whereby the request must be routed to a designed group of supervisors and each supervisor must receive an audible and visual indicator of the help request. At this point, any one of the supervisors can accept the help request and automatically be conferenced with the agent requesting help.
- m. A supervisor must be able to initiate an observation session on any agent whereby the supervisor is silently connected to the agent's audio path.
- n. The supervisor can listen in on the call and at any time be able to interrupt the call and establish a two-way audio path with all participants in that call. This must be able to be performed by using a second headset.
- o. The observe function can be silent providing no indication that an agent is being monitored or can be configured to provide a notification tone to notify the agent of the observation in progress.

14. Dialing

- a. The workstation must provide a user interface where contacts can be displayed in an array of buttons for dialing.

- b. Multiple layers of these buttons can be organized such that a call taker must be able to navigate to the appropriate contact button for dialing.
- c. The CTS must provide a list of recent incoming and outgoing calls for up to the last 100 calls. The list must show detailed information about the call including the date and time, CPN, incoming circuit, ALI and ESN.
- d. The workstation must provide a one-button callback from the recent call list.

15. Speed Dialing

- a. A speed-dial feature must be provided and must be user-programmable.
- b. Speed dialing must be capable of performing primary and secondary dialing for dialing transfers, conferences, and other functions, such as long-distance access, card numbers, and PIN access.

16. Abandoned Call Handling

- a. The workstation must provide the ability to notify the agent of any abandoned calls.
- b. The notification must be in the form of a visual indicator showing the number of abandoned calls as well as an audible indicator specific to abandoned calls.
- c. The workstation must provide the ability to either automatically distribute the callback of the abandoned calls to individual agent positions or to allow agents to selectively perform callback of an abandoned call from the agency's abandoned call list.

17. Instant Recall Recording (IRR)

- a. The CTS must have the ability to record all calls received at the CWS.
- b. These recordings must be available for playback during or after a call.
- c. These calls must be stored locally and be deleted automatically after a predetermined amount of time.
- d. This needs to be configurable over the entire system without having to touch each station.
- e. The CWS must have the ability to control the volume of the IRR.
- f. Give a general description of how the call-taker would use the feature, if a caller gave hard-to-understand information and then disconnected.
- g. It is desirable that at least 30 minutes of audio be stored at each work station.
- h. How many minutes of audio can be stored before the file is overwritten by current conversations?
- i. Are any routine maintenance procedures required for the data, such as purging old files?
- j. Is the audio stored at the workstation PC or on a server?
- k. Describe how the audio for an individual call can be exported to a .wav file or other common, non-proprietary audio file.

18. Telecommunication Device for the Deaf (TDD)/Teletype (TTY)

- a. Operators 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.
- b. The operator must have the ability to create a conference between the TDD/TTY caller and up to four (4) non-TDD/TTY parties either in 9-1-1 call-taking mode or administrative call-taking mode.
- c. The call taker workstation must allow users to store and access (send) a minimum of twenty (20) pre-programmed TDD/TTY messages, as well as to print the previous TDD/TTY conversations
- d. The TDD/TTY function must allow an operator to transfer a TDD/TTY call to another operator position.
- e. The TDD/TTY function must allow the operator to alter its operation to comply with Americans with Disabilities Act (ADA) requirements for Hearing Carry Over (HCO) and Voice Carry Over (VCO) calls.
- f. The two-way TDD/TTY conversation and text information must also be stored on the Application/Telephony Server.
- g. A TDD/TTY detection and conversation capability must be available for every workstation.
- h. The workstation must support both Baudot and ASCII encoding and decoding.
- i. The workstation must be able to detect the encoding to be used for the TDD/TTY conversation.
- j. The workstation must provide the ability to program an automated TDD answering string.
- k. The NG-1-1 controller must allow call takers to communicate with TDD callers directly from their answering position, without requiring the use of any external device.
- l. The CTS must provide management with the capability of configuring and scripting the predefined messages based on incident type, such as, but not limited to, POLICE, FIRE and EMS.
- m. The CTS must provide the ability to record the text of a TDD conversation in the MIS.
- n. Call takers must be signaled if the call they are answering has been detected as a TDD call.
- o. When a call taker answers a silent call and suspects the caller may be a TDD caller having difficulty, the call taker must have a way to query the caller with a TDD message.
- p. Simultaneously, the call taker must have the capability to continue to listen in the event a voice caller begins speaking during or after the TDD inquiry.

- q. Proposals must also describe whether the TDD Baudot/ASCII conversation is captured for output via the CAD interface or other methods.
- r. Can the audio volume of queue announcements be changed?

19. Net clock for all CTS components

- a. The CTS proposed must have the ability to independently use NTP protocol to maintain clock synchronization with a Master Clock.

20. Call Detail Record (CDR)

- a. The desired solution must also contain a capability which automatically associates a related call, dispatch or radio event to allow for evidence organization.
- b. Automatic Number Identification/Automatic Location Identification, location information and other information as i3 standards are developed must be captured and stored with each 9-1-1 call. The following items from the ANI/ALI data stream must be captured and stored in their own individual database fields of appropriate size that are sortable and searchable and as i3 standards are implemented that have the ability to capture and to comply with i3 standards:
 - Originating phone number (ANI)
 - Address or coordinate (ALI)
 - Caller name
 - ANI/ALI time of Initiation
 - ANI/ALI time of pickup
 - ANI/ALI time of disconnect
 - ANI/ALI date
 - ESN
 - Class of service
 - Carrier
- c. List the specific fields of data that are captured for each call.
- d. The CTS must provide the ability to store Call Detail Records to a file.
- e. The CTS must provide the ability to assign a CDR output and printer on a per agency basis when multiple agencies are using the system.
- f. CDR printing can be configured to be line by line of all call events or as a concise single line print out for each call.
- g. The CTS must provide integration to a fully featured MIS reporting application and send all call, agent to the MIS system for reporting purposes.
- h. The CTS can be configured to print information for only 9-1-1 calls or to also include administrative calls.
- i. The CTS must be configured to also print the ALI record for the call and the TTY/TDD conversation text for the call.

21. Management Information System (MIS)

- a. The Vendor must provide comprehensive management and statistical reporting functionality to the PSAP management personnel with near real-time and historical information. It must be user-friendly, customizable, and capable of generating reports for varying time periods.
- b. This MIS must be capable of monitoring all lines within the CTS, including 9-1-1, seven-digit emergency, and administrative lines.
- c. The reporting interface must be capable of integrating multiple databases into one report with the ability to add attachments to the call record.
- d. The solution's reporting capabilities must be designed to enable authorized users to drill up/down and slice/dice the information to enable various agents, managers, supervisors and executives to answer virtually any telecom question in exactly the level of detail necessary to support a given administration decision.
- e. The solution must provide comprehensive management and statistical reports for all and individual PSAPs/jurisdictions.
- f. As a minimum, the following information must be readily available for reporting purposes:
 - ANI/ALI/Location Information
 - Seizure time
 - Position answered
 - Answer time
 - Disconnect time
 - Incoming trunk number
 - Total count of call type(s) such as but not limited to wireline, wireless, VoIP call types.
 - Average call waiting
 - Average call duration
 - Duration of transferred calls
 - Number of calls transferred to each PSAP
 - Total number of times a caller is transferred and to which PSAP(s)
 - Total abandoned calls
 - Calls by incoming trunk
 - Call by hour of day
 - Calls answered by position
 - Calls answered by all positions
 - Calls answered by each PSAP
 - Call answered by user ID
- g. The MIS solution must have traditional, industry-standard management and reporting capabilities.

- h. State-of-the-art technology must be used for the MIS solution. Describe what technology is used.
- i. The MIS must be designed to be highly reliable and protect data security and integrity.
- j. Describe the MIS integration capabilities and support for next generation media types.
- k. This MIS must be capable of monitoring all lines within the CTS, including 9-1-1, seven-digit emergency, and administrative lines.
- l. The MIS must incorporate the NG-1-1 call data records and telephone information into a PC for efficient storage, search, and retrieval of vitally important data and accessible analysis of system performance.
- m. Must data be stored in redundant, recoverable disks for assurance against accidental loss?
- n. Are redundant reporting servers an option?
- o. Explain how PSAP administrators can export data from the MIS for more sophisticated analysis and/or long-term archiving (e.g., to Excel).
- p. The MIS must be capable of generating reports from varying time periods of predefined reports.
- q. The report manager must support saving a customized report for quick access, such as a browser-type favorite for execution.
- r. Described the report-generation tools provided to create custom reports.
- s. Can your system provide separate answer time statistics on 10-digit trunk groups, and combine this data with 9-1-1 figures to report the PSAP's overall performance?

22. Interface Capabilities

- a. The system must support interfaces to multiple CAD servers using a standard NENA CAD spill over serial port or IP.
- b. The system must provide an optional CAD spill update when ALI is rebid.
- c. The Vendor must provide NENA-compliant serial system interfaces for the delivery of ANI/ALI information to CAD and Mapping applications.
- d. The system must be capable of delivering ANI/ALI information to CAD and mapping applications natively via IP without requiring a hardware or software upgrade.
- e. The system must interface with the Digital Logger.
- f. The Call Taker Workstation must be interfaced/integrated with the radio system.
- g. Call Takers must use the same headset for both radio and telephone conversations. The Call Taker must be muted on the phone side while transmitting on the radio side without putting the caller on hold.

23. CTS Monitoring and Administration

- a. The CTS must allow supervisors and/or call-takers to view real time, concise ALI information of all 9-1-1 calls in queue at the PSAP.
- b. The system must be equipped with a monitoring capability that can be located with the Central Communications equipment or in a remote location.
- c. The system must be equipped to run self-diagnostic programs and to automatically report any error via audible and visible alarms.
- d. All maintenance and administration functions must be accessed via a browser-based application.
- e. The proposed system must be fully fault-tolerant. Vendor must describe how the proposed system meets this requirement.
- f. Describe your system's ability to display information such as the number of calls waiting in queue and longest queue time on the call takers' screens.