

CALL FOR PROPOSALS
911 PSAP COMPUTER TELEPHONY
INTEGRATED (CTI) TELEPHONE SYSTEM

NOTICE IS HEREBY GIVEN that the Preston County 911 Center will accept proposals until June 11, 2010 at 5pm for a 911 PSAP COMPUTER TELEPHONY INTEGRATED (CTI) TELEPHONE SYSTEM.

Proposals must be in accordance with the provisions, specifications, and proposal instructions set forth herein and will be received by Preston County E-911 located at 103A West Main Street, Kingwood, WV 26537 until the above noted time.

Proposals must be made in the format provided and submitted in a sealed envelope marked "911 PSAP COMPUTER TELEPHONY INTEGRATED (CTI) TELEPHONE SYSTEM," and may be presented in person on or before June 11, 2010 at 5p.m. at the above address. Telephone or fax proposals will not be accepted. Proposals that are mailed must be sent to **Preston County E-911, 103A West Main Street, Kingwood, WV 26537.**

To obtain a copy of the complete Request for Proposal, contact Melissa Hardy by telephoning **304-329-1855** or by faxing **304-329-2530**. The Request for Proposal will be available on May 24, 2010. This Request for Proposal is available in hard copy and website www.preston911.com

A mandatory pre-proposal conference will be held in Preston County Commission Meeting Room at 11:00 am on June 1, 2010. All general, technical or physical location questions concerning this proposal are to be documented in writing and mailed to Preston County E-911, 103A West Main Street, Kingwood, WV 26537 such that they are received 72 hours prior to the conference.

Proposals shall be submitted to Preston County E-911 no later than 5:00 p.m., Friday, June 11, 2010. Proposals should be submitted to 103A West Main Street, Kingwood, WV 26537. Any questions regarding this RFP should be directed in writing to Melissa Hardy at melissa@preston911.com and/or 304-329-1855. Proposals will be opened by the Preston County Commission on Monday, June 14, 2010 at 10 am in the Commission Meeting Room located behind the Annex, 106 W. Main St., Kingwood, WV 26537. Contract award will be held on Tuesday, June 22, 2010 at 10am in the Commission Meeting Room located behind the Annex, 106 W. Main St., Kingwood, WV 26537.

Preston County Commission reserves the right to reject all proposals received and to waive any formalities as may be permitted by law.

Melissa Hardy, Deputy Director

General Information

1. Preston County, (hereinafter referred to as the Customer) is soliciting sealed proposals from qualified Vendors to furnish and install equipment, accessories, hardware, software, labor, training, and materials necessary for a turnkey VoIP ready E-9-1-1 system. The proposed system will be installed in the Public Safety Answering Point(s) in Kingwood, West Virginia.
2. This solicitation is for the purchase of information technology goods and services and shall be awarded as per all County and State purchasing requirements. The proposals received shall remain confidential until the public bid opening. The contract shall be awarded to the company that submits the best overall proposal.
 - 1.1 Proposals shall be submitted to Preston County E-911 no later than 5:00 p.m., June 11, 2010. Proposals should be submitted to 103A West Main Street, Kingwood, WV 26537. Any questions regarding this RFP should be directed in writing to Melissa Hardy at melissa@preston911.com.
 - 1.2 All items will be shipped FOB to Preston County E911, 103A West Main Street, Kingwood, WV 26537.
 - 1.3 Payment will be made after acceptance of the equipment.
 - 1.4 West Virginia and local tax should not be included in the proposal.
 - 1.5 All exceptions or deviations must be clearly indicated.
 - 1.6 Vendor warrants that his bid is genuine and not collusive nor sham and that he has not conspired nor agreed in any manner to fix any bid price or any element of such price, payment or agreement for commission percentage, brokerage, or any other compensation for the procurement of this contract.
 - 1.7 Insurance Requirements
 - i. The vendor and all subcontractors, at their own expense, shall provide and maintain insurance with a company licensed to do business in West Virginia as follows:
 1. Workman's Compensation as required by all federal, state, maritime or other laws including employer's liability with a limit of at least \$500,000.
 2. Comprehensive general liability including contractors liability, contingent liability, contractual liability, completed operation and product liability all on the occurrence basis with personal injury coverage:

a. Personal injury each person	\$1,000,000
b. Each occurrence	\$1,000,000
c. Property damage	\$1,000,000
 3. Comprehensive automobile liability including non-ownership and hired car coverage as well as owned vehicles:

- a. Bodily injury each person \$1,000,000
- b. Each occurrence \$1,000,000

1.8 Prevailing Wage rates apply to this project

4. The contractor and all subcontractors in connection with the above mentioned insurance shall furnish to the owner duly executed forms showing proof of insurance naming Preston County as additionally insured and that insurance is in full force prior to commencement of the contract.

- a. Umbrella liability limit of liability \$1,000,000

1.9 All components of the Vendor's system shall meet the requirements of FCC Rules and Regulations Part 6B (Registration) and Part 15 (Emission and Interference). The Vendor shall provide in the bid response all license, permits and registration numbers obtained in their compliance with these Rules and Regulations. All components of the Vendor's system shall meet all current NENA and APCO standards.

1.10 The Vendor shall provide a list of at least three (3) installed systems with the type proposed including two (2) with a minimum, company name, contact person, telephone number and cutover date.

1.11 This section provides the bidder information necessary to develop a perspective for preparing a bid to meet the 9-1-1 telecommunications needs as specified herein.

1.12 The project consists of providing equipment to accommodate one Primary PSAP and no Remote PSAPs for Preston County of Kingwood, West Virginia.

1.13 The Vendor shall include telephone equipment as required with the system.

1.14 The Vendor shall include ANI/ALI equipment as required with the system.

1.15 The Vendor shall include other hardware as required with the system.

1.16 The Vendor shall ensure on all items of the response that no single component will create a single point of failure for the system.

1.17 The Vendor shall provide a Project Management Team for program planning, direction, structure and controls in order to provide superior service and to ensure all contract requirements and specifications are strictly adhered to.

1. INTRODUCTION

1.1. Purpose of the Request for Proposal (RFP)

The purpose of this Request for Proposal (RFP) is to obtain a complete 911 PSAP COMPUTER TELEPHONY INTEGRATED (CTI) TELEPHONE SYSTEM in accordance with the requirements herein.

The objective is to replace the entire telephone system with a new system that increases the effectiveness of 911 PSAP systems users and the public safety service level to the citizens. Preston County desires to acquire a system with a proven technical and functional design and preference will be given to Bidders that have currently installed systems that closely approximate or satisfy Preston County's requirements in the major functional areas.

1.2. Background on Current Environment

Population is approximately 30,000.

There are approximately 15 - 911 PSAP call takers, and 3 supervisors.

Approximately, 150,000 telephone calls for service were responded to.

The current telephone system was installed in the 1990's

The current 911 PSAP Telephone System uses Motorola Centralink

The telephone system supports 3 call-taking positions and 1 supervisor positions.

1.3. Sequence of Events Action

Action	Planned Date
RFP Available	May 24, 2010
Mandatory Pre-proposal Mtg	June 1, 2010
Bidder Submission of Proposal	June 11, 2010
Bid Opening	June 14, 2010
Selection of Proposed Award	June 22, 2010

2. 911 PSAP CTI TELEPHONE SYSTEM TECHNICAL REQUIREMENTS

2.1. Existing Hardware/Software

The hardware and software listed below describe the Preston County's current computing environment and strategic direction. Bidder products compatible with this hardware and software are preferred.

2.1.1. Hardware
New hardware to be purchased

2.1.2. Workstation Hardware
New hardware to be purchased

2.1.3. Software
New software to be purchased

2.1.4. Operating System(s)

NOTE: The Preston County 911 Communications Center's strategic direction for desktop operating system(s) is Windows XP 2003

2.1.5. Network Operating System

NOTE: The Preston County 911 Communication Center's strategic direction for network operating system(s) is Server 2000, R2 Standard

2.1.6. Resident PSAP Equipment
Motorola Centralink

2.2. 911 PSAP CTI Telephone System Hardware

References to hardware in this RFP include but are not limited to the intelligent workstations (PCs), network servers, the switch or PBX hardware, telephone consoles and/or sets, printers, associated ancillary equipment, and all other hardware required to support the proposed system.

If a Bidder's proposal includes any hardware and/or software provided by other manufacturers, the vendor shall be required to act as the prime vendor for all such items and must assume full responsibility for the procurement and maintenance of such items. The vendor will be considered the sole point of contact with regard to all stipulations, including payment of all charges and the meeting of all requirements of this proposal.

2.2.1. Computer/Telephone System Hardware
Intelligent workstations and servers provided under this RFP must be IBM-compatible with name brand recognition, and include Intel brand processors. Computer power supplies, hard drives, expansion slots, etc. must be sufficiently sized to permit 100% system expansion. The switch or PBX must use digital architecture and technology, and be modular in

design if based on premise.

- 2.2.1.1. PC configuration
Computer workstation and server configurations must comply with industry accepted standards. The Preston County Commission will not view favorably proposals that include proprietary configurations, unless the Bidder can demonstrate an overwhelming advantage to such configurations, and can guarantee long term support and upgrades.
- 2.2.1.2. Telephone sets
Telephone sets are required for alternate call processing backup to the CTI system. Manual switching from computer to telephone sets via cable swap from the computer to the console or set will not be acceptable.
 - 2.2.1.2.1. Analog
Analog telephone sets are not acceptable for use the system.
 - 2.2.1.2.2. Digital
Digital telephone sets are required for use with the system.

In addition, IP Telephony sets must be available as an option in order to provide VoIP capability for remote positions. These sets must be capable of supporting up to four lines on them.
- 2.2.1.3. Printers
Printers on the system must be standard, plain paper printers available in the marketplace. The Preston County Commission strongly encourages that these devices be on name brand quality. Printer drivers required for standard and selected printers must be provided as part of the system.
- 2.2.1.4. Input device operation
As an option, the system must accommodate the following operating devices. Selection of input devices must be a user function. Use of multiple applications during an operating session must be permitted via a single input device. Special attention must be given to each device regarding ergonomics and operational use. Independent arbitration of the keyboard and mouse between the telephone, TTY and CAD is required. Switching between applications must be performed through a single keystroke or mouse click, and take effect in less than one (1) seconds.
 - 2.2.1.4.1. Keyboard
A standard, IBM PC 101 keyboard must be capable of processing all telephone calls, including voice, TTY, and

TDD calls, and CAD functions. During CTI system failures, all call processing must be available via an alternate mode.

2.2.1.4.2. Mouse

The system must operate with standard two (2) and/or three (3) button and track ball mouse systems. The mouse must be capable of processing all telephone calls, including voice, TTY, and TDD calls. As an option, the mouse should be available to the CAD application in case of a CTI (Telephone Interface) system failure.

2.2.1.4.3. Screen/Monitor

A full size, color screen, 17 inch flat panel monitor is required. Monitors must use the most current standards for minimizing radiation to the user. The video system must employ selectable refresh rates that eliminate screen flicker. Screen color, size, distance from the user, and other operational considerations will be evaluated closely. At a minimum, the user must be provided the capability to answer and release incoming calls with a single mouse click.

2.2.1.4.4. Telephone consoles or sets

Although telephone consoles or sets will not be used under normal operations, the capability to readily activate such devices during system failures and emergency/fallback operations is imperative. Telephone consoles or sets should retain as much of the CTI system functionality as possible. The Bidder must describe in the proposal the manner in which the telephone consoles and/or sets are connected to the system and the degree of functionality they provide users. The Bidder shall state how the transition is accomplished between should the CTI application fail. Bidder shall clearly state if the caller/call is lost during this transition.

2.2.2. System sizing

2.2.2.1. Base system

The system must be fully equipped with the following:

- 4 - 9-1-1 Trunks
- 20 - Seven Digit Emergency Lines
- 12 - Admin Lines
- 3 - Dispatch Positions

2.2.2.2. Modularity/expandability

Expansion to the system must be modular in that additional

equipment cards or shelves can be added to increase capability. The Bidder must include how each portion of the system is expanded, the increment of expansion, expansion, and the maximum limit of expansion for each category of expansion.

2.2.2.3. Processing Capacity

The Bidder is required to propose and document in the proposal the minimum and recommended general hardware RAM and CPU specifications on which the Bidder warrants that the proposed application software will operate efficiently and have sufficient capacity to support (150,000) calls for service per year and 3 user positions and still comply with all stated performance requirements.

2.2.2.4. Storage

The system must provide sufficient hard drive storage capacity to store system setup and data information for a minimum of one (1) year without archiving as an option. The Bidder is required to document in the proposal the approximate amount of computer magnetic mass storage media necessary to store all data required for the operation of the 911 PSAP CTI TELEPHONE SYSTEM.

2.2.3. Installation

Preston County desires a "turn key" installation for the entire CTI telephone system. The successful Bidder is responsible for installing all equipment and cable required to support the proposed system. The bidder must have no less than two technical staff that has past experience with installation of the proposed technology. All technical staff must have proper County credentials to enter the dispatch center which includes background check and fingerprinting. The Bidder shall be responsible for coordinating the removal of existing telephone equipment and cable that is abandoned as a result of the new system installation. The Bidder shall be responsible for any damage done to the existing system has a direct result of their removal.

2.2.3.1. Cabling

Responses to this RFP must include all necessary cable and cabling distribution. No existing cable shall be reused.

2.2.3.2. Drawings

Three complete sets of as-built drawings are required. As-built drawings must also be submitted in AUTOCAD 12 format, or other agreed upon graphic format as delineated in the contract, on three individual sets of 3.5" diskettes or CD's.

2.2.3.3. Emergency power

The PSAP is equipped with sufficient emergency and UPS backup power to support the CTI telephone system. Customer premise equipment provided under this RFP, which is connected

to the existing UPS must be done in a manner that telephone service is not interrupted during primary power fluctuations or outages.

- 2.2.3.4. Equipment racks
Standard 19" or 23", 7" (84") aluminum equipment racks must be provided by the Bidder. Preston County will work with the successful Bidder on an acceptable floor plan and exact placement of racks. Rack type and installation practices must comply with existing standards of Preston County. Specifics regarding Preston County standards may be obtained from Preston County 911.
- 2.2.3.5. Grounding
System grounding must comply with industry standards and good engineering practices with R56 standards. The Bidder shall provide a "comprehensive" grounding review prior to system installation. Please indicate the professional services and/or experience of the individual and/or company that will be conducting the survey.
- 2.2.3.6. Power
The system must operate from standard 115V, 60 Hz, single-phase power. The Bidder shall state their power requirements for the backroom equipment and each answering position. .

The successful Bidder is responsible for ensuring equipment in the system is connected to clean power, and that ample surge and lightening protection is installed for each device connected to the system. Protection devices that use reset versus replacement circuitry are strongly encouraged.
- 2.2.3.7. Practices
System installation must be consistent with Industry standards, Preston County existing practices, applicable EIA standards, and good engineering practices.
- 2.2.3.8. Punch blocks
The Bidder must describe the make, model, type, and style of rack mounted IDF and punch blocks proposed.
- 2.2.3.9. User workstation consoles
CTI equipment at the user and supervisor workstation consoles must be installed in a manner that facilitates the user's needs while readily conforming to ease of access to equipment for the technicians. It is understood that much of this depends on the workstation console itself. Bidders are encouraged to include the brand and/or type of adjustable platform workstation console for which their equipment is best suited

2.2.4. Interfaces

The Bidder must interface the CTI system with Preston County's future CAD and existing and future radio systems. Integration methods employed by the Bidder must meet Preston County's approval, and not affect the warranties, agreements, or proprietary rights of the existing systems' manufacturers.

2.2.4.1. CAD

The Bidder must define in the proposal the CTI telephone system fields available for transfer to the CAD, and propose varying degrees of telephone/CAD integration for the new CAD systems. As a minimum, the name, address, and telephone number of the calling party, and the time of the call must transfer to the respective CAD fields from the telephone system.

The Bidder must describe in the response the process (how and when) by which information is sent from the CTI telephone system to the CAD.

The proposal for CTI telephone system/CAD integration must include functionality, scope of work, cost, schedule, impact to the system, and other related information for each degree of integration.

2.2.4.2. Headsets

The current system allows the use of both handsets and headsets. The current system utilizes carbon or electret type transmitters. The Bidder shall state whether or not these headsets can be reused with the new proposed CTI system. Preston County desires to continue operating with only one headset per user. Should the CTI application fail, the Bidder must include engineering for automatic handset/headset connectivity, transmission, and reception of the telephone caller to the alternate telephone set.

To ensure sufficient safeguards exist that prevent system users from inadvertent keying or experiencing a loss of signal caused by improperly wired or incorrect type headsets being plugged into the telephone and/or radio system, the system shall be designed to accept one handset/headset type system wide.

2.2.4.2.1. Microphones/speakers/headsets

Users must be permitted to use the same microphone and speaker or headset to control the radio and telephone functions. Integration of the headset between the telephone and radio systems is performed through the radio system's interface function in the radio console. The Bidder must ensure the system proposed will fully

integrate with the Preston County's radio system.

- 2.2.4.2.2. Adjustments
Independent headset audio/speaker adjustments are required. The user must be provided the capable of independently adjusting receive audio levels from the CTI application by using the mouse and/or keyboard. Telephone audio adjustments must be made independent from and not affect the individual workstation, but must follow the user by log-on to any workstation within the system.
- 2.2.4.2.3. Auxiliary Audio Inputs
The radio system's interface function must provide auxiliary audio inputs that will allow a call-taker to listen to audio sources when they are not on a call. There must be a minimum of three audio inputs.
- 2.2.4.2.4. Mute
A mute function is required for the CTI application. This feature shall be available to the agent via a single mouse click or keystroke.
- 2.2.4.2.5. Telephone off-hook
To integrate the headsets into the radio interface, Bidder's must provide a closed relay contact for a telephone "off-hook" condition. The relay contacts must be floating and not connected to ground or voltage/battery.
- 2.2.4.2.6. Transmit and receive audio
Audio switching shall be available to agent via a single mouse click or keystroke. External transmit and receive headset connections are strongly discouraged. It is preferred that these volume controls should follow the agent based on log-on. Impedance and levels must be equal to a standard telephone headset, balanced, and free of hum, noise and cross talk.
- 2.2.4.2.7. Types
Preston County currently uses a variety of standard-type telephone headsets. No change is anticipated. The system must permit use of standard telephone headsets available in the marketplace without modification to the headset jack or internal wiring. It should be noted that user console workspace is a premium.

User positions must be equipped with two front panel headset jacks for the telephone system only. The telephone headset jack must accept support for a

standard, 4-wire or 6-wire headset plug including the push to talk variety. The transmit and receive audio levels must not change in the active headset when the other headset is inserted or removed.

- 2.2.4.3. Logging recorder
Preston County currently uses Mercom 24 hour logging recorder. The Bidder must demonstrate in the proposal their capability to readily integrate the telephone system with this system.
- 2.2.4.4. Radio
Preston County currently uses a Motorola Gold Elite radio console system. The Bidder must demonstrate in the proposal their capability to readily integrate the telephone system with these systems.
- 2.2.4.5. System time
The Bidder must provide a means to synchronize every workstation and the PBX or switch in the proposed system to the existing ESE GPS time source using Network Time Protocol (NTP).
- 2.2.4.6. TTY / TDD
The Bidder must fully integrate the proposed CTI telephone system with a TTY/TDD system. The TTY and TDD interface proposed must comply with all existing and known future FCC and/or legal requirements, including ADA, for handling TTY and/or TDD calls.
- 2.2.5. Operating temperature
All equipment rooms are air-conditioned; however, the Bidder must provide the guaranteed operating temperature range and the BTU's of heat generated for each primary piece of equipment in the proposed system. The expected operating temperature range is between 0°-40° C.
- 2.2.6. Standards
The Bidder is responsible for proposing and listing in detail the hardware Preston County is required to purchase and/or lease to support the proposed solution. All equipment proposed must comply where applicable with industry standards such as UL approval, ISO, OSI, IEEE, ANSI, EIA, TIA, (including ANSI/EIA/TIA-568 Commercial Building Telecommunications Wiring Standards), etc. Equipment proposed must be compatible with AT&T telephony protocol(s), when applicable.
- 2.2.7. Technology
- 2.2.7.1. Analog
The use of analog switch technology is not acceptable and will be considered grounds for automatic non-compliance to this RFP.

- 2.2.8. Templates
Keyboard templates or other helpful tools required for ease of operation must be provided upon delivery of the system.
- 2.2.9. WAN / LAN connectivity
The Bidder must state in the proposal if WAN/LAN connectivity is required. Equipment required for connectivity to Preston County's WAN/LAN must comply with the standards used by Preston County's Information Services Division at the time of the proposal. Information regarding network connectivity standards is available from Information Services Division. If WAN/LAN connectivity is proposed, a complete list of equipment, including manufacture, model, revision, etc., a network diagram, and a fully detailed functional description for the connection must be included. For example, CAT5 Ethernet cable using TCP/IP protocol.
- 2.3. 911 PSAP CTI System Software
References to software in this RFP include but are not limited to the CTI application, the NOS/OS, the switch or PBX operating system and application, and all other software required to support the proposed system.
 - 2.3.1. Computer/Telephone System Software
The use of standard software products available in the marketplace is strongly encouraged for workstation and network operating systems. Proprietary CTI application software is expected to be written in a state-of-the-art language using 32-bit architecture. Proprietary switch or PBX software must be designed and written using current programming languages and techniques, and perform efficiently. Long-term software support for proprietary software is required. The Bidder must describe in the proposal the software developer's commitment to long term maintenance and support of the products proposed. Vendor software must be written in a modular approach so a failure in any one window does not affect other windows in the application.
 - 2.3.2. Compatibility
To ensure compatibility with the Preston County's existing network and future enhancements, proposed CTI application software must operate at OSI Level 6 (Presentation Layer) or above. The Bidder shall state their OSI application level.
 - 2.3.3. Operating systems
Preston County's strategic direction for desktop and network operating systems is Windows 2000/XP Workstation and Windows 2000 Server. The use of standard network and workstation 32 bit operating systems is strongly encouraged. Use of proprietary operating systems is strongly discouraged and will be reviewed carefully. Bidders proposing systems that use proprietary operating systems must explain the reasons for such use, and their commitment to supporting and modifying the proposed

proprietary operating system.

2.3.4. Production version

The latest production version of software releases for the product line selected must be proposed. If between the time of proposal and the time of final acceptance new releases of software are marketed and available, they must be provided to Preston County without additional charge. One condition of final acceptance is that Preston County must have the latest releases of supported production version software for the entire installed product line.

2.3.5. Security

The Bidder must propose a solution with security features to satisfy the Preston County's network security requirements (using, for example, routers or firewalls), including those security requirements by Public Safety and State Police to protect the criminal justice systems from unauthorized access.

2.3.6. Source code

The Bidder shall state the availability of the Source code for the CTI telephone system. Bidders must specifically identify all source code not provided. If application source code is not provided with the CTI system, then the Bidder is required to place the application source code in escrow for Preston County and demonstrate to the Preston County's satisfaction that the said source code will be faithfully maintained. Source code is not expected for commercially manufactured software products such as but not limited to Windows™, Oracle™, or other such products.

2.3.7. Upgrades

Software upgrades must be provided to Preston County as available. If a cost is associated with software upgrades, the Bidder must include an expected cost for software upgrades.

2.4. System Compatibility

2.4.1. General 911 PSAP CTI Telephone System Compatibility

The hardware, operating system, and network selected for the 911 PSAP CTI TELEPHONE SYSTEM must be compatible with the Preston County's computing environment to the extent that all functional interface requirements are satisfied. Additionally, the Bidder must identify in the proposal the resources necessary to maintain the system.

2.4.2. Compatibility Limitations

The Bidder of the proposed 911 PSAP CTI TELEPHONE SYSTEM application software is required to either warrant that the proposed system is hardware/operating system software independent and will function on any hardware platform chosen (within the configuration stated above), or specify any limitations that restrict the proposed software system to certain hardware/software platforms.

- 2.4.3. E911 Network Compatibility
The Bidder must guarantee in writing in the proposal that the proposed system is fully compatible with the state of West Virginia.
- 2.5. System Performance Specifications
- 2.5.1. General
The system proposed must be capable of performing hardware/software routine maintenance and upgrades while the system is fully operational. The proposal must specify the required or suggested activities, such as hardware/software maintenance, data reorganization, off-line processing, etc. that will cause the system to be unavailable to users. The average period of time that the system can be expected to be unavailable due to each of these activities over a one-month time-frame must also be specified.
- 2.5.2. System availability
The 911 PSAP telephone system must be available to users twenty-four (24) hours per day, seven (7) days per week. The successful Bidder supplied hardware and software must provide Preston County with 911 PSAP telephone system availability of no less than 99.7% (approximately twenty-six (26) hours of downtime over any consecutive twelve (12) month period) or state the percentage of system availability if less than 99.7%. If the proposed system availability is less than 99.7%, the Bidder must detail the reasons for the decreased availability. The 911 PSAP telephone system will be considered down whenever normal telephone operations cannot be conducted without experiencing major system alarms or conditions that inhibit or prevent the call taker from communicating with the calling party or performing vital call processing functions.
- The 911 PSAP telephone system downtime resulting from external causes, including but not limited to acts of God, fire, or Preston County's negligence will be excluded from downtime calculations.
- 2.6. Systems & Acceptance Testing
The Bidder will be responsible for all materials, hardware and software provided until subject items have been delivered, implemented, tested, and accepted by Preston County. The Bidder will certify in writing to Preston County when the system is installed and ready for testing. Degrees of system failure and operability for acceptance testing purposes are determined solely by Preston County.
- 2.6.1. Failure Prioritization
The following failure priority levels are defined for use during the Systems & Acceptance Testing process.
- 2.6.1.1. Priority One (1)

Priority one (1) failures are major system failures that render the system completely unusable and/or inoperable, and are considered to be operationally unacceptable by the PSAP Manager.

2.6.1.2. Priority Two (2)
Priority two (2) failures are major and minor system failures that significantly reduce system operability and usability, and are considered to be operationally unacceptable by the PSAP Manager.

2.6.1.3. Priority Three (3)
Priority three (3) failures are minor system failures that minimally reduce system operability and usability, and are considered to be operationally acceptable only during the acceptance testing phase by the PSAP Manager.

2.6.1.4. Priority Four (4)
Priority four (4) failures are minor system failures and punch list items that have little to no effect on system operability and usability, and are considered to be operationally acceptable only during the acceptance testing period by the PSAP Manager.

2.6.2. Acceptance Testing
Acceptance test plans are required as described in the following subsections. If, in Preston County's judgment, it determines that the CTI telephone system has not passed a test performed, Preston County will provide the successful Bidder a written description of the way(s) in which the CTI telephone system's performance was deemed unsatisfactory. The document will also include a limited but reasonable period of time in which the problem is to be resolved by the successful Bidder.

In measuring acceptance, system failure resulting from external causes, including but not limited to acts of God, fire, Preston County's hardware failure or Preston County's negligence, will be excluded from the acceptance testing.

If it is discovered that the system or any part thereof requires correction, Preston County must, nevertheless, have the absolute right to continue the use of the system until such time as it is convenient to Preston County for change implementation.

If the CTI telephone system does not function because of a problem in Bidder's hardware or operating system, it is the Bidder's responsibility to define/document the problem and furnish the corrective action to fix the problem.

Preston County will notify the Bidder in writing when the 911 PSAP CTI TELEPHONE SYSTEM has passed/completed the final acceptance test.

2.6.2.1. Build out

The successful Bidder will procure, receive, and build out the entire telephone system as outlined in the final, negotiated contract process prior to installation in Preston County's Communications Center. The location of the build out will be agreed upon by Preston County and the successful Bidder as part of contract negotiations. Specifics about the Bidder's intended process for the build out must be included as part of the response to this RFP. A build out testing plan is required in this RFP response. Testing must include a measurable testing process for each functional and technical aspect of the specifications listed in this RFP.

2.6.2.2. Preliminary

A preliminary acceptance testing plan is required in this RFP response. Testing must include a measurable testing process for each functional and technical aspect of the specifications listed in the Bidder's proposal response. Once accepted by Preston County, the testing plan will be used for testing the initial installation in Preston County's Communications Center.

2.6.2.3. Final

A final acceptance testing plan is required in this RFP response. Final acceptance testing is expected to commence immediately upon system cut over and proceed for thirty (30) consecutive failure (priority one (1) free days. If a priority one failure occurs during the final acceptance testing period, the final acceptance testing period will be stopped, and the failure or failures expediently fixed to Preston County's satisfaction. During this period of interruption, the system must continue to operate with the greatest degree of reliability possible given the respective failure(s). The final acceptance testing period of thirty (30) consecutive failure free days will restart the day after repairs are affected, at Preston County's sole discretion.

Testing must include a measurable testing process for each functional and technical aspect of the specifications listed in the Bidder's proposal, and system performance measurements based on the telephone activity to date in Preston County's Communications Center. This testing serves as a sign off process for payment to the successful Bidder.

2.7. Secondary call taking site

Preston County's 911 calls are currently rerouted to another PSAP during times that require alternate 911 call routing. The Bidder must describe the way in which service could be provided to the secondary site.

3. 911 PSAP CTI TELEPHONE SYSTEM FEATURES

3.1. System Features

3.1.1. Redundancy Option

There must be an option for a minimum of two processors, each having its own power supply. System must provide information to the duty supervisor that a failure has occurred, as well as inform the service provider through a remote maintenance connection. This response must contain an accurate description of how the steps required to effectuate a switch over from one processor to the other will occur. There must also be an accurate assessment of how much time will be consumed from the time of system failure until system reactivation on the second processor.

3.1.2. Trunking

The trunk interface shall transform one (1) E9-1-1 tandem trunk, TSPS/CAMA trunk, or other reverse battery supervision trunk using MF signaling into a class "C" service line for presentation to the agent. The trunk interface shall decode MF tones presented with various protocols, and then send corresponding ANI to the answering position handling the emergency call.

3.1.3. Pre-Recorded Greetings

The system must allow the call taker to program "Pre-Recorded Greetings" by line type. These greetings must follow the call taker by log on to any position. There must be a different greeting allowed for each line type in the system.

3.1.4. System Expansion Capability

The switch shall be based upon a modular design that offers the Preston County superior price/performance and the flexibility to grow in size and functionality as expected and un-expected growth occurs. The switch should offer the Preston County upgradeability and graceful evolution.

3.1.5. Call Flow

Currently all calls are presented to all call takers at the same time. The new system needs to provide this type of call flow along with the indication of the longest ringing call as well as single button answer of that call.

3.1.6. ANI/ALI

The system must accommodate twenty (20) digit, XY (latitude/longitude) coordinates, and latitude and longitude ANI in compliance with FCC Docket 94-102. Preston County uses two circuits to communicate with the ALI database provider for ALI services. Communications with the ALI database must be made in a full duplex mode immediately after the ANI is decoded.

3.1.7. Archiving/retrieving data option

The system must provide data archiving and retrieving for the MIS package as an option. The process must provide discrete selection for archiving and/or retrieving data by date(s). The Bidder must provide a description of the data archiving and retrieving process.

3.1.8. Backup/redundancy option

3.1.8.1. Central Processor(s)

As an option the system design must eliminate single points of failure by using fault-tolerant components (e.g. dual power supplies, RAID, mirroring, hot swappable components, etc.) The Bidder must fully describe in the proposal any reduced levels of service caused by component failure, including the operational requirements for backup and recovery.

3.1.8.2. E911 Controller and/or Control Function

Whether or not the proposed system uses a standard E911 controller, the solution must use a distributed processor architecture and meet the following functional requirements.

No single point of failure is permitted. Control functions must not use a central controlling module or other single device.

Each line interface and call processing module shall serve a minimum number of trunks, call takers, and/or transfer positions. The activity state of a line interface or call processing module must not affect the performance of another. Heavy trunk traffic, false trunk seizures, line failures, and/or defective line interface and/or call processing cards must not affect service to trunks handled by other cards in the E911 controller or other equipment performing control functions.

Administrative ports and modules and ANI/ALI display modules that provide communications to external devices such as ALI databases and ANI/ALI displays must be redundantly configured. One module must be active and the other in standby mode. The system must switch to the standby module automatically if the active module fails.

Power supplies must be distributed and redundant.

Replacement of faulty modules must not require system or controller shut down.

3.1.8.3. Fault tolerance and fallback modes

The system must provide varying degrees or levels of fallback operations, depending on the magnitude of the fault or problem. An "all or nothing" approach is unacceptable. The Bidder must describe in the proposal each level of fallback in detail.

3.1.8.4. Files

3.1.8.4.1. Data

Administrators must be permitted to backup system data files separately from operating system and system setup files. In the event of a system failure that causes system data corruption, administrators must be able to reload the system data files without affecting any other files.

3.1.8.4.2. Operating System

Administrators must be permitted to backup operating system files separately from data and system setup files. In the event of a system failure that causes operating system corruption, administrators must be able to reload the operating system files without affecting any other files.

3.1.8.4.3. System setup

Administrators must be permitted to backup system setup files separately from system data and operating system files. In the event of a system failure that causes system setup corruption, administrators must be able to reload the system setup files without affecting any other files.

3.1.8.5. Hard drive

The system must provide an easy-to-operate backup system for backing up the hard drive. The system may use a DAT tape or other permanent memory storage device as backup media. The process required for backup must not interrupt normal use and/or operation of the system. The Bidder must describe in the proposal the backup process for the proposed system and the estimated time required for backup.

3.1.8.6. Information retrieval

Retrieving information from backup media must be available to administrators from any position on the system. The process required for information retrieval must not interrupt normal use and/or operation of the system. Information retrieved must be in a "read-only" format, and must not be changeable from the retrieval process.

3.1.8.7. Telco routing

The Bidder must include a plan for diversifying the routing of the services provided from the local telephone exchanges. Service must come from at least two (2) central offices regardless of the service provider(s). A minimum of two (2) routing paths into the Communications Building is required. No one single point of failure is permitted.

- 3.1.9. Call time stamp
The time stamp must be referenced to an acceptable time standard, and not deviate from the CAD time. The system must time stamp all incoming voice, TTY, and TDD calls using the system's internal time source. The time the call entered the system, the time it is answered, the call duration, the time completed or transferred, and the user ID must be included in the time stamp function.
- 3.1.10. E911 Controller and/or Control Functions
Preston County is considering customer premise based solutions. Whether or not the proposed system uses a standard E911 controller, the solution must use a distributed processor architecture and meet the following functional requirements.
- Modules must function independently. Processing bottlenecks must not occur. Each call processing module must be equipped with a dedicated multi-frequency receiver to avoid delays in decoding ANI. The system must not force incoming calls to wait for an available multi-frequency receiver before presenting the call.
- 3.1.11. System time
Time for the telephone system must be consistent with the time used for the radio and CAD systems. One standard for all three systems is most desirable.
- 3.1.12. Trunk and lines
- 3.1.12.1. Classification
The system must permit the capability to classify a minimum of five classifications of trunks and lines. (e.g. emergency, administrative, non-emergency, jurisdiction "X", etc.)
- 3.1.12.2. Connectivity
Trunk and line connectivity must be provided as per Preston County's acceptance of approved engineering by the Bidder. The connectivity or cross connect system must be sized in a manner that accommodates moderate growth and modular system expansion for trunks, lines, and ring down circuits.
- 3.1.12.3. Prioritization
The system must provide the capability to systemically prioritize and differentiate by color between types of trunks and lines. Prioritization must provide the capability to affect queuing and differentiate between categories for the longest unanswered call feature. Selectable colors must be available for each priority. A minimum of three (3) priorities is required.
- 3.1.13. User type/qualifications
The system must provide the capability to denote a user's functional

duties or specific qualifications. Visual presentation of this information must be selectable between permanent viewing and viewing upon command. Establishing individual personalities within software must not increase user log on time. Total user log on time must not exceed fifteen (15) seconds.

3.1.14. Help functions

The system must provide on-line hyper-text help for all user functions. Help information must be retrievable while using the system without having to abandon a call or log off. The Help screens must contain standard, Windows™-type help functions such as but not limited to topics, contents, search, find, etc. The level of "Help Information" must be based on authorization / skill level. At no time should a lesser level gain access to help information on supervisory or administrative levels.

If written help and user information is currently published for the system proposed, two copies of the user information must be provided at no additional cost to Preston County.

4. 911 PSAP CTI TELEPHONE SYSTEM USER SPECIFICATIONS

The proposed system must provide users the ability to perform required and routine telephony functions with minimum impact and/or conflict with CAD and/or radio operations.

4.1 The CTI telephone interface shall provide the user with on-screen access to all telephone features.

The interface shall be a Graphical User Interface and shall provide the user with the ability to access the operating system and applications via easy to use icons and pictures. Users shall be released from having to remember long, complicated command structures in favor of icons.

4.2 The Preston County's strategic direction for desktop operating systems is commensurate with Microsoft's next generation version schedule.

To ensure the greatest degree of reliability, flexibility and security, it is highly desirable that the system shall operate under the Microsoft Windows 2003/XP Workstation™ operating system. Bidders will validate their technical proficiency and their ability to support, design and implement Microsoft BackOffice™ solutions. Bidders shall state any Microsoft certification programs of which they are participants of, such as, Microsoft Solution Partner or Microsoft Certified Professional.

4.3 System Log-On

The system shall provide log-on capability. Each call taker will be prompted to log-on based on a user name and password. Upon successful completion, all personalized features, functions, and capabilities shall be made available to the call taker. The Preston County would also view favorably a solution which allowed a "single" log-on to all telecommunicator functions, such as the CTI telephony application and CAD.

- 4.4 Abandon Call Capture
The system must provide users and supervisors the capability to capture abandon call information, and redial the abandoned number automatically upon command. A list of abandoned calls must be provided in table format, and selectable for redial with a single keystroke, or mouse click. Redial must occur within two (2) seconds from when initiated.
- 4.5 Automatic Redial
The system must provide each user the capability to redial the last five (5) numbers (minimum) answered on their console. Redial must occur within two (2) seconds from when initiated with a minimal number of screen keystrokes, or mouse clicks.
- 4.6 Call Conferencing
The system must provide conferencing features, which permit every user and supervisor on the system to conference, multiple lines and trunks without regard to the type of line or trunk. Conferencing must not degrade the quality of the audio. The Bidder must describe the call conferencing process, and the number of lines that can be conferenced during a single call without degradation. Adding a call to the conference must occur immediately with a minimal number of keystrokes, or mouse clicks.
- 4.7 Call History
As each call is answered, the system must automatically save the last one hundred (100) callers (ANI/ALI) in a Call History window. System must also be capable of tracking the call history in a database format for retrieval by the call takers at a later date.
- 4.8 Supplemental Information
They system shall provide the ability to add information (such as location information, hazardous materials information, medical alerts, etc.) to a location based upon ALI. In addition, the system must allow for the user to create their own categories for entering information. This information must then be shared by all call takers and appear in the call display when a call is received with the same ALI.
- 4.9 Call Notes
The system shall provide the ability for a telecommunicator to attach a Call Note to the Call record associated with any particular call. The note shall be recorded to the Master Call Records database and be available for viewing through the MIS reporting package.
- 4.10 Call Holding
Users answering calls must be permitted to immediately place a call on hold with a single keystroke, or mouse click. Information regarding the time the call was placed on hold, the duration the call has been on hold, and the user that placed it on hold must be available on the screen for each call on hold.
- 4.11 Call Playback
In addition to data captured on logging recorders, the system must provide separate functionality for recording and playing back all calls, voice, TTY, and TDD, for the most

previous thirty (30) minutes of operation. Playback functions must occur within one (1) second of a minimal number of keystrokes, or mouse clicks. The system shall provide the following functions:

- (a) The voice recording shall be physically stored on the local hard drive in an individual file for each call.
- (b) The Instant Recall Recorder shall provide VCR-like controls. The user shall have the ability to mark and move to any portion of the call.
- (c) The Intelligent Workstation shall provide two jack boxes and an output port for an interface to an external speaker at the position. This shall allow the call-taker to playback the Instant Recall Recorder to the speaker port, headset/handset 1, headset/handset 2, or a called or calling party or a combination thereof.
- (d) At a minimum, the Instant Recall Recorder shall provide the following features:
 1. Play
 2. Pause
 3. Stop
 4. Play forward/Fast forward
 5. Rewind
 6. Repeat
 7. Forward file to another position
 8. Display ANI
 9. Display Calling Line ID (if available)
- (e) The system shall provide an option for the user to record a "pre-Recorded Greeting" in their own voice to be played upon call answer. This feature will allow the call taker to be in a "listen" mode, rather than a "talk" mode. Multiple greeting shall be available to the user based on the line type, such 9-1-1, seven-digit emergency or administrative.
- (f) The headset/handset volume shall be adjustable via software. Adjustment shall be possible by a simple "point and click" procedure. Volume adjustments shall follow the user to the position once they log-on, and shall not require readjustment due to the previous user.

4.12 Call transfer

Call transfer must occur immediately with a single keystroke, or mouse click. User and supervisor functions associated with normal call taking and monitoring must apply to transferred calls. Users must be capable of transferring calls manually and/or through speed dial functions from the keyboard and/or mouse. If internal to the system, notification of the incoming transferred call must be provided on the console screen of the respective user to whom the call was transferred. The user originating the transfer and all supervisors must be able to reenter the call up to the point the call is answered at the transfer point. If internal to the system, the transferred line must be denoted on the originating user's and all subsequent user's consoles until the call is complete. Call data must be maintained for calls transferred within the system throughout the

duration of the call without regard to number of transfers.

4.13 Intercom

The system must provide an internal intercom. Users and supervisors must have the capability to select whether the intercom audio is routed to their headset or handset. Use of the intercom feature must occur with a minimal number of keystrokes, or mouse clicks.

4.14 Enhanced Wireless

The system must provide a method for formatting the ALI for calls with 20 digit ANI (CAS) and 10 digit (NCAS) so the Calling Party Number (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.

The system must also provide the CPN to a third-party CAD application, which uses the CPN as the CAD incident number. This is to ensure that the CAD incident number for wireless calls is based on the actual CPN, not a non-dialable number (pseudo-ANI or ESRx).

4.15 Enhanced Alarming

The system must be capable of sending alarms to an external monitoring service that will notify the user when a system or user module is no longer functioning properly. The monitoring service must be capable of the following:

- 24x7 monitoring of all servers and workstations with the ability to be run locally, remotely via dial up, or through an internet connection via Virtual Private Networks (VPN)
- Alarm notifications via pager or e-mail
- Remote troubleshooting
- Performance monitoring

4.16 Call Detail Records

The system must be capable of creating call detail records and system event records with the information gathered from workstations and the switch in the event that a call center's quality of service comes into question. These records can then be used to audit the events of the call in order to determine if processing occurred in a reasonable fashion. The records must be capable of being sent to a number of different destinations, such as to a printer to create a hard copy or to an MIS package to create a database record. Call event information that cannot be sent successfully to the CDR system must be stored at the workstation. The CDR system must also be capable of recovering unsent event information and creating a special recovered call detail record.

4.17 DDE Channels

The system must provide two DDE channels to share ALI information with other applications, such as a mapping or CAD application.

4.18 Enhanced ALI Display

The system must provide for at least 100 viewable saved ALI requests per user session. In addition, all non-manual ALI requests must be automatically saved for the

duration of the user session.

4.19 IP ALI

As an option, the system must be able to connect to the ALI service provider with a TCP/IP connection. Please state your ability to provide this feature.

4.20 Longest Ring

4.20.1 Answer

The system must provide the capability to immediately answer with a minimal number of keystrokes, or mouse clicks from any screen the longest ringing trunk or line in queue. The system must denote the trunk or line classification and priority, as outlined in Section 3.1.12.

4.20.2 Identify

The system must readily identify the trunk and/or line and classification of the highest priority unanswered call in each trunk and/or line classification group.

4.20.3 Queuing

The system must automatically queue calls by priority for the longest ring. e.g. every priority one (1) call will be answered in order of ring duration before any in subsequent priorities are answered regardless of ring duration between priorities.

4.21 Private Ringing

The system must support private ringing.

4.22 Records management

Use of record management and report functions must not negatively impact system performance.

4.22.1 Functionality

The records management functions in the system must be standards-based. Information such as but not limited to the following events must be provided. Accurate daily call count by trunk and line, calls per hour, average mean answering time, average call duration, call distribution, and other call related information. Information must be reportable by user, position, trunk/line, etc. A finite set of pre-programmed reports must be available to users and supervisors.

4.22.2 Record review and reports

Record review and report writing functions must be available to users, supervisors, and maintenance personnel if granted access to these functions by the system's administrator. The additional use of password protection is desirable for records review and report writing. Initially there shall be three CTI positions capable of this function, and no_non-CTI equipped positions capable of this function.

At a minimum the system shall provide the ability to generate reports:

1. based on position(s)
2. based on trunk(s) or line(s)

3. based on groups of positions
4. based on groups of trunks or lines
5. based on time of day
6. based on shift duration
7. based on day of week
8. based on week
9. based on month
10. based on quarter
11. based on abandoned calls
12. based on outbound calls
13. based on inbound calls
14. based on duplicate callers
15. based on call duration, time of answer, time of hold, time of talk

4.22.3 Changes to data

Data integrity is of significant importance owing to the nature of the data. Bidders shall state the safeguards that are in place to protect the integrity of the data.

4.22.4 Printing

Records and reports must print on the printer of choice.

4.22.5 Query Language

The use of SQL-based reporting is required. Use of proprietary query languages is strongly discouraged. Bidders proposing systems that use proprietary query languages must explain the reasons for such use, and their commitment to support and modification of the language.

4.22.6 Type

The Bidder must describe the type of records management and reporting system proposed. Specific information regarding the system's capabilities and limitations must be provided. If "canned" type reports are available, a brief description and sample of each report must be included.

At a minimum the system shall provide a variety of "canned" reports providing information on:

1. Hourly and daily system overview reports, including inbound calls, outboard calls, abandoned calls, cellular calls, 9-1-1 calls, admin calls, etc.
2. Duplicate Caller report
3. Abandoned Caller report
4. Ring Time Statistics
5. Trunk & Line Utilization

4.22.7 Viewing

Records and reports must be viewable from the screen. Printing records and reports as the only means of viewing is unacceptable.

4.23 Speed Calling

The system must include the capability to preprogram a nearly unlimited quantity of numbers into a speed calling function for the purpose of reducing the time necessary to connect to another party over the telephone network. Selecting a number from the speed calling group must be accomplished from an object button or with a minimal number of keystrokes, or mouse clicks. . Speed dialing shall be capable of performing primary and secondary dialing for dialing, transfers, conferences, and other functions, such as, long distance access, card numbers, pin access. Speed Dial Libraries shall be stored in a database that resides either on a local drive, network drive, or a combination of both and shall include the following at a minimum:

- (a) Speed dial locations shall be displayed as a button. Each button shall provide access to either a single entry, a group of entries, or a group of groups.
- (b) Management shall have the ability to assign the descriptive label that appears on the buttons and have the ability to assign icons for each button.
- (c) Users shall have the ability to search the speed dial library for a given entry by typing the first few letters of the entry.
- (d) Speed dialing shall support the ability to dial alphanumerically, in example, 1 800 CALL ATT.
- (e) Speed dial access shall be available by either a simple mouse click, keyboard entry, or a combination of both.

4.24 Status

User and Trunk/line status functions must be available to users, supervisors, and maintenance personnel if granted access to these functions by the system's administrator.

4.24.1 Trunk/line

The system must provide trunk and line status from any console in the system. Information such as active, on hold, available, working user, working position, call duration, and other call specific information must be provided.

Bidders are requested to indicate what provisions are included in the proposed CTI interface which would assist individuals which may have difficulty distinguishing between standard color shades in identifying line status, such as incoming call, held call, steady call, and/or active call.

4.24.2 User

The system must provide user specific information upon command. Information such as number of calls taken, trunk or line status by user, special qualifications, working assignment, and other related, operator specific information for users logged onto the system at the time of inquiry must be provided.

4.25 System Alarm Notification

4.25.1 Supervisors and maintenance personnel

The system must provide supervisors and/or maintenance personnel the capability to query the system as to the fault(s) and its affect on the system. Alarm history queries, reporting, and printing must be available.

4.25.2 Users

Users logged onto the system must receive visual notification at each position of telephone system alarms resulting from minor and/or major faults in the system. Single system-wide Audible notification through a central alarm bell is not acceptable. A minimal number of keystrokes, or mouse clicks must exist to extinguish audible alerts regardless of the user's position in the application at the time of the alarm.

4.26 TTY and TDD identification

The system must internally, without user intervention, immediately recognize incoming TTY and TDD calls and immediately activate functions germane to TTY and TDD calls. A separate TTY/TDD device is not acceptable. TTY and TDD calls must have the same recording and reporting capabilities as voice calls. The TTY / TDD function shall provide the following features:

- (a) To save the telecommunicator valuable time, the system shall provide for an unlimited amount of "canned" predefined messages based on incident type, i.e., POLICE, FIRE, EMS.
- (b) The system shall provide management with the capability to configure and script the predefined messages based on the incident type, such as, but not limited to, POLICE, FIRE, EMS.
- (c) The system shall provide the ability to search for predefined messages.
- (d) The system shall provide the ability to assign predefined messages to "hot keys", i.e., F1-F12, or a CTRL key combination.
- (e) The system shall provide a single window for viewing transmitted and received TDD characters and a separate window for viewing pre-canned messages.
- (f) TDD/TTY text must be saved to the master call record database and be available to the MIS system for reporting and printing.

4.27 User setup

4.27.1 Colors

The system must permit the administrator to select and change screen colors for those features not systemically predetermined by color.

4.27.2 Features and functionality

The system must permit the administrator to select and change system features such as but not limited to: screen layout; button size, location, color, and type;

mouse speed and arrow size; pre-recorded voice greetings, etc. System features selectable by the administrator must be listed in the response.

4.27.3 System Access Levels

The system must provide a multiple levels of system access for – administrators, supervisors, and users. Unique system access level setting for each authorized user is most desirable. Administrators must be provided the capability to access, add, change, delete, etc. every feature, function, and parameter in the system. The system must provide a selectable subset of administrator functions for supervisors and users. Bidders shall state the number of access levels available.

4.27.4 System Security

The system must provide the capability for system users to securely log onto the system by using a user ID and user-selected password. Log on must not take more than fifteen (15) seconds from the time the log on screen is properly completed and entered.

5. 911 PSAP CTI TELEPHONE SYSTEM USER SPECIFICATIONS

5.1 System Support

5.1.1 Declaration of support

The Bidder must provide a written statement in the proposal declaring the length of time they will remain committed to supporting the proposed hardware solution with parts, modules, boards, equipment, upgrades, and software solution with patches, maintenance, upgrades, and modifications required for maintaining and/or expanding the system.

5.1.2 Level of Support

Preston County requires seven (7) days per week, twenty-four (24) hour per day, two (2) hour (maximum) response time for hardware and software support services throughout the entire year. Bidders must propose hardware and software support services for remedial maintenance under the original warranty and the proposed extended maintenance services. The services proposed by the Bidder must include but are not limited to the following issues.

5.1.2.1 Contacts and Location of Certified Service Provider

The Bidder must provide in the proposal the company name, address, telephone number, and other relative information of the proposed certified maintenance service provider. The service provider must provide a list of no less than two technical staff experienced in the maintenance of the proposed technology capable of a two hour response time. All technical staff must have proper County credentials including background checks and fingerprinting. Names, titles, and contact telephone numbers (during normal and after hours) must be provided for supervisors responsible for Preston County's maintenance functions.

5.1.2.2 Help Desk Services

The Bidder must describe in the proposal the Help Desk services available by telephone to hardware and software support technicians and system users. Help Desk services are essential for supporting desktops and servers, PBX/switches, controllers, NOS/OS, CTI application, and other related hardware and software included in the solution. Preston County desires 7 x 24 availability of Help Desk services, but may consider other alternatives. The availability of Help Desk service is especially critical during the first year of operation, but desired throughout the life of the system.

5.1.2.3 Method of Notification

The Bidder must describe in the proposal the proposed method for problem notification (such as 24 hour available hot line support, remote diagnostics, etc.). Preston County will view favorably solutions that include failure diagnosis and reporting via SNMP. The Bidder must fully describe in the proposal their ability to remotely monitor and diagnosis computing hardware and devices in their proposed system.

5.1.3 Remote Monitoring

5.1.3.1 Minimum Features

The System shall provide, at a minimum, the following features:

- (a) The system shall provide remote monitoring (7x24) of all servers, workstations, and any other SNMP/IP device on the network.
- (b) The system shall provide Alarm notification via Pager or E-mail to first level support should an alarm threshold be exceeded.
- (c) The system shall provide remote troubleshooting tools to diagnose hardware and software problems.
- (d) The system shall provide performance monitoring of network and computer components.

5.1.4 Support Response Time

The Bidder must describe in the proposal the proposed support response time. e.g. How long after notification before remedial action is taken. The description must include clarifications for weekends, holidays, 24-hour service, etc.

5.1.5 Problem Escalation

The Bidder must describe in the proposal the method(s) proposed for problem escalation. e.g. How long after notification before the problem escalates to larger support resource commitments, and then for function limiting problems, to the incurring of liquidated damages.

5.1.6 Cost of Support

The Bidder must provide the full cost of the support proposed.

5.2 Hardware Maintenance Support

The Bidder is required to describe in the proposal any resources expected of Preston County to maintain all 911 PSAP CTI TELEPHONE SYSTEM hardware.

The Bidder is required to provide in the proposal a list of any test or diagnostic equipment required to maintain the hardware, including the cost of the equipment which the Preston County needs to procure. Preston County may purchase the equipment as part of the system or exercise its option to obtain the equipment through other sources.

5.2.1 Routine

The Bidder must describe in the proposal the impact anticipated on operational and technical support employees during routine preventive and corrective maintenance procedures. It is recognized that the Bidder cannot anticipate every situation; however, a reasonable discussion on routine repair procedures is required.

5.2.2 Warranty

The Bidder must describe in the proposal the impact anticipated on operational and technical support employees during warranty hardware maintenance procedures. It is recognized that the Bidder cannot anticipate every situation; however, a reasonable discussion on warranty repair procedures is required.

5.2.3 Emergency

The Bidder must describe in the proposal the impact anticipated on operational and technical support employees during emergency maintenance procedures. It is recognized that the Bidder cannot anticipate every situation; however, a reasonable discussion on emergency repair procedures is required.

5.2.4 Remote

The system must provide maintenance technicians the capability of entering the system remotely using a laptop or desktop PC. Remote entry into the system must be limited to those authorized through the system administrator function and be password protected.

5.2.5 Console

If the proposed system includes a maintenance monitor console function, the Bidder must include the equipment required for the function in their response. An overview of the functionality and capability from the console must be included.

5.2.6 Extended Hardware Maintenance

The Bidder must propose extended hardware maintenance for a minimum of four (4) years, in one (1) year increments, beyond the one (1) year warranty period. The maintenance proposal will also include, but not necessarily be limited to, the stipulations and conditions identified in this document.

5.2.7 Spares kit

It is the intention of Preston County to maintain a critical spare parts inventory on site to ensure quick and response correction of trouble reports. The Bidder must provide in the proposal a recommended list of spares (parts, modules, boards,

and/or equipment) required to maintain the system.

5.3 Software Maintenance Support

References to software in this RFP include but are not limited to the CTI application, the NOS/OS, the switch or PBX operating system and application, and all other software required to support the proposed system. The Bidder is required to describe in the proposal the resources necessary for Preston County to maintain all 911 PSAP CTI TELEPHONE SYSTEM software.

The Bidder is required to provide in the proposal a list of any test or diagnostic equipment required to maintain the software, including the cost of the equipment.

5.3.1 Routine

The Bidder must describe in the proposal the impact anticipated on operational and technical support employees during routine software maintenance procedures. It is recognized that the Bidder cannot anticipate every situation; however, a reasonable discussion on routine procedures is required.

5.3.2 Warranty

The Bidder must describe in the proposal the impact anticipated on operational and technical support employees during warranty software maintenance procedures. It is recognized that the Bidder cannot anticipate every situation; however, a reasonable discussion on warranty repair procedures is required.

5.3.3 Emergency

The Bidder must describe in the proposal the impact anticipated on operational and technical support employees during emergency maintenance procedures. It is recognized that the Bidder cannot anticipate every situation; however, a reasonable discussion on emergency repair procedures is required.

5.3.4 Remote

The system must provide the ability to remotely send alarm messages automatically to a maintenance center. The system shall provide the ability for maintenance center technicians to enter the system remotely using a laptop or desktop PC. Remote entry into the system must be limited to those authorized through the system administrator function and be password protected.

5.3.5 Console

If the proposed system includes a maintenance monitor console function, the Bidder must include the equipment required for the function in their response. An overview of the functionality and capability from the console must be included.

5.3.6 Extended Software Maintenance

The Bidder must propose extended NOS/OS and application software maintenance for a minimum of four (4) years, in one (1) year increments, beyond the one (1) year warranty period. The maintenance proposal will also include, but not necessarily be limited to, the stipulations and conditions identified in this document.

5.4 Bidder Support Staffing

The Bidder is required to document in the proposal the number of the firm's technical staff members dedicated to new development versus those assigned to support of existing applications. If the offer is not the manufacturer of the software, the proposal shall state the resources available or capabilities of the manufacturer.

5.4.1 Installation and Testing Support

The Bidder is required to provide on-site support during the installation and the testing phases of implementation. Preston County will view favorably direct support from the manufacturer(s) if different from the Bidder during installation and testing.

5.4.2 Licenses

The Bidder must comply with hardware, software, and intellectual property rights licensing requirements for their and Preston County's use during installation and Preston County's ongoing use after installation.

5.4.3 Upgrade Support

The Bidder must offer, for the full term of the maintenance agreement, support of the proposed 911 PSAP CTI TELEPHONE SYSTEM to ensure continued operation during and after hardware upgrades and implementation of new releases of all software that were covered under the maintenance agreement.

The Bidder must provide enhancement updates to the software as they become available. The updates should be able to be applied by function rather than by a blanket update release. Explain the method of distributing information on the available updates and software modifications with an explanation of the responsibilities of the maintenance vendor, the manufacturer (if different from the maintenance vendor), and Preston County.

The Bidder should specify the methods to be used to update the software of the system at Preston County's site for both remedial updates and functional enhancement updates.

5.4.4 User Group Support

The Bidder is requested to include in the proposal, information related to a formal User Group for the product being proposed, if one exists.

If a User Group exists, the Bidder is also requested to describe the Bidder's level of support for the User Group and the method provided to accept customer input into future product enhancement.

5.4.5 Warranty

All warranties must be submitted as part of the proposal. The Bidder must warrant that all work done and all materials furnished by it or by its subcontractor(s) or representative(s) as a part of or in conjunction with the 911 PSAP CTI TELEPHONE SYSTEM and the work, specifically including but not limited to hardware, software, implementation, and documentation, must be of good workmanship and quality, free from all defects in design, content,

workmanship, or materials for a period of at least one year from the date of final system acceptance.

Additionally, the Bidder must guarantee support for the hardware, operating system and application software for a minimum of five years from the date of final system acceptance.

The Bidder must specifically address its warranty correction process. The Bidder must specify problem tracking and escalation procedures including the method for Preston County to follow-up on previously reported problems and the method used in closing a problem.

- 5.4.5.1 Single point of contact
The successful Bidder must serve as Preston County's single point of contact for all warranties, whether warranted by the successful Bidder or another manufacturer, throughout the entire warranty period unless otherwise negotiated in the contract.
- 5.4.5.2 Equipment condition
The Bidder must expressly warrant that all items supplied under the contract are new, free from defects in design, materials, and workmanship.
- 5.4.5.3 Warranty repairs
Maintenance services provided under warranty must be available on a seven (7) days per week, twenty-four (24) hours per day, two (2) hour (maximum) response time basis throughout the entire warranty period.
- 5.4.5.4 Minimum warranty period
A minimum of a five (5) year warranty period is expected for all hardware, software, and ancillary equipment provided by the successful Bidder. The five (5) year period will commence upon Preston County's final acceptance of the system. The period may begin prior to final acceptance if, at Preston County's sole, written discretion, only minor punch list items remain open. All warranties must survive acceptance and payment by Preston County.
- 5.4.5.5 Warranty extension
Standard warranties for hardware and/or software provided by the successful Bidder to Preston County that exceed the one (1) year mandatory warranty period must be provided without additional charge to Preston County. The Bidder may provide a price for extending the standard hardware and/or software warranty period, as desired. If such a price is provided, a written explanation of the services and/or materials covered under the extension, major items or components not covered, the duration of the extended period, and the cost of the extended warranty must be included.
- 5.4.5.6 Other manufacturer(s)' warranties

If another manufacturer's hardware and/or software is provided under contract for the CTI telephone system, the successful Bidder may utilize that manufacturer's warranty for the one (1) year warranty period or the duration of that manufacturer's standard warranty period, which ever is longest.

5.5 Documentation

5.5.1 Operational and Technical Documentation

The Bidder of the selected system must provide Preston County with a minimum of two (2) sets of all available system documentation. Examples of desired documentation are:

- Complete technical and maintenance information and documentation to support the CTI system and support outlined in the final contract.
- Database structure diagram.
- Operations instructions, including backup, recovery, and maintenance procedures.
- User's manuals, to include the basic CTI system, network, and any controller sub-systems.
- Any other documentation the Bidder considers applicable to the administration and use of the system under contract.
- Operating system manuals.
- Any additional documentation as may be requested by Preston County that is applicable to the proposed system.
- CAD Interface manual, if available.

5.5.2 Detailed work plan

The Bidder must provide in the proposal a preliminary high level work plan and project milestones in Gantt chart format to demonstrate the period of time required by the Bidder from finalizing contract negotiations to completing the installation and final acceptance testing.

The successful Bidder will be required to submit a final work plan for Preston County's approval prior to beginning installation work.

5.5.3 Network Diagram

A detailed network diagram must be provided in the proposal for the proposed system.

5.6 Training

5.6.1 General

The Bidder must provide training for Preston County's personnel at Preston County 9-1-1 Communications Center premises. The times when training courses are given must be subject to Preston County approval. Training must be conducted by qualified instructors who may be supported by training aides, computer-based tutorials, or other individualized learning materials. The training must cover all aspects of the 911 PSAP CTI TELEPHONE SYSTEM.

Administrative, user, and supervisor training must be conducted in the Preston County 9-1-1 Communication Center (unless otherwise agreed upon by Preston County). Training at other facilities in the metropolitan area is acceptable.

Participants must receive individual copies of applicable training materials at the time the course is conducted. The courses must be scheduled so that an individual can participate in all courses.

5.6.2 Maintenance Training

The training provided must specifically cover, any maintenance and / or administrative training which is required by Preston County to support the intelligent work station, the server and network, the switch/PBX, the controller, all ancillary equipment, and all other equipment associated with the proposed system:

- Detailed explanation of system design.
- Detailed explanation of data base structure.
- Detailed explanation of communication network structure.
- Detailed instructions on modifying and/or adding new programs.
- Detailed instructions on modifying and/or adding data base tables and data elements.
- Detailed explanation of Program-to-Program interfaces.
- Applicable mathematical models and algorithms.
- Detailed explanations of operational, backup, recovery, and restart procedures.
- Diagnostics.
- Detailed instructions on hardware repair.

System maintenance and/or administrative training must be included as part of the response. The Bidder must describe the scope, duration, and location of the proposed training. Training must be scheduled in concert with the installation and scheduling needs of the attendee's supervisor(s). A minimum of four administrative training slots is required.

5.6.3 Software/Operating System Training

The training provided must specifically cover, but not be limited to, software for the intelligent workstations, the servers and networks, the switch/PBX, the controller, all ancillary equipment, and all other software associated with the proposed system. The course material must be presented in depth. A quick functional overview of the system is not acceptable. The training provided must specifically cover, but not be limited to, the following topics:

- Operating System basics – point, mouse, click, etc.
- Detailed explanation and instructions on adding or modifying functions.
- Detailed explanation and instructions for performing diagnostics on the operation system as well as addressing performance issues.
- Identify and provide cost for any performance tools that would assist in supporting the system (hardware and software).

5.6.4 User and supervisor training

User and supervisor training must be included as part of the response. The Bidder must describe the scope, duration, and location of the proposed training. Separate training for users and supervisors is acceptable. Training must be scheduled as close to the installation date as practical, and be in concert with the scheduling needs of the 911 center supervisor. A minimum of fourteen user and three supervisor training slots is required.

An option for a two (2) track user training approach must be provided in the proposal. The first track is to be accomplished by the successful Bidder and/or their representative for a group of Preston County trainers. The second track is to be accomplished by the successful Bidder and/or their representative and the Preston County trainer(s) trained in the first track.