INVITATION TO BID
Invitation for Bids CTI Based Equipment

INVITATION FOR BIDS #2012-01

NOTICE IS HEREBY GIVEN that Middlesex County, Virginia will accept bids until February 2, 2012 for a 911 PSAP COMPUTER TELEPHONY INTEGRATED (CTI) TELEPHONE SYSTEM.

To obtain a copy of the complete Invitation for Bids, contact Betty Muncy by telephoning (804)758-4330 or by email BMuncy@co.middlesex.va.us or by fax (804)758-0061.

A pre-bid conference will be held in the Board Room of the Middlesex County Historic Courthouse at 10:00 a.m. on January 24, 2012. All general, technical or physical location questions concerning this proposal are to be documented in writing and submitted such that they are received 72 hours prior to the conference. The following methods may be used:

- Fax: (804)758-0061
- Mail: PO Box 428, Saluda, VA 23149
- Email: BMuncy@co.middlesex.va.us

Bids must be in accordance with the provisions, specifications, and proposal instructions set forth herein and will be received by the County Administrator located at 877 General Puller Highway, Saluda, Virginia 23149.

Bids 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 February 2, 2012 @2:00PM at the above address. Telephone or fax Bids will not be accepted. Bids that are mailed must be sent to County Administrator, Middlesex County, P.O. Box 428, Saluda, VA. 23149.

Any questions regarding this RFP should be directed in writing to Betty Muncy at BMuncy@co.middlesex.va.us.

Middlesex County Virginia reserves the right to reject any and all Bids received and to waive any formalities as may be permitted by law.

Charles Culley Jr,
County Administrator
Middlesex County

SEALED COMPETITVE BID FOR:

Middlesex County, Virginia 23149

Installation, Equipment, and Maintenance for a 9-1-1 System

RFP#2012-01

INVITATION FOR BIDS COVER SHEET

DATE:	**FRIDAY, JANUARY 06, 2012**
PROPOSAL TITLE:	**E911 EQUIPMENT REPLACEMENT**
DIRECT INQUIRES TO:	**BETTY MUNCY**
PHONE NO:	**(804)758-4330**
EMAIL:	**BMUNCY@CO.MIDDLESEX.VA.US**
RETURN BIDS TO:	**COUNTY ADMINISTRATOR'S OFFICE** **PO BOX 428** **SALUDA, VA 23149** **877 GENERAL PULLER HWY.** **WOODWARD BUILDING, SALUDA, VA**
PROPOSAL DUE DATE:	**FEBRUARY 2, 2012 @ 2:00PM**
NUMBER OF COPIES:	**8**

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ADMINISTRATIVE INFORMATION

PREPARING AND SUBMITTING A PROPOSAL:

The evaluation and selection of a Vendor will be based on the information submitted in the Vendor's proposal, required on-site visits or oral presentations and such other information gathered by or made available to PSAP through the evaluation process.

Each point by point response from the bidder must be answered with one of the following responses:

Understood – The Vendor completely understands the specific requirement, conditions and/or desires that the RFP has set.

Comply – The proposed solution will fully meet requirements, and functionality is currently supported in the current product software release.

Exception – The proposed solution complies partially with this requirement. Any exception must be explained. If a Vendor takes exception but an alternative to the requirement is recommended, the alternative must be explained and any cost identified. Exceptions will be evaluated and considered but are not necessarily acceptable solutions to the requirement as expressed.

Does not Comply – The proposed solution does not fully comply with this requirement.

Explanation – Response requires an answer to a question rather than a stated requirement.

1. General Information

1.1. Middlesex County Virginia, hereinafter referred to as the Customer is soliciting sealed Bids 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 at 75 Oakes Landing Road, Saluda, Virginia.

1.2. This solicitation is for the purchase of information technology goods and services and shall be awarded as per § 2.2-4300 of the Code of Virginia 1950, as amended. The Bids received shall remain confidential until the contract is awarded; therefore there will not be a public bid opening. The contract shall be awarded to the company that submits the best overall proposal.

1.3. Bids shall be submitted to Betty Muncy, no later than 2:00 p.m., February 2, 2012. Bids should be submitted to P.O. Box 428, Saluda, Virginia, 23149 or delivered to 877 General Puller Hwy., County Administrator's Office, Saluda, VA 23149. Any questions regarding this RFP should be directed in writing to Betty Muncy at BMuncy@co.middlesex.va.us.

All items will be shipped FOB to Middlesex County Communications Center, 75 Oakes Landing Road, Saluda, Virginia 23149.

Payment will be made after acceptance of the equipment.

- 10% upon contract signing if applicable
- 85% upon product installation if applicable
- 5% upon acceptance

Virginia and local tax should not be included in the proposal.

All exceptions or deviations must be clearly indicated.

1.4. 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.

1.5. Insurance Requirements

The vendor and all subcontractors, at their own expense, shall provide and maintain insurance with a company licensed to do business in Virginia as follows:

- See Appendix A.

1.6. Submission Instructions

Bidders will provide original plus 7 copies of their proposal.

Bidders should answer each specification thoroughly in the body of their response. The submission of brochures, pamphlets and other such marketing material can be included with the proposal.

1.7. Cooperative Purchasing

1.7.1. It is the desire of Middlesex County that all other jurisdictions be allowed to "ride the bid" and enter in to a contract with any successful Contractor chosen by Middlesex County, based on mutual agreement between successful Contractor(s) and other jurisdiction(s).

1.7.2. If this bid is used as a cooperative IFB issued by Middlesex County, the following would apply:

1.7.2.1. Middlesex County is acting as the "Contracting Agent" for the jurisdictions concerned and shall not be held liable for any costs, damages, etc., incurred by any other jurisdiction.

1.7.2.2. Each jurisdiction will execute its own purchase orders with the Contractor(s) and be invoiced accordingly, in accordance with each jurisdiction's purchasing policy and procedures.

1.7.2.3. For copies of other jurisdictions' terms and conditions, Contractor must contact them.

1.8. Inconsistencies in Provisions

In the event there are inconsistencies between the General Terms and Conditions and any other schedules contained herein, the first shall govern.

1.9. Ethics in Public Contracting/Criminal Sanctions

1.9.1. The provisions contained in §11:72 through 11:80 of the Virginia Public Procurement Act (VPPA) as set forth in the 1950 Code of Virginia, as amended, shall be applicable to all contracts solicited or entered in to by Middlesex County. A copy of these provisions may be obtained from the County Admiistrator upon request.

1.9.2. By submitting their bids, all bidders certify that their bids are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other bidder, supplier, manufacturer or Subcontractor in connection with their bid, and that they have not conferred to any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value was exchanged.

1.9.3. The provisions referenced above supplement, but do not supersede, other provisions of law including, but not limited to, the Virginia Conflict of Interest Act (§18.2-498.1 et. Seq.) and Articles 2 and 3 of Chapter 10 of Title 18.2. The provisions apply notwithstanding the fact that the conduct described may not

constitute a violation of the Virginia Conflict of Interests Act. To the extent that violations of the ethical standards of conduct constitute violations of the Code of Virginia, they shall be punishable as provided therein. Such sanctions shall be in addition to the civil remedies set forth.

1.9.4. By entering into a contract, the bidder conveys, sells, assigns, and transfers to Middlesex County, all rights, title and interest in and to all causes of the action it may now have or hereafter acquire under the anti-trust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by Middlesex County, under said contract.

1.9.5. Consistent and continued tie bidding could cause rejection of bids by Middlesex County and/or investigation for anti-trust violations.

1.10. Tax Exempt Status

Since municipalities and school districts are exempt from all direct federal and state taxes, Middlesex County is tax-exempt and will provide a tax-exempt certificate upon request.

1.11. Firm Bid Pricing

Middlesex County requires the bid price remains firm for ninety (90) days after date of the bid opening, during which period bids may not be withdrawn. "Discount from list" bids are not acceptable unless requested.

1.12. Tie Bids

The County Administrator's Office and all other departments of Middlesex County making purchases of services, supplies, material or equipment, shall, in making purchases of same, give preference to services, supplies, material or equipment sold by Middlesex County and the State of Virginia vendors, in that order, in all cases of tie bids, quality and service being equal.

1.13. Response Form Procedures

1.13.1. Response Forms must be signed and received at the County Administrator's Office, before the opening hour.

1.13.2. Sealed Bids and Sealed Proposals offered by fax and or telephone <u>will not be accepted.</u>

1.13.3. Quotes offered by fax will not be accepted nor will, <u>telephone quotes will be accepted.</u>

1.13.4. All Response Forms delivered in person must be delivered to the County Administrator's Office.

1.13.5. In submitting a Response Form, the bidder signifies that he/she is fully informed as to the extent and character of the supplies, materials, equipment and/or services

necessary to perform this project in accordance with all documents constituting the bid and will comply satisfactorily with the bid documents.

1.13.6. Further, the bidder signifies that when necessary he/she has inspected the site on which the work shall be done and is aware of all conditions affecting the execution of the work contained within the bid documents. Failure to visit the site will in no way relieve the successful bidder from performance under the contract.

1.13.7. All information required by the solicitation must be supplied to constitute a responsive bid. All information submitted including prices should be typed so as to insure legibility. However, the bidder's signature shall be handwritten in ink in order for the bid to be considered.

1.14. Sealed Bids will be received up to the advertised time and date at the Middlesex County Administrator's Office.

1.15. Late bids will be returned to the bidder unopened (provided properly sealed and marked as indicated above). Failure to comply with conditions set forth herein may result in removal of bid (all/part) from consideration.

1.16. All contracts, unless otherwise specifically stated, shall provide materials/commodities in new, first class condition, fresh stock, latest model, design or pack. This shall include any containers suitable for shipment, usage and/or storage unless otherwise indicated within this document. Verbal agreements to the contrary will not be recognized.

1.17. Any items or parts of any equipment listed in this solicitation which are not fully described or are omitted from such specifications and which are clearly necessary for the completion of such equipment and its appurtenance shall be considered a part of such equipment although not directly specified or called for in the specifications.

1.18. By law, Middlesex County will not receive any materials, products, or chemicals that may be hazardous to an employee's health, unless accompanied by a Material Safety Data Sheet (MSDS) when products and/or chemicals are received. **MSDS must be submitted to Middlesex County in triplicate**.

1.19. Bid Withdrawals

1.19.1. A bidder, for contract other than for public construction, may request withdrawal of his/her bid before award, by submitting a written request to the County Administrator in care of B.Muncy@co.middlesex.va.us Betty Muncy, PO Box 428, Saluda, VA 23149.

1.19.2. The request may be based on a claim of error and must be accompanied by full documentation showing basis of error. Such documentation may take the form of supplier quotations, vendor worksheets, etc.

1.19.3. If bid bonds were tendered with the bid, Middlesex County may exercise its right of collection. No bid may be withdrawn under this paragraph when the result would

be the awarding of the contract on another bid of the same bidder in which the ownership of the withdrawing bidders is more than five percent (5%).

2. - BACKGROUND INFORMATION

2.1 Background on Current Environment

Approximately 44,000 telephone calls for service were responded to.

The current telephone system was installed in (**2001**).

The current 911 PSAP Telephone System uses (**Marrs View 2.6**).

The telephone system supports two (2) call-taking positions, police dispatch positions, fire dispatch positions and one (1) Magic Server supervisor position.

There are currently four (4) wireline trunks, four (4) wireless trunks, and four (4) administrative lines.

The current workstation consoles are Marrs Plant Equipment standard line of radio/telephone workstation consoles.

The current recording system is Dictaphone Freedom Call Check.

2.2 New Environment

The new 911 telephone will require three (3) call-taking positions, police dispatch positions, fire dispatch positions and 1 supervisor position.

The new system will require four (4) wireline trunks, four (4) wireless trunks, and six (6) administrative lines.

2.2.1. General

The Central Communications equipment shall consist of digitally-based switching technology. Provisions shall exist to connect an online monitoring, system administration and maintenance position, which can be operated locally or remotely through a standard switched telephone line.

The Central Equipment shall consist of a digital ANI/ALI Controller, interface modules to external circuits and uninterruptible power supply (UPS). The ANI and ALI control functions shall be combined into a single redundant system. The Answering Position shall consist of a computer allowing the answering and processing of emergency and administrative calls without the need for an external telephone set. The answering, transferring and other processing of calls, display of ANI/ALI information and access to both 9-1-1 and administrative lines are to be provided through the use of a computer workstation and display.

2.2.2. System Architecture and Redundancy

The System Architecture shall be such that the failure of any one component or module will not result in total system failure, but only the loss of the equipment associated with

that module. All vital system modules must be protected through the use of redundant modules to ensure single point failure tolerance. It is mandatory that any central processor and audio switching matrix shall be fully duplicated in a hot standby mode. Switchover shall be automatic and shall not require manual intervention.

The Central Equipment power supply shall be modular and shall include redundancy such that the power supply system is capable of meeting full and continued supply of system power requirements in the event of failure of a single power supply module. The Bidder shall describe their system architecture with respect to the major components or modules and describe how the system will react to a failure of each major component or module.

The Bidder must fully describe in the bid any reduced levels of service caused by component failure, including the operation requirements for back up and recovery.

There must be a minimum of two (2) 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. Bidders shall include a step-by-step description of how their system will switch to a second processor in the event of a failure to the primary processor. This response must contain an accurate description of how the steps required to effectuate a switchover from one processor to the other will occur. A manual switchover is not acceptable. 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. See section 4.1.

2.2.3. Hot Standby

The system shall be capable of hot standby operation on vital modules such that upon the failure of any of those modules, the system shall automatically switch-over to the backup module. The switchover shall maintain all calls in progress and shall not require any human intervention.

2.2.4. Audio Signal Processing

Each audio signal entering the Central Equipment shall be converted to its digital equivalent using standard North-American, 64 kbps Mu-law Pulse Code Modulation (PCM). The digitized representation shall be switched and multiplexed, using Time Division Multiplexing (TDM) techniques or IP.

2.2.5. System Monitor

The system shall be equipped with a monitoring capability located at the Central Communications equipment. Information should be provided in a type of digital display format and monitor all voltages, power breakers and system alarms of the Central Communications equipment. Upon a failure condition, it will display an alarm message.
Environmental

All equipment shall remain operational at ambient room temperatures of 40 F to 100 F and relative humidity from 20 percent to 80 percent. The recommended equipment and operations room temperature is 60 F to 80 F and relative humidity from 40 percent to 60 percent. Humidity levels below 40 percent increase the chance for static discharge and may create PSAP equipment failures.

All equipment shall be capable of operation at the following minimum and maximum conditions:

- Temperature: from 35 to 120 degrees Fahrenheit
- Relative humidity level: 0 percent to 90 percent, non-condensing
- The central equipment shall be compact and free standing in a footprint no larger than 4 feet wide by five (5) feet deep by eight (8) feet high.
- All Central Communications equipment shall conform to FCC Rules Part 15, class A (commercial, non-residential radiation and conduction limits) for EMI.

2.2.6. Future Expansion

The ANI/ALI controller described in these specifications shall be capable of meeting today's needs as well as future expansion in order to meet anticipated future growth. It shall be capable of supplying the equipped wired and maximum quantities specified in this document without replacing any in-place common equipment. The system should be installed with adequate processor and hardware to meet this growth.

Bidders shall state the expansion capability of their equipment, describing:

- Overall system capacities including the number of incoming 9-1-1 trunks, the number of answering positions, the number of telephone lines, etc.
- How the system can be expanded from its present size in terms of the number of 9-1-1 trunks, answering positions, lines, etc.
- Modular expansion for 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, and the maximum limit of expansion for each category of expansion.

2.3 Statement of Experience

The bidder is to provide 3 references of PSAP's that have similar CPE to that being proposed. The CPE should have been installed within the last 3 years in the State of Virginia. Provide the name, title, phone number and email of the reference.

3. SYSTEM REQUIREMENTS

3.1 Single point of contact

The successful Bidder must serve as Middlesex County's single point of contact for all installation, implementation, warranty and support throughout the entire contract period. The successful Bidder must serve as Middlesex County's Project Management for the entire project including installation, network connection, training and cutover of the project, and coordination with the local Telco.

3.1 Spares kit

It is the intention of Middlesex County to maintain a critical spare parts inventory on site to ensure quick 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 as listed in section 4.63.3

3.2 Remote Maintenance(Optional)

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

- The system shall provide remote monitoring (7x24) of all servers, workstations, and any other SNMP/IP device on the network.
- The system shall provide Alarm notification to the maintenance provider.
- The system shall provide remote troubleshooting tools to diagnose hardware and software problems.
- Middlesex County will provide the telephone lines/internet for the remote maintenance

3.3 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.

3.4 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.

3.6 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. FULL PBX functionality is mandatory for administrative phones; limited “soft phone” type features are not acceptable.

3.7 Printers

Printers on the system must be national brand using standard, plain paper printers. Printer drivers required for standard and selected printers must be provided as part of the system.

3.8 Equipment Enclosure

Standard equipment racks or cabinets must be proposed by the Bidder. Middlesex County will work with the successful Bidder on an acceptable floor plan and exact placement of racks.

3.9 Logging recorder

Middlesex County currently uses Call Check 24 hour logging recorder. The Bidder must demonstrate in the proposal their capability to readily interface the telephone system with this system.

3.10 System time

Middlesex County currently uses Spectracom, NetClock/GPS 9383 for their time source. The Bidder must provide a means to synchronize every workstation and the PBX or switch in the proposed system to the existing time source using Network Time Protocol (NTP), if applicable.

3.11 TTY/TTD

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 NENA standards for handling TTY and/or TDD calls.

3.12 Operating temperature

All equipment rooms are air-conditioned; however, the Bidder must provide the guaranteed operating temperature range of the proposed system. The expected operating temperature range is between 35º-120º F. The humidity operating range must be 10 to 90% relative humidity non-condensing.

3.13 Self Monitor

The proposed system must provide a self monitor capability with local alarms to designated PSAP personnel.

3.14 Private Emergency Networking

The system must support Private Emergency Networking (PEN). The following information must be transferred with a PEN call.

- Calling Party Name
- Calling Party Number
- Location Information
- Call History

- Supplemental Call Information
- Call Notes
- TTY

4. General System Requirements

4.1 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 the steps required to effectuate a switch over from one processor to the other. 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.

4.2 Reset Passwords

The system must allow an administrator to reset call taker passwords that are lost or forgotten.

4.3 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.

4.4 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.

4.5 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.

4.6 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. Middlesex 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.

4.7 Archiving/Retrieving Data Option

The Bidder must provide a description of the data archiving and retrieving process.

4.8 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.

4.9 E911 Controller and/or Control Function
Whether or not the proposed system uses a standard E911 controller, the solution must use 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.

4.10 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.

4.11 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.

4.12 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.

4.13 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.

4.14 Hard drive

The system must provide an easy-to-operate backup system for backing up the hard drive. The system should use hard disk backup to remote disk based servers 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.

4.15 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.

4.16 Telco Routing

The Bidder must work with the existing local TELCO for coordination of the 911 trunks, ANI/ALI and administration lines install. The 911 trunks must come from two tandems.

4.17 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.

4.18 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.

4.19 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.)

4.20 Connectivity

Trunk and line connectivity must be provided as per Middlesex 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.

4.21 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.

4.22 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.

4.23 Help functions

The system must provide on-line help for all user functions. Help information must be retrievable while using the system without having to abandon a call or log off.

4.24 Telephone Features

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.

4.25 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.

4.26 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.

4.27 Automatic Redial

The system must provide each user the capability to redial the last five (5) numbers (minimum) answered on their console.

4.28 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 conference during a single call without degradation. Adding a call to the conference must occur immediately with a minimal number of keystrokes, or mouse clicks.

4.29 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.

4.30 Supplemental Information
The 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.

4.31 Call Notes
The system shall provide the ability for a Dispatcher 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.

4.32 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.

4.33 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 at least the 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:

The voice recording shall be physically stored on the local hard drive in an individual file for each call.

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.

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.

At a minimum, the Instant Recall Recorder shall provide the following features:

- Play
- Pause
- Stop
- Play forward/Fast forward

- Rewind
- Repeat
- Forward file to another position
- Display ANI
- Display Calling Line ID (if available)

4.34 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.

4.34.1. Alternate Routing

The ANI/ALI controller shall allow E9-1-1 calls to be routed to a designated alternate location if the PSAP closes down for a period of time.

4.35 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.

4.36 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).

4.37 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

4.38 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.

The ANI/ALI controller shall have the ability to provide call detail records after every terminated 9-1-1 call. The record should include but should not be limited to ANI, seizure time, position answered, answer time, disconnect time, incoming trunk number, etc.
The ANI/ALI control shall have the ability to provide call detail records after every terminated administrative call. The record should include but should not be limited to seizure time, position answered, answered time, disconnect time, administrative line number, etc.

Call Detail Records should be in a report format, as opposed to raw data format. This information should automatically be saved as an electronic file in daily and/or monthly formats for permanent storage. Call Detail Records should be retrievable by the ANI or any other 'key-word' search in the record.

4.38.1 Automatic ANI/ALI Print

The ANI/ALI controller shall have an output for ANI/ALI print which allows each incoming E9-1-1 call to be recorded and stored on the hard disk of the Maintenance and Administration Position.

4.38.2 Automatic TDD Print

The ANI/ALI controller shall have an output for TDD print which allows each incoming E9-1-1 TDD call to be recorded in a printed format on a continuous printer in a real time mode and without operator intervention. The two-way TDD conversation information should also be stored on the hard disk of the Maintenance and Administration Position.

4.38.3 Remote Print of ALI

The ANI/ALI controller must provide ANI/ALI print capabilities to remote locations (e.g. Secondary PSAPs) via dedicated and switched facilities. Remote locations may be equipped with a printer or a fax machine.

4.38.4. Transfer

The ANI/ALI controller shall have the ability to route a call to an on-site or remote location using a single key-stroke. The transfer must work in an E9-1-1 tandem environment or using the ANI/ALI controller to set up the connection using outside lines (trunk-to-trunk transfer). The ANI/ALI controller shall also be capable of transferring ALI information to a fax machine.

In addition, the ANI/ALI controller shall have the ability to transfer both the voice and the ANI/ALI information to an on-site or remote location via dial lines (PSTN) or dedicated lines. This must be performed using a single feature key. In addition, the ANI/ALI controller shall have the ability to transfer administrative phone lines to an existing Voice-mail system at the Middlesex County Communications Center.

4.39 DDE Channels

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

4.40 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.

4.40.1 External Wallboard Sign (Optional)

The ANI/ALI controller shall be capable of interfacing to an external, electronic wallboard sign, capable of displaying real-time call statistics such as the number of 9-1-1 and non 9-1-1 calls in queue, warning messages and audible alarms. The wallboard sign must be capable of a minimum of three (3) different assignable audible alarms. The waiting time in seconds of the oldest calls in queue must also be displayed. Alternatives for display, and specifications that detail how these displays are configured should be included. Please elaborate on the capabilities of the proposed solution and include a 4' Wallboard as part of this response.

4.41 ALI faxing(Optional)

The system must provide an option for ANI/ALI to be automatically or manually sent to a remote fax machine.

4.42 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.

4.43 Longest Ring

4.43.1 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.

4.43.2 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.

4.43.3 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.

4.44 Private Ringing
The system must support private ringing.

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

4.45.1 Records Management 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.

4.45.2 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 two (2) CTI positions capable of this function and two (2) non-CTI equipped positions capable of this function.

At a minimum the system shall provide the ability to generate reports:
- based on position(s)
- based on trunk(s) or line(s)
- based on groups of positions
- based on groups of trunks or lines
- based on time of day
- based on shift duration
- based on day of week
- based on week

- based on month
- based on quarter
- based on abandoned calls
- based on outbound calls
- based on inbound calls
- based on duplicate callers
- based on call duration, time of answer, time of hold, time of talk

4.45.3 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.

4.45.4 Report Printing

Records and reports must print on the printer of choice.

4.45.5 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.

4.45.6 Record Management

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:

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

4.45.7 Viewing

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

4.46 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, and 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 or shall include the following at a minimum:

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.

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.

Users shall have the ability to search the speed dial library for a given entry by typing the first few letters of the entry.

Speed dialing shall support the ability to dial alphanumerically, for example, 1 800 CALL ATT.

Speed dial access shall be available by either a simple mouse click, keyboard entry, or a combination of both.

4.47 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.

4.47.1 Trunk/line Status

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.

4.47.2 User Information

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.

4.48 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:

To save the Dispatcher valuable time, the system shall provide for an unlimited amount of "canned" predefined messages based on incident type, i.e., POLICE, FIRE, EMS.

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.

The system shall provide the ability to search for predefined messages.

The system shall provide the ability to assign predefined messages to “hot keys”, i.e., F1-F12, or a CTRL key combination.

The system shall provide a single window for viewing transmitted and received TDD characters and a separate window for viewing pre-canned messages.

TDD/TTY text must be saved to the master call record database and be available to the MIS system for reporting and printing.

4.48.1 TDD Detection

The ANI/ALI controller shall be capable of detecting emergency calls originating from Baudot-type Telecommunication Devices for the Deaf (TDD) equipment, and indicating to the operator the presence of the TDD call.

4.48.2. TDD Communication

The ANI/ALI controller must allow operators to communicate with TDD callers directly from their 9-1-1 answering position keyboard, without requiring the use of any external device. Operators must also be capable of manually connecting to emergency calls originating from ASCII-type TDD equipment, as well as originating both Baudot and ASCII calls from their answering position. The answering position shall allow users to store and access (send) a minimum of forty (40) pre-programmed TDD messages, as well as to print the previous TDD conversations. The pre-programmed messages should be grouped under separate event type tabs for quick reference, such as Police, Fire, EMS and General. The operator shall also have the ability to create a conference between the TDD caller and up to seven (7) non-TDD parties either in 9-1-1 call-taking mode or administrative call-taking mode.

The TDD function must allow an operator to transfer a TDD call to another operator position. For example, if a call is answered by an operator it may need to be transferred to either a Police or Fire dispatcher to appropriately handle the call. The TDD function must allow the operator to alter its operation to comply with ADA requirements for HCO (Hearing Carry Over) and VCO (Voice Carry Over) calls. Controls to allow the selection of the appropriate mode shall be available in the TDD window or display at all times. The TDD interface proposed must comply with all existing and known future FCC and/or legal requirements.

4.49 User setup

4.49.1 Colors

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

4.49.2 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.

4.50 Level of Support

Middlesex County requires seven (7) days per week, twenty-four (24) hour per day, four (4) 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.

4.51 Contacts and Location of Certified Service Provider

The Bidder must provide in the proposal the company name, address and other relative information of the proposed certified maintenance service provider(s).

4.52 Network Operation Center

The Bidder must describe in the proposal the process for reporting a trouble, including the 800 number.

4.53 Support Response Time

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

4.54 Problem Escalation

The Bidder must describe in the proposal the method(s) proposed for problem escalation.

4.55 Cabling

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

4.56 Drawings and Quotes

The proposal must include a drawing of the proposed system. All equipment listed in the vendor quote should list the quantity and cost of the item if applicable.

4.57 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.

4.58 Grounding and Electrical

System grounding must comply with (OSHA) industry standards and good engineering practices with R56 standards preferred. Middlesex County shall provide a connection for the system grounding if required. Middlesex County shall provide electrical connections if required.

4.59 Console Accessories

4.59.1. Headset / Handset Interface

The current system allows for the use of handsets. Middlesex County desires to operate with only one (1) headset per user.

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 (1) handset/headset type system wide.
The IWS shall be interfaced / intergraded with the Radio system so that the headset or handset is shared between the two systems. Please respond with details on how this feature would be supported.

4.59.2. 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 Middlesex County's radio system

4.59.2.1. Adjustments

Independent headset audio/speaker adjustments are required. The user must be provided the capability 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.

4.59.2.2. 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 (3) audio inputs.

4.59.2.3. 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.

4.59.2.4. 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.

4.59.2.5. 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.

4.59.2.6. Types
Middlesex County currently does not use telephone headsets. 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, four (4)-wire or six (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.

4.60 Training Requirements

Training on all system functions shall be provided by the bidder prior to acceptance of the system. Training will include sufficient information and experience to familiarize personnel (operators and supervisors) with all system functions, features and operations for their particular assignments. The bidder should include four (4) end user training sessions and two (2) administrative training sessions. Six (6) persons will attend the administrative sessions and end user training sessions.

The time and place when the training courses are given must be subject to Middlesex County's 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 9-1-1 PSAP CTI TELEPHONE SYSTEM. Administrative, user, and supervisor training must be conducted in the Middlesex County PSAP unless otherwise agreed upon by Middlesex County. Training at other facilities in the 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.

4.60.1. Training Documentation

It is a requirement that ten (10) copies of end user training documentation and ten (10) copies of administrative training documentation be included in this project.

4.60.2. Maintenance Training

The training provided must specifically cover, any maintenance and/or administrative training which are required by Middlesex 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 redundancy 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

4.60.3. Software/Operating System Training

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 three (3) administrative training slots are required.

The training provided must specifically cover, but not be limited to, software for the intelligent workstations, the servers and networks, 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)

4.60.4. 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 9-1-1 center supervisor. A minimum of three (3) supervisor training slots are required. An option for a two (2)-track user training approach must be provided in the bid. The first track is to be accomplished by the successful Bidder and/or their representative for a group of Middlesex County trainers. The second track is to be accomplished by the successful Bidder and/or their representative and Middlesex County trainer(s) trained in the first track.

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.

4.61 Equipment Specifications

4.61.1. 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.

4.61.2. Standards

The Bidder is responsible for proposing and listing in detail the hardware Middlesex 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.

4.62 Documentation

4.62.1. Templates

Keyboard templates or other helpful tools required for ease of operation must be provided upon delivery of the system.

4.62.2. Operational and Technical Documentation

The Bidder of the selected system must provide Middlesex County with a minimum of six (6) sets of all available system documentation in CD or DVD format and three (3) paper sets. 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 subsystems
- 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 Middlesex County that is applicable to the proposed system
- CAD Interface manual, if available
- As-Built drawings in the current AUTOCAD format or other agreed upon graphic format as delineated in the contract on CD’s

4.63. Maintenance

Bidder shall specify pricing for continuing maintenance of the total system after the expiration of the initial one year warranty period. Such pricing shall be for year two, three, four and five (2, 3, 4, and 5).

4.63.1. Warranty / Repairs
Bidder shall provide seven (7) days per week, twenty-four (24) hours per day, two (2)-hour maximum response time basis throughout the entire warranty period. The warranty will cover all components and labor for one (1) year from the date of final acceptance.

4.63.2. Minimum Warranty Period
A minimum of a one (1) year warranty period is expected for all hardware, software, and ancillary equipment provided by the successful Bidder. The one (1) year period will commence upon Middlesex County's final acceptance of the system. The period may begin prior to final acceptance if, at Middlesex County's sole, written discretion, only minor punch list items remain open. All warranties must survive acceptance and payment by Middlesex County.

4.63.3. On-Site Spare Kit
Bidder shall include a spares kit designed to support non-redundant components that could affect 9-1-1 operations. This response should include Mean Time between Failures (MTBF) details to support the recommended spares. The Bidder must provide in the bid a recommended list of spares (parts, modules, boards and/or equipment) required to maintain the system.

4.63.4. Warranty / Maintenance Spare Support
Bidder shall detail the level of spare parts that are available to support Middlesex County that could be available for service personnel to install within a four (4)-hour timeframe from the initial service call.

4.63.5. Repair Tracking
Describe the methods that are used to track system problems or errors, problem resolutions timelines locally.

4.63.6. Repair Notification
Explain the process to log and report all trouble reports and outages to the PSAP. Include in the response the frequency, delivery method and what information to be provided to the PSAP to ensure proper response.

4.63.7. Remote Maintenance features and interfaces (Optional)
Responses must indicate how remote monitoring and maintenance will be performed and staffing should the County elect to purchase twenty-four (24) hours a day, seven (7) days a week for remote monitoring.

4.63.8. Site History Log
Describe the method that would be utilized to maintain a site log that tracks problems, resolutions and upgrades that were performed both on site and remotely.

4.63.9. Technician Training
All persons who will be providing support on the system shall be adequately trained. Middlesex County reserves the right to audit qualifications of anyone working on the system at any time and the right to reject if they do not meet the County's standards. It is the responsibility of the bidder to ensure that all technicians meet the training requirements for all work.

4.63.10. Single Point of Contract
The successful bidder shall be the single point of contact for any troubles associated with equipment covered by this RFP/Contract.

4.63.11. Technician Experience
Provide the relevant employment history and training of technicians who will be servicing this contract including name and years of experience in the industry.

4.63.12. Response Time
Upon notification of any equipment failure, but not of the type that would interrupt the delivery of 9-1-1 calls, the responsible party shall respond within four (4) hours with a qualified technician, on-site, ready and equipped to handle the problem. If the failure is interrupting the delivery of 9-1-1 calls, the responsible party shall provide a qualified technician, on-site, ready and equipped to handle the problem, within two hours of notification. Describe in detail your ability to meet these requirements and how this will be accomplished.

4.63.13. Support - Escalation Procedures
Describe the process and procedures that would be utilized by PSAP personnel when issues require escalation. Provide a copy of your trouble escalation procedures complete with the names, titles, addresses and telephone numbers of the persons who are to be notified.

4.63.14. Restoration
Describe the intervals that Workstations, Servers and ANI / ALI Controller (include Logging Recorder if applicable) complete file back-ups are preformed during warranty and maintenance so that total restoration can be preformed if any device needs to be replaced.

4.64 Exhibits

Exhibit A - Configuration Specifications
The system configuration is summarized on this page. The column headings are defined as follows:

Equipped - Including, but not limited to, equipment, software and wiring necessary to provide a working system at time of cutover.

Wired - Including, but not limited to, cabinet, shelves, backplane wiring and power necessary to expand the system by simply adding appropriate interface cards, modules and peripheral equipment.

Individual PSAP Major Equipment

LIST OF DELIVERABLES ANI / ALI Controller

Description	Equipped	Wired
ANI/ALI Controller	1	
PC Workstation	4	
Analog Wireless Incoming E9-1-1 Trunks	4	
Analog Wireline Incoming E9-1-1 Trunks	4	

Analog CO Lines with Caller ID	25	
Analog CO Lines with Caller ID	25	
Analog 9-1-1 trunks	25	
One Button Transfers	15	
Speed Dial	25	
Ring Down	0	
Centrex	0	
ALI Interface Ports	4	
CAD Interface Ports	4	
Outside Lines with XXX NPA	TBD	
Headset / Handset Interface to Radio	TBD	
MIS System and Hardware	1	
Maintenance software and Hardware console	1	
Equipment Cabinet / PC, Monitor, Keyboard Shelf /	2	
Data Patch / Voice Patch Panel	1	
End User training	8	
Administrative training	6	

LIST OF OPTIONS ANI / ALI Controller

Description	**Equipped**	**Wired**
Command Post and remote port	1	
Automatic ALI Rebid	1	
Spares Kit	1	
VoIP Module / Upgrade	1	
24 x 7 Alarm Monitoring	1	
Wallboard Interface / 4’ Wallboard	1	
External Time Stamp Clock	1	
Remote Print (FAX) of ALI	1	

5 PROPOSED IMPLEMENTATION

5.1. Project Plan

The responding bidder shall submit a narrative that details the complete Project Plan. The plan should include details how the present 9-1-1 service and operation will not be interrupted during the conversion process. Major areas of concern are as follows.

- ANI/ALI Controller installation
- Workstation installation
- Migration of new ANI/ALI Controller
- Detailed Acceptance Test Plan (ATP) for all function and ANI/ALI Controller interface
- CAD Interface testing

5.2. Gantt Chart

The responding bidder may submit a task oriented Gantt chart detailing the Middlesex County ANI / ALI Installation utilizing Microsoft Project 2000 or later version. The proposed start date for project should utilize a "contract date" of May 2012. The Gantt chart tasks should include all details that are outlines in the "Project Plan".

5.3. Project Management

It is a requirement that responding bidder assigns a Project Manager to this project that is familiar with 9-1-1 networks, equipment installation practices, MIS systems, end user training and functions. Bi-weekly project meeting will be conducted on site and/or via conference call as determined by the County. It is a requirement that the bid include the Project Manager's resume with references and experiences on similar projects.

5.4. Equipment Delivery

The equipment shall be delivered to its proper location and installed by the vendor without additional cost or expense to Middlesex County on an as needed basis due to limited storage. The equipment shall not be considered accepted until the equipment has been installed and is operating in accordance with all specifications outlined in this document and any related contract.

5.5. Minimal Interruption

The equipment installation shall be accomplished with minimal interruption to the normal business operation of the local 9-1-1 agency. Implementation associated with the workstation will be mutually determined by the bidder, and Middlesex County. Middlesex County reserves the right to alter or suspend the intended schedule for any reason that could affect Public Safety 9-1-1 service as determined by Middlesex County.

5.6. Installation Responsibilities

Middlesex County desires a "turn key" installation for the entire CTI telephone system. The bidder shall assume full responsibility for installing all equipment and cable required to support the proposed system and for coordination of network services and all details of the conversion process as approved by Middlesex County. The bidder shall give the work the

attention necessary to facilitate and assure completion in accordance with the approved Project Plan, Gantt chart and terms of the contract.

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 as a direct result of their removal.

5.6.1. Cabling

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

5.6.2. Equipment Racks

Standard nineteen (19)-inch, seven (7)-foot (eighty-four (84)-inch) aluminum equipment racks must be provided by the Bidder. Middlesex 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.

5.6.3. 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.

5.6.4. Practices

System installation must be consistent with Industry standards, existing practices, applicable EIA standards, and good engineering practices.

5.6.5. Punch Blocks

The Bidder must describe the make, model, type, and style of rack mounted Intermediate Distribution Frame (IDF) and punch blocks proposed.

5.7. Installation Compliance

All work shall comply with the applicable national, state and local codes and regulations.

5.8. Installation Testing

The bidder shall be responsible for testing the incoming 9-1-1 trunks and Telco analog POTS lines prior to placing the system in service. All wireline and wireless (both Phase I and Phase II) trunks should also be tested by the bidder. Middlesex County will be responsible for all one time and reoccurring Telco costs related to any new circuits required as part of this project.

5.9. System and 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 Middlesex County. The Bidder will certify in writing to Middlesex County when the system is installed and ready for testing. Degrees of system failure and operability for acceptance testing purposes are determined solely by Middlesex County.

5.9.1. Acceptance Testing

Acceptance test plans are required as described in the following subsections. If, in Middlesex County's judgment, it determines that the CTI telephone system has not passed a test performed, Middlesex 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 or fire, will be excluded from the acceptance testing.

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

Middlesex County will notify the Bidder in writing when the 9-1-1 PSAP CTI TELEPHONE SYSTEM has passed/completed the final acceptance test.

5.9.2. Failure Prioritization

The following failure priority levels are defined for use during the Systems and Acceptance Testing process.

5.9.2.1. 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.

5.9.2.2. 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.

5.9.2.3. 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.

5.9.2.4. 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.

5.9.2.5. 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 the Middlesex County Dispatch Center. The location of the build out will be agreed upon by Middlesex 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.

5.9.2.6. 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 bid response. Once accepted by Middlesex County, the testing plan will be used for testing the initial installation in the Middlesex County Communications Center.

5.9.2.7. 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 Middlesex 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 Middlesex 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 bid, and system performance measurements based on the telephone activity to date in the Middlesex County Communications Center. This testing serves as a sign off process for payment to the successful Bidder.

5.10. Change Order
The bidder shall be responsible for submitting any Change Order activities via written documentation prior to performing labor or equipment change that is not covered under the contract by Middlesex County officials.

6. SUPPORT REQUIREMENTS

6.1. Vendor Support Requirements

Bidders interested in submitting a bid shall provide a list of qualifications of the Vendor and/or the staff of the Vendor's organization who will be involved in the project.

List should include number of certified technicians and levels of experience on the proposed solution within two (2) hours of Middlesex County.

List should include number of certified technicians and levels of experience on the proposed solution within four (4) hours of Middlesex County.

List should include number of certified support personnel and levels of experience on the proposed solution within four (4) hours of Middlesex County.

6.2. Manufacture Support Requirements

Proposed ANI / ALI equipment manufacture is required to meet or exceed ten (10) years of manufacturer support. It is a requirement that a letter signed by a manufacture company official be included in this bid. Non-ANI/ALI Controller manufacture equipment such as PC's, Monitors, misc. equipment, etc are required to be supported by the bidder for five (5) years or greater. It is a requirement that this specification be acknowledged in a letter included in this bid from a company official from the bidding company

7. COST

This section is intended to provide itemized costs for the ANI/ ALI Controller. Bidders interested in submitting a bid shall provide details that show how the Bidder plans to address the hardware, installation, and implementation of this project as specified in paragraph 5.1. Bidders are responsible for all costs incurred in the development and submission of their bids.

7.1. Cost Details

The total project costs should be clearly identified and submitted on the bid form provided by Middlesex County for uniformity and ease of recording bid submittals at bid opening.

Provide detailed costs by line items listed below. The bidder is required to submit detail costs for the entire project. Detail paper worksheets need to be attached and formatted to include the following minimum details.

Any software licensing fees for Workstations, MIS, Maintenance Terminals, etc. shall be included.

Hardware costs as outlined. Installation, labor, Other costs, such as travel; and training On-Site 24 x 7 Warranties Total contract price Options as outlined in paragraph 4.64. Labor per hour for moves and changes Labor; per hour for Change Order activity if utilized

APPENDIX A

Insurance Requirements

A. The Contractor shall maintain and provide evidence of having worker's compensation insurance at the time of signing the contract.

B. The Contractor acknowledges that he is an independent contractor, and not an agent or employee of the Owner. The Contractor further agrees to indemnify and hold harmless the Owner, its officers, agents, officials and employees free from any loss, claim, demand, liability, cost or suit of whatsoever nature arising out of or in any way related to the work to be performed by the Contractor herein. The Contractor shall procure, and shall maintain throughout the life of the Contract, Automobile, Workers Compensation and Commercial General Liability Insurance, with the County named as an additional insured on the Auto and Liability policies, and shall provide the County with proof of same. These insurances shall be in the following amounts:

General Aggregate	$2,000,000.00
Each Occurrence	$1,000,000.00
General Aggregate	$2,000,000.00
Products - Comp/Op Agg.	$2,000,000.00
Automobile	$2,000,000.00
Personal & Adv. Injury	$1,000,000.00
Each Occurrence	$1,000,000.00
Fire Damage (any one fire)	$ 50,000.00
Medical Expense (any one person)	$ 5,000.00

BID FORM
IFB#2012-01
Middlesex County, Virginia

This form must be completed and returned, **IN TRIPLICATE**, as part of your bid packet.

1. Name and Address of Firm/Bidder

BY (print name)	
TITLE	DATE
COMPANY NAME	
STREET ADDRESS	
CITY, STATE, ZIP	
TELEPHONE	FAX
E-MAIL	

Pursuant to and in accordance with "INVITATION FOR BIDS #2012-01 ", the undersigned agrees to provide a E-9-1-1- ANI/ALI CONTROLLER EQUIPMENT UPGRADE SYSTEM, including (but not limited to) equipment, shipping/delivery, materials, labor, installation, warranty, per pricing as follows on next page:

2. Proposed Costs

Total Lump Sum Bid Price for Turn-Key VoIP E9-1-1 Phone System, including training and first year.regular/preventive maintenance	**$**
Optional cost for years 2-5 Bid for 24x7 Remote System Monitoring and System Diagnostics	**$**
Optional Cost for years 2-5 for Vendor maintenance	**$**
• **Yearly Cost**	**$**
• **Up-Front Payment**	**$**

3. Alternate Prices

While there are no specific alternates listed, Bidders are allowed to submit voluntary alternates that would allow cost savings to Middlesex County. Voluntary alternates will include a detailed Scope of Work that shall be subject to review and approval of Middlesex County.

Also, if Bidder does not agree with specifications and requirements, Alternate Bids may be submitted and clearly indicated as “ALTERNATE BID”.

4. Receipt of Correspondence

The undersigned acknowledges receipt and inclusion of the following into the bid: (If none, write "NONE".)

Addendum No. _____ Dated: _____
Addendum No. _____ Dated: _____

5 Bid Presentation

The Bidder having carefully examined the Bid Documents and all other related documents, fully reviewed the existing site conditions, and having become familiar with all conditions affecting the proposed work, including the availability of labor, materials and equipment, agrees to perform all work required by the Bid Documents at the prices noted above.

The Bidder, if awarded a Contract, agrees to commence the work on the date(s) specified in the Notice(s) to Proceed; to carry the work forward expeditiously with adequate forces; and subject to authorized adjustments, to achieve completion in accordance with the dates or periods of performance set forth in the Contract Documents.

6. Bidder's Organization [check applicable]

_____ An individual or sole proprietorship
_____ A partnership
_____ A joint venture
_____ A corporation organized under the laws of the State of
_____

7. Attachments

The following is a checklist of items that are to be included with the Bid Response Form and shall be completed by the Bidder:

Answers to Technical Specification
Individual Line Item Pricing/Detailed Cost
Bid Bond
References for Subcontractors
Sample Certificate of Insurance
Alternate bids or deviations (if any)
Copies of any required trade licenses

8. Signature and Seal

Signed and sealed this _____day of _____, 20_____

BIDDER - SIGNATURE: _____

NAME: _____

TITLE: _____

_____ Seal
Notary Public

My commission expires the _____day of _____, 20_____

END OF BID RESPONSE FORM