

Next Generation Ready VOIP Capable 911 Phone System

In addition to the GENERAL REQUIREMENT DOCUMENT, the following are required and / or desired features of the Next Generation Ready VOIP Capable 911 Phone System. Vendors shall reprint each required and / or desired functional feature with their proposal response. For each described feature, the proposal shall provide a response compliance code. The response compliance code shall be inserted in bold-faced type after each requirement. Response codes which warrant narrative explanation shall be followed by the appropriate narrative as prepared by the vendor. Complete substantive narrative answers are required. Non-specific answers or blanks may be considered unresponsive. Vendors shall use the following response codes in preparing their answers to these desired and required attributes.

Response Code Meaning:

<p>“C” Comply – The proposed solution will fully meet this requirement because it currently exists as a standard feature or function in the base application software.</p> <p>“S” Surpasses - The proposed solution surpasses this requirement because it offers additional features, functions, or enhancements to that required by the attribute statement and as thoroughly explained in the narrative.</p> <p>“D” Does not comply – The proposed solution does not fully comply with this requirement. The vendor will <u>not</u> meet this requirement in its entirety.</p> <p>“T” Available through a Third party – This requirement can be met by a software module that the vendor has arranged to use through a third party contract. The unit of software or software module must be designed for seamless integration with the base application software. Vendor’s existing product costs for the separate unit of software or module are included and clearly identified in cost quotation</p> <p>“CS” Customize – The requirement can be met by altering the proposed software to meet the requirements and specifications. Costs for customizing software are included and clearly identified in cost quotation. Vendor also must commit to completion of any custom software as part of the initial installation.</p> <p>“EX” Explanation – Response requires an answer to a question rather than a stated requirement. Example, “What language is the application written in?” Vendor should use the “EX” code and provide answers following the desired or required feature.</p>

1. GENERAL REQUIREMENTS

1.1 SCOPE

These specifications define the minimum requirements and standards for a Communications Control Console and related accessories for the CROCKETT COUNTY EMERGENCY COMMUNICATIONS PUBLIC SAFETY ANSWERING POINT.

1.2 QUALITY

Proposed equipment shall meet or exceed industry standards for quality and reliability. All materials, parts, assemblies, etc. shall be new, and be free of corrosion, blemishes or other cosmetic defects. Design and construction shall be consistent with current best engineering practices, and shall be manufactured in the United States.

1.3 REGULATORY APPROVALS

All equipment proposed in which microprocessors are used shall have undergone comprehensive testing and shall meet 47 CFR, Part 15, Subpart “B” of the Federal Communications Commission rules for Class “A” computing devices.

All proposed equipment which has Telco ports shall have undergone comprehensive testing and shall meet 47 CFR, Part 68.

The emergency call taking system must also be in compliance with; EIA/TIA RS-310, 574, TIA/EIA-825; BellCore TA-NPL-00912, TR-NWT-000030 & 001188, TR-TSY-000064 & 000350; NENA 04-001, 04-002, 03-002, 02-010, 08-001, 58-001, 08-501; ANSI/TIA/EIA 574, 825.

1.4 WARRANTY

Bidder shall warranty all equipment to be free from defects in material and workmanship, and to operate in accordance with these specifications for a period of not less than one (1) year from date of Installation. Options for three (3) and five (5) of additional warranty including parts and labor will be provided. Hourly rates for time and materials will be provided if additional warranty is not selected.

1.5 REPLACEMENT PART AVAILABILITY

The manufacture of the proposed console equipment shall maintain of complete stock of repair components for the system for a period of not less than seven (5) years after initial delivery. These parts shall be available for shipment on an expedited basis 24 hours a day, 365 days a year including weekends and holidays. On site spare parts for essential operations shall be quoted as OPTIONAL.

1.6 DOCUMENTATION

Complete documentation shall be provided with the system. Each system shall include, at a minimum, manuals that address the following functions or activities:

- Installation
- Service
- Programming
- Operation

The manuals shall be printed in black ink on 8.5" x 11" white paper utilizing at least a 10-point type font. The individual manual sheets shall be fastened together with a comb-binding, three-ring binder, or other similar positive binding mechanism.

Technical Specifications: VOIP Capable 911 Phone System

2. SYSTEM REQUIRMENTS

2.1. System Architecture

2.1.1. VoIP Call Taking System

The system shall be a VoIP capable telephone system. The system shall permit flexible line-vs-station assignments with unique line appearances on specific stations up to a "squared" configuration where every line appears on every station set. The system shall integrate an E9-1-1 ANI/ALI Controller with the telephone system such that the system may be directly interfaced to the 9-1-1 network. The system shall accept standard 9-1-1 trunks, 7-digit emergency lines, caller ID lines, wireless Phase 1 or 2, or, if the PSAP has service from a VoIP provider, VoIP administrative calls. E9-1-1 calls can be delivered over CAMA or Enhanced MF trunks. Seven-

digit emergency or caller ID lines can be provisioned at the system with FXO, T1, or T1 PRI circuits, or over an IP network designed for voice.

The system shall have the added capability of integrating administrative and ring down lines such that each station (operator's console) handles both emergency and administrative calls. The system shall enable the call-taker to answer the call with a mouse, keyboard, touch screen, or a 9-1-1 telephone set, which is always present to provide redundancy in case of PC failure. Architecture must provide the facility for full MIS reporting of administration lines and 9-1-1 trunks. The system shall be able to integrate an optional SIP-based PSAP administrative telephone system.

The system introduces the ability to deliver calls between similar equipment in geographically dispersed Public Safety Answering Points (PSAPs) over their IP network. When doing so, the receiving call-taker is presented with the call priority (i.e. 9-1-1 emergency or administrative), the Automatic Location Information (ALI), the Automatic Number Identification (ANI), and the identifier of the original PSAP to which the call was received.

The system shall support remote operator positions/stations with IP network connectivity to the main PSAP CPE (Customer Premise Equipment).

2.1.2. Backroom Equipment

The backroom equipment shall be comprised of card shelves, cards (line, trunk, station, etc.), ALI Controller, IP Call Servers, and power supplies. Equipment shall be mountable in 19" equipment racks. The system shall require no more than 3-pairs of wires between the backroom equipment and each Station. Local stations shall be capable of being located up to 1000 feet from the backroom equipment.

2.1.3. Call Taking Positions

The system shall be capable of supporting both button-based and PC-based equipment at each station. A CTI (Computer Telephony Integrated) position must have a means to answer and release 9-1-1 calls in the event the computer or IP network is disabled.

2.1.4. Remote Call Taking Positions

Stations can be provisioned remotely from the backroom equipment. These positions are connected via no more than three 3-pair dedicated private circuits (conditioning may be required based on extreme length), or preferably over an IP connection. Remote positions will have access to the full compliment of features, with identical functionality.

2.2. SYSTEM REDUNDANCY

The system must have a distributed, fault-tolerant architecture such that it meets, at a minimum, the NENA Standard 04-001 which states that a single component failure shall result in the loss of not more than half of the lines, half of the stations or any essential feature. Further, a single component failure shall not result in complete loss of ANI delivery to the answering stations. The system must also, as an option, have no single point of failure that could eliminate ALI and CAD interface features. The system shall have, as an option, the ability to provide N+1 power supply or equivalent so a loss of a single power supply module will not result in the loss of 9-1-1 calls or operator call handling capability.

It is required that the system be able to split individual circuits such that loss of trunk or line terminating equipment results only in the loss of those trunks or lines terminated in the equipment.

For any local CTI (Computer Telephony Integrated) stations, new and existing calls presented to the station shall not be lost and shall be able to be answered and released in the event the PC or IP network to the station is disabled.

2.2.1. PC Failures

Bidders must fully explain the effect on the system of any of the following failures:

- Workstation PC failure (including CPU, hard-drive, power-supply, video monitor, keyboard and mouse).
- Failure of any PC Server being bid (including CPU, hard-drive, power-supply, and LAN connectivity).
- Failure of any LAN hub or switch.
- Failure of any PC LAN connection.
- Failure (misbehavior or crash) of any PC software.

2.3. SYSTEM INTER-PSAP OPERATION OVER IP

The system shall have the capability to transfer 9-1-1, 7-digit emergency or administrative calls over a private IP network between a similarly configured PSAP without going back through the telephone central office or selective router. The priority of the call shall persist and ANI/ALI information shall be delivered with the voice and presented to the call taker at the destination PSAP.

2.3.1. IP Call Transfers

The system shall provide the following capabilities for IP transfer of calls:

- Ability to automatically redirect incoming 9-1-1 (with ALI), 7-digit emergency, or administrative calls, based on selectable criteria such as “no operators available” or “delayed call answer”.
- Ability to automatically redirect incoming 9-1-1 (with ALI), 7-digit emergency, or administrative calls, based on setting the IP Night Service mode.
- Ability to manually transfer 9-1-1 (with ALI), 7-digit emergency, or administrative calls.
- A VPN connection between PSAPs over which the voice and data is delivered.

2.4. ALARMS & DIAGNOSTICS

The system shall continually perform diagnostics on its internal data communications. In the event of a data communications failure, the appropriate station equipment shall provide a visual warning in the form of a textual message.

There shall be an optional local and/or remote system alarm monitor. In the event of a major or minor alarm, the local alarm monitor shall present both visual and audible indications. The audible alarm shall be capable of being temporarily silenced but shall resume after 20 minutes if the condition is not corrected. Any visual alarm shall remain active until the reason for the alarm is corrected. The local alarm monitor shall be battery powered so as to not be dependent on power from the backroom equipment in order to produce its alarm indications. In a low battery condition, the local alarm monitor shall indicate the need to change the battery. Also, there shall be a test button that verifies the operational status of the local alarm monitor.

The optional remote alarm monitor shall be capable of notifying remote personnel via voice announcement over dial-up telephone or two-way radio, and/or via text announcement over pager. Both the voice and text announcement shall indicate the specific type of alarm and the source of the alarm so that responding personnel can be prepared to solve the problem.

2.5. MAINTENANCE

The system shall be easy to maintain. Backroom equipment shall have power and status indicators for each card. Options must be available to provide an alarm notification to local operating personnel and/or remote service personnel in the event of a service-affecting failure. All system wiring shall be connectorized to facilitate quick replacement and ensure minimum downtime. Service must be accomplished without the loss of more than half of the lines or stations at one time. Circuit cards shall be replaceable with power applied without effecting resources other than those contained on the replaced card. Replacement of the ALI Controller shall at no time effect basic call handling features such as answering or originating calls, voice communications or ANI decode & display.

The system shall provide dial-up or VPN remote access to allow software, firmware and configuration changes. The system shall be capable of having unique password permissions for access to configuration or maintenance functions.

2.6. RETROFITS

The system shall be field expandable. The system shall be capable of expanding station capacity to a maximum of 90 stations. The system shall be capable of expanding line capacity to a maximum of 100 lines, in no more than 10-line increments.

The system shall be field upgradeable. Software upgrades to the telephone stations and ALI controller shall be permitted by downloading into Flash EPROM, or similar technology. Disassembly for the purpose of upgrading software is not acceptable.

The system shall be field programmable. The operating configuration of the system shall be programmable via a simple-to-use 32-bit, Windows®-based computer application with graphical user interface. The programming application shall be provided by the manufacturer with the delivered system. The programming shall permit reassignment of button functions, line features, TDD messages, etc.

2.7. ENVIRONMENTAL

The entire system shall be capable of operating from 100 to 134 VAC, 57 to 63 Hz and 43 to 56 VDC. The system shall require less than 48 watts per station (excluding CTI hardware), and less than 350 watts per 30 lines. The system shall operate over the temperature range 0 to 50°C.

2.7.1. 48 Volt Dc Operation

In addition to operating from nominal 120 VAC, the entire system (excluding CTI hardware) shall have the option of operating from -56 to -43 VDC.

2.8. INTERFACES/COMPLIANCE

2.8.1. Line/Trunk Capacity

The system must offer up to 100 Line/Trunk capacity when set up as one-for-one dedicated line to button relationship, greater if Dynamic Buttons are configured. The system shall support 7-digit emergency or administrative lines via FX, T1 CAS, T1 PRI circuits.

2.8.2. E9-1-1 Trunks

The system must be able to receive E9-1-1 calls over CAMA or Enhanced MF trunks (no need to convert). The system shall interface to a wide variety of 2-wire, reverse-battery, MF-signaled 9-1-

1 Trunks, including 7/8 digit ANI via Tandem CAMA trunks (per NENA-04-001 and Bellcore TR-TSY-000350), 10/20 digit ANI via Enhanced MF trunks (for FCC Phase I per NENA-03-002), and Direct CO trunks. Options shall exist for Direct CO trunk interfaces to support wink, wink-wink, wink-reverse, or reverse supervision. The system shall support a mixture of trunk types, including both 7/8 digit ANI and 10/20 digit ANI. The system shall support conference and transfer of 9-1-1 calls to up to 20 secondary PSAPs via Tandem trunks.

2.8.3. Ringdown Lines

The system shall offer the following Ringdown lines as options:

- Manual Ringdown Line
- Automatic Ringdown Line
- Station Ringdown Line

2.8.4. FCC Wireless 9-1-1 Phase I

The system shall be compatible with Call Associated Signaling (CAS), Non-Call Associated Signaling (NCAS) as well as “hybrid” methods (HCAS) of delivering both mobile handset call back number (CBN) and receiving cell site and sector information. ANI displays throughout the system must show the mobile CBN if available.

2.8.5. FCC Wireless 9-1-1 Phase II

The system shall be capable of displaying Phase II wireless handset location (X/Y) as received from an off-premise ALI database. Additionally, the system must support automatic wireless ALI re-bid so that calls initially delivered with Phase I ALI data can be re-queried to obtain Phase II data if it exists. The time between the initial ALI query and the second ALI query shall be programmable. Automatic ALI re-bid shall be a selectable parameter. The bidder shall explain how they determine whether or not to re-bid a call.

2.8.6. ALI Databases and Connections

The system shall interface to an on-premise or off-premise ALI database. The system shall support 8 digit ALI requests (per NENA-04-001) or 10-digit ALI requests (per NENA-03-002). ALI shall be delivered for 9-1-1 calls based on the call’s ANI (for 7/8/10-digit ANI) or Pseudo ANI (for 20-digit ANI). Programming shall permit optional ALI delivery based on administrative Caller ID number. When the system is configured to interface to both 7/8-digit ANI trunks and 10/20-digit ANI trunks, it shall provide the necessary NPD/NPA conversion for proper communications with the ALI database. The ALI database interface shall contain dual, redundant ports which operate at baud rates from 1200 to 9600 baud. The request for ALI shall occur prior to call answer so as to ensure fastest possible displaying of the ALI when the call is answered. The ALI ports shall support Telco-supplied modems for communications with a remote database. There shall be a migration path that permits upgrade of the equipment to handle XML-based ALI data, compliant with NENA-02-010 “Recommended Formats & Protocols for ALI Response”, Exhibit 23.

2.8.6.1. Redundant ALI Controller

There shall be an option available to provide full ALI service, including CAD port functionality, despite any single point of failure, including failure of the main ALI controller. Bidders must describe their method of recovering from any single failure that would ordinarily effect ALI or CAD functionality.

2.8.7. Open standard interface to CAD and Mapping applications

The system shall have either an accepted industry standard interface or a proprietary but open interface to CAD or Mapping applications.

2.8.8. Mapped ALI

The system shall have a Mapped ALI interface that supports mapping of call location in the following call states: call abandoned, call answered by another operator, call answered by this operator, call on-hold, and call released. The interface shall be supported by at least one Mapped ALI vendor which uses ESRI-based map data.

2.8.9. Busy Call Announcement for both emergency and non emergency line groups

The system optionally shall be equipped to provide an automated announcement to 9-1-1 callers while all operator consoles are busy. The system shall have that the ability to allow the operator to listen to a previously recorded announcement and to record new announcements. The system shall allow for a minimum of to eight different messages to be pre-recorded for later selection.

2.8.10. Automatic TTY (Baudot or ASCII)

The system shall support TTY such that when the phone detects special TDD tones, it will automatically enter the TDD mode and begin by generating a query from the PSAP followed by display of the characters typed by the caller. The system should show if TDD is in Voice or Text (Baudot or ASCII) mode and toggles the current TDD state between Voice and Text to facilitate handling of Hearing Carry Over (HCO) and Voice Carry Over (VCO) calls. The system sends either predefined messages selected from the drop-down list, or messages typed by the call taker.

2.8.11. Instant Recall Recorder Hardware-based

The system shall have provisions for voice recording by station (rather than lines/trunks) and shall be capable of selective recording such that only designated station lines are recorded. If it is desired to record some non-9-1-1 lines in addition to the 9-1-1 trunks, the phone system shall generate warning tone beeps on non-9-1-1 calls (in compliance with federal law), and shall not generate these beeps on 9-1-1 trunks (in compliance with NENA recommendations). Whenever warning tone beeps are generated, it shall be possible to filter out the beep tone such that beeps do not interfere with the speech being heard by the operator, but are still heard by the caller.

The IRR shall be capable of recording the last 20 calls taken by the station. The IRR shall retain at least the last 8 minutes or more of conversation. Recording shall be enabled (via programming) on a line-by-line basis such that emergency lines may be recorded while administrative lines are not recorded.

The playback audio of the IRR shall be via the telephone station's handset or headset. During searches of the IRR messages the station's display shall show the time at which the message was recorded, the duration of the message, any associated incoming Calling Party Number (CPN) as the caller's ANI/Caller ID and any associated ALI.

The optional IRR feature must have the capability of being added in the field. The IRR shall be integrated into the telephone set and shall not require external devices.

2.8.12. Instant Recall Recorder – Software-based

The IRR shall independently record and playback both telephone and radio traffic on two separate channels. Telephone line recording shall be for the duration of the call and shall not be based on the presence of voice. Telephone line recording shall be level controlled such that when played back, the signal levels between the caller and call taker are comparable. Radio recording shall be based on the presence of voice and shall have provisions to retain the first syllable. The recording duration shall be configurable by the agency to retain no less than the last 60 minutes of traffic per channel. Individual recordings shall be capable of being saved such that their memory allocation is reserved rather than re-used. The system shall provide a warning to the user if available (non-saved) memory is less than 20% of total allocation. Playback of recorded calls

shall be truly instant and shall not rely on the presence of a central server or LAN. Playback shall be via the CTI sound system.

2.8.13. Compatible with Voice Recording (Call Logger).

The system shall have a standard tip and ring connection for each line in the system for connection to a call logger. The connector for the interface shall be a standard Telco connector, such as a 50 pin DIN connector.

2.8.14. Netclock

The system shall have a Master Clock port which accepts once-a-second time and date information in a serial RS-232 ASCII format compatible with NENA-04-002 at baud rates between 1200 and 9600 baud. The Master Clock source shall be used to keep all displayed and printed time/date fields synchronized. The system shall suffer no adverse effects due to date sensitivity, and shall properly recognize dates, including leap days, through the year 2099.

2.8.15. CAD Port

The system shall have a CAD port that delivers ALI Data and answering station ID to an attached Computer Aided Dispatch system. The CAD port shall comply with the requirements of section 3 of NENA-04-001.

2.8.16. Call Detail Record (CDR) Port

The system shall have a CDR Printer Port that outputs a complete CDR of each E9-1-1 call or Caller ID call at the end of the call. The printed records and messages shall contain time stamps, enabling personnel to review the details of a particular call or other event.

2.8.17. Auto-attendant

The system shall have an automated attendant to assist incoming callers in finding the appropriate SIP phone extension. The system shall allow the system administrator to change the prompts to fit PSAP operation procedures.

2.8.18. Voice Over IP in native (SIP) format

The system shall have the ability to provision Session Initiation Protocol enabled telephone sets or personal computers loaded with a SIP telephone application for administrative call taking. The system shall also be able to receive SIP calls from a VoIP service provider and handle them as a normal administrative call.

2.8.19. 3-1-1

The system shall be capable of interfacing to a "3-1-1" network either through 9-1-1 type trunks, or loop-start lines with Caller ID. Regardless of the interface, it shall be possible to deliver ALI for a 3-1-1 call unless forbidden by local ordinance, policy or database provider contract.

2.9. STATION FEATURES

Station equipment bid shall include a telephone instrument with a personal computer running Windows® XP Pro operating system. The telephone should have the capability to manage call handling in the event there is a personal computer, server, or application software problem.

2.9.1. Computer Telephony Integrated Workstations (CTI)

Regardless of the type of attached station equipment, the position shall be capable of answering and releasing calls despite any failure of the associated CTI PC-equipment including CPU, PC power supply, video monitor, keyboard or mouse. Usage of CTI and button-based telephone sets at each position shall operate off the same console circuits in the backroom. The workstations shall operate in either a stand-alone (non-networked) or networked configuration. If a database server is required in the optional networked configuration, it shall be based on Microsoft SQL Server 2005 Express Edition or later or SQL Server 2005 or later.

2.9.2. Monitor

The CTI call-taking application shall not require more than a single monitor and shall require a LCD monitor with a minimum resolution of 1024 x 786 in pixel size and at least 17” in diagonal measurement. The application shall be capable of being operated by mouse/trackball and keyboard. The call-taking application shall not preclude the use of multiple monitors.

2.9.2.1. Optional Touch-Screen Operation

The application software shall have an option to be operated by touch-screen as well as mouse/keyboard. Should a proprietary touch screen be required, the vendor shall quote the cost of the hardware associated with implementing the proprietary monitor.

2.9.2.2. Optional Multi-Screen Operation

As an option, the vendor shall also quote the cost for a multi-monitor option. The option shall permit as many as four monitors to be used on a single workstation

2.9.2.3. Operator Logon

The System shall use operator logons to customize the CTI operation. An administrative account management tool shall allow designated users to assign permissions and privileges to each individual operator or class of operators. When an operator logs on, only controls designated by the administrator shall be enabled on their CTI screen. In addition, the system shall permit the user’s own private phone list and their screen preferences (color scheme and layout) to follow them to whichever CTI they log on to.

2.9.2.4. Control Windows

The CTI user interface shall use individual windows for each associated group of controls. Each individual window shall be able to be repositioned such that they can be arranged to best fit the needs of the agency. The text and background colors shall be configurable by the agency for each group of controls, including a different color set for each classification of telephone line/trunk (e.g. 9-1-1, 7-digit emergency and admin line screen controls may be each a different color). The line/trunk screen resources shall be configurable by the agency to appear as either buttons or list entries.

2.10. Call Taking Features

2.10.1. Call Hold

The System shall have a true “hold” feature, allowing the call taker to place any number of calls on hold at one time. The system shall display on the line button the position that placed the call on hold. Any position, based on permissions established by the administrator, can select a held call. Parking a call on a common extension is not considered a true hold feature.

2.10.2. Barge-In

The System shall allow operators, based on permissions extended by the system administrator, to join into calls in process. This is performed by depressing the line button of the active call. Vendors must describe the process used to access and take part in active lines.

2.10.3. Silent Monitor

The System shall allow supervisors or operators, based on the permissions extended by the system administrator, to silently monitor active calls. There is no indication given that these calls are being monitored.

2.10.4. Unattended Conference

The system shall have multiple methods of conferencing.

Star code selective transfers of 9-1-1 calls to another 9-1-1 agency shall be performed by depressing one button. That signals the Telco selective router with instructions as to which agency to connect to. The originating call taker can choose to stay on the call, or disconnect with no impact to the remaining parties.

Conferencing of 7-digit lines should also be easily performed. A minimum of 4 parties can be connected without loss of audio strength. The originating call taker must be able to either release from the conference or place the conference on hold without the other parties of the conference losing their connection. In all cases, the system should detect when the final two parties of a conference have disconnected so that the originating line can be automatically released.

2.10.5. Autodial

The system shall give the call taker the ability to autodial commonly called numbers. These autodials shall be categorized, for example by hospitals, towing companies, security companies, etc., to allow for easy retrieval. When pressing an autodial, the system must automatically select an out-dial line with no need for call taker selection.

2.10.6. Internal Transfer

The system shall support internal call transfers to either a specific operator (by user ID), a specific console (by console number), or a designated group of consoles. The originating console shall keep the call until the destination console answers and the original console releases it.

3. System Design Features

3.1. Priority Answer

Station programming shall permit the assignment of one of three line classes or priorities to each line (high, medium, low). Pressing a single button shall automatically answer the longest ringing, highest priority line.

3.2. Distinctive Ringing

Station programming shall permit the assignment of a distinctive ringing sound to each line in order to audibly distinguish one line or line class from another. There shall be at least 12 distinctly different ringing tones/patterns to choose from.

3.3. Ring Groups

Stations programming shall permit each individual line to be associated with one of eight groups of lines. Buttons shall be available to enable or disable the audible ringing for each group of lines. Call indication (ringing, display) shall be distinctive if desired. Ring group assignments must be programmable based on log in permission.

3.4. Answer Groups

System programming shall permit specified stations to be associated with one of eight groups of stations. If a call is answered within one group of operators and it is determined that the call can best be handled by another groups of operators, the first operator shall be able to send the call to the designated group by the press of a single button. The call shall then appear as a ringing line but only within the designated group. An operator within the designated group shall be able to answer the sent-call just as they would any other call.

3.5. Static & Dynamic Line Views

Lines shall be viewed in a Static Line window by call groups. A Dynamic Line window shall be available to view a ringing line should its call group be toggled off. The dynamic line button will only remain in the Dynamic Line window for the duration of the call.

3.6. Answer Button

The system shall have an “answer” button that delivers to the call taker the highest priority/oldest call.

3.7. Pre-Answer ANI/ALI

There shall be an option for displaying ANI, ALI and Caller ID for calls yet-to-be-answered and answered by other consoles. The option shall display the ANI/ALI or Caller ID on each line’s screen resource (button or list entry) and shall permit viewing of formatted ALI data in a rectangular ALI screen area at the operator’s discretion. In addition, when calls are answered all consoles shall be able to see the ID of the console connected to the line.

3.8. TX Amplify:

The system shall allow an increase in audio transmit level for specific call at a console.

3.9. RX Amplify:

The system shall allow an increase in audio receive level for specific call at a console.

3.10. Handset/Headset

Each station shall support both a handset and a headset. Both devices may be used at the same time. The station shall support devices that are carbon-compatible. A standard 4-pin modular jack shall be accessible on the front of the station for use with a handset. An optional dual-prong, knee-well mounted headset jackbox shall be available which plugs into jack on the back or inside of the station.

There shall be a button to control the receive and transmit volume level. The volume level shall return to normal as a call is released.

There shall be a button to control the transmit volume level. A minimum of three different volume levels shall be possible; normal, 6 dB amplification, and 12 dB amplification. The current volume selection shall be visually indicated. The volume level shall return to normal as a call is released. Transmit and receive volume shall be controlled independently.

There shall be a button to fully mute the transmitter of the handset or headset. There shall be a visual indication of the mute condition. The mute shall be cancelled as a call is released.

3.11. Auxiliary Input/Output

An Auxiliary Input/Output option shall be offered to control general purpose input/output lines.

3.12. Optional System Summary

The vendor shall quote the cost for displaying system summary at all workstations. System summary shall show the percentage of resources that are available vs. in-use for all lines/trunks and consoles. It shall also display status of individual lines and individual consoles.

3.13. Management Information System (MIS)

There shall be an optional Management Information System (MIS) which monitors call activity, displays the current system status, logs call activity to a database, and permits canned report generation. The MIS shall optionally support tracking of administrative calls as well as 9-1-1 calls. Other features of the MIS shall include, but not be limited to the following:

- Real-time tracking of abandoned 9-1-1 calls.
- A summary of statistics by day.
- The ability to search logged data for specific events.

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- The ability to graphically compare system usage by hour, shift, day, week, month or year.

The MIS application shall support call statistic reports for individual users.

The MIS application shall run on a Windows® 2000 or Windows® XP Pro platform.

APPENDIX A: SUMMARY OF SYSTEM REQUIRMENTS

LINE/TRUNK TYPE	QUANTITY
E9-1-1 Trunk	3
Basic (aka POTS, loop-start)	7
Caller ID	8
Manual Ringdown (Tie)	
Automatic Ringdown (Tie)	3
Station (door intercom)	0
T1	
PRI	3
FXO/FXS	

SYSTEM OPTION	Yes/No	SYSTEM OPTION	Yes/No
48 VDC Operation	Yes	Management Info System (MIS)	Yes
Remote ALI Transfer – Dialup	Yes	Remote Alarm Monitor	Yes
Remote ALI Transfer – Leased Line	Yes	Local Alarm Monitor	Yes
Busy Announcement	Yes	Unattended Conference	Yes
Redundant ALI Controller	Yes		

STATION TYPE	QUANTITY
Work Station with Desktop Phone	2 with option for 3 rd
Work Station with Rackmount Telephone Set	1
Work Station with CTI Telephone Jack	
SIP Administrate Phones Only	18

STATION ACCESSORIES	QUANTITY	STATION OPTIONS	QUANTITY
Handsets	2	TDD feature	2
Headset Jackboxes	2	TDD printer	2
Headsets	2	TDD/Alias Dial keyboard	2
Monitor Speakers	2	IRR feature	2
Monitors per station	1	ALI display	2
Monitor Size	19"	Remote Station (of any type)	
Touch screen	N	Pre-Answer ANI/ALI	2
Voice Mail System	Y	System Summary	
		Mapped ALI	Y