

Request for Information (RFI)

for

Next Generation 9-1-1 Solution

Prepared for

Montgomery County Emergency Communications District

February 2009©

REQUEST FOR INFORMATION (RFI)

**NEXT GENERATION 9-1-1 SOLUTION FOR
MONTGOMERY COUNTY EMERGENCY COMMUNICATIONS DISTRICT
FEBRUARY 2009**

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1. OVERVIEW

1.1 PURPOSE

The purpose of this request for information (RFI) is to provide the Montgomery County Emergency Communications District (MCECD), located at 150 Hilbig Road, Conroe, TX 77301; with information that will assist in the development and implementation of a Next Generation 9-1-1 (NG9-1-1) solution. This solution should position the MCECD public safety answering points (PSAPs) to be able to connect to the Texas statewide Emergency Services Internet Protocol (IP) Network (ESInet) when available and to receive and process requests for service from legacy and new technologies.

MCECD has recognized that the potential exists for faster emergency response times and improved emergency services for the citizens in its jurisdiction. To that end, MCECD has commissioned this RFI to investigate the possibility of implementing a cost effective state-of-the-art 9-1-1 delivery network, known conceptually as a NG9-1-1 solution for delivery of emergency E9-1-1 traffic to the PSAPs and secondary PSAPs in the district.

MCECD will review and evaluate all responses and utilize price quotes by respondents to establish a funding plan for the implementation of the NG9-1-1 network. MCECD intends to then follow approved procurement processes that may include an issuing of a detailed request for proposal (RFP) for a new Internet Protocol (IP) network.

There is no guarantee that an RFP will be issued as a result of this RFI. While prices may not be considered firm, the better the pricing information the better the chances are that the MCECD will proceed with a NG9-1-1 network. Vendors are invited to respond to this RFI with a variety of solutions that will support the MCECD NG9-1-1 endeavors.

The new network needs to be an IP-enabled, fail safe, redundant E9-1-1 network. An IP-enabled system will allow MCECD's primary and secondary PSAPs to work together cooperatively in ways that the current systems do not allow. IP-based systems will allow the call centers to receive call-related data directly from multiple data sources such as telematics service providers, wireless carriers, or internet-based telephone service providers, rather than being restricted to accessing automatic location identification (ALI) databases only, as with current E9-1-1 systems. IP-based systems that support communications alternatives for the hearing impaired or disabled community (i.e., text messaging, video relay services, etc.) are important enhancements to public safety.

It is recognized that the MCECD may need to install new 9-1-1 customer premise equipment (CPE) at some or all of the PSAPs in order to fully facilitate the use of IP-based networks and future NG9-1-1 applications that in many cases are yet to be developed. Regardless, respondents to this RFI should also address existing PSAP and secondary PSAP CPE and offer solutions to interface it to the new network as a possible interim solution.

Open or non-proprietary telecommunications, messaging, image, and video protocols and standards will need to be supported in order to maintain interoperability with applications and other NG9-1-1 systems. The design needs to address IP quality of service (QoS), and high-level security-applications.

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1.2 INTENT

It is the intent of this RFI to obtain responses addressing a complete “turn-key” NG9-1-1 IP network. The solutions should be designed to support current or future automatic number identification (ANI)/automatic location identification (ALI) controller CPE and pertinent mapping display applications. The AT&T selective routing (SR) tandem will continue to send 9-1-1 calls to the MCECD PSAPs from the public switched telephone network (PSTN).

This document outlines minimum network specifications that the solutions need to address. It is not the intent of this document to provide details that would focus the vendor’s solutions toward one particular technology. It is requested that the respondents to this RFI provide their individual solution(s) and products configured in a manner that utilizes the latest National Emergency Number Association (NENA), U.S. Department of Transportation (USDOT), Network Reliability and Interoperability Council (NRIC), and Internet Engineering Task Force (IETF) standards and guidelines for implementing NG9-1-1 solutions.

It is the intent of this RFI to obtain a budgetary “not to exceed” quote to deploy and implement an IP-enabled network to each of the primary and secondary PSAPs in the MCECD District.

The solution for MCECD should address items such as seamless and flexible connectivity between systems and equipment both within the call-centers and to other agency systems, coupled with enhanced bandwidth and data transfer speeds. MCECD is interested in enhancements future IP networks would provide and how it would impact their operations. MCECD is also interested in separate path or route diversity between the 150 Hilbig address in Conroe, Texas and the AT&T Medical Center tandem office in Houston, Texas.

1.3 CURRENT ENVIRONMENT

Montgomery County, Texas (County) is on Interstate 45 forty miles north of downtown Houston in the east Texas Timberlands Region. The county seat is the city of Conroe, Texas. The County covers 1,047 square miles of flat to rolling terrain. The current population is 412,638 with the County having experienced a population growth of 40 percent in the last seven years. The climate is subtropical humid with an average annual rainfall of 47 inches. Experiencing the same weather patterns as the Houston area and surrounding counties, Montgomery County is impacted not only by heavy rainfalls but also by hurricanes, occasional tornadoes and some flooding. Commercial interests include oil production and some refining, cattle and horse ranching, truck farming, and lumber production. The main impetus for growth in the last two decades is attributed to the expansion of the metropolitan Houston area. The growth of the city’s suburbs into the County has led to the rapid increase in its population. The County is also a recreation destination for Houston residents with its abundant lakes and forests offering numerous opportunities for fishing, hunting, boating and hiking.

The MCECD’s current PSAP profile consists of two primary PSAPs and two secondary PSAPs that handle approximately 185,000 calls annually. They are Conroe Police Department and Montgomery County Sheriff Department as primary PSAPs and the County Fire Dispatch and Montgomery County

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Hospital as secondary PSAPs. The Hospital District secondary PSAP and Sheriff Department PSAP are collocated while the Police Department PSAP and Fire Department secondary PSAP are at separate locations. See Figure A for the list and locations of the PSAPs and secondary PSAPs. There is a potential for the County Fire Department located in the Woodlands to become a primary PSAP in the future.

PSAP and secondary PSAP sizes vary from a four position 9-1-1 call center to a fifteen position one. The Fire Department has an additional eight phone sets with small ALI screens (Positron ICM/ELDS) installed in case other MCECD 9-1-1 centers need to vacate their premises and provide services from another site. The ANI/ALI controller equipment consists of Positron Lifeline 100 CPE with ISDN-PRI trunks from the AT&T Medical Center SR 9-1-1 tandem. A large Meridian 1 Option 61 PBX provides the ISDN-PRI interface facility for both the Sheriff's Department PSAP and the Hospital District's secondary PSAP. Meridian 1 Option 11 PBXs provide that interface at the Conroe Police Department PSAP and at the Fire Department secondary PSAP.

Operational spaces and equipment rooms with well-dressed cabling systems, equipment racks, and power bays provide an environment for expansion of structured wiring and equipment if required.

Two major network diversity issues exist which have caused problems. For the Conroe Police Department, Montgomery County Sheriff's Department and the Montgomery County Hospital District, 9-1-1 SR trunks are concentrated in one of the central offices of the local telephone provider, Consolidated Communications, prior to connecting to the PSAPs. In addition to the central office concentration issue, an outside facility issue exists.

The diverse 9-1-1 trunk groups leaving the central office to the Sheriff's Department PSAP are encapsulated within the same outside cable facility in one portion of the outside network infrastructure. This negates any trunk diversity features. This outside trunk facility has been cut in the past isolating the PSAP and secondary PSAP from the serving SR for 9-1-1 service.

Two connectivity-related isolation scenarios exist for these 9-1-1 call-centers. The central office switch could fail causing an isolation of the call-centers and an outside facility cut can occur, and has occurred, isolating the call-centers from the rest of the network. IP network solutions need to address these issues by providing designs that avoid call-center isolation from taking place. Diverse facilities and diverse static routes should be designed between each MCECD PSAP and the AT&T Medical Center tandem office in Houston, Texas.

The MCECD has a GIS Department that maintains GIS data. This data is currently in layer formats, but the MCECD is in the process of upgrading to a geo-database system for their GIS.

The following figures reflect the 9-1-1 call center locations and current specifications. Included in this section are current 9-1-1 configuration network diagrams.

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Figure A: MCECD PSAP Locations

MCECD PSAP Locations					
County	PSAP	Address	City	State	Zip
Montgomery	Conroe Police Department P	700 Old Montgomery Road	Conroe	TX	77301
Montgomery	County Fire Dispatch S	29955 IH 45 North	Shenandoah	TX	77381
Montgomery	Montgomery County Hospital District S	150 Hilbig Road	Conroe	TX	77301
Montgomery	Montgomery County Sheriff Department P	150 Hilbig Road	Conroe	TX	77301

Figure B: Current PSAP Specifications

MCECD PSAP Specifications							
PSAP	# of Positions	# of 9-1-1 Trunks	# of Admin Lines	Monthly 9-1-1 Call Volume (2007)	CAD Y/N	Call Logger Y/N	Selective Router
Conroe Police Department P	6	7	0	3,329	Y	Y	AT&T Medical Center
County Fire Dispatch S	4 + 6 ICM/ELDs	10	12	3,131	Y	Y	AT&T Medical Center
Montgomery County Hospital District S	7	5	23 PRI	5,366	Y	Y	AT&T Medical Center
Montgomery County Sheriff Department P	15	15	46 PRI 5 10-digit emergency	41,588	Y	Y	AT&T Medical Center

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Figure C: Expanded Call Volumes

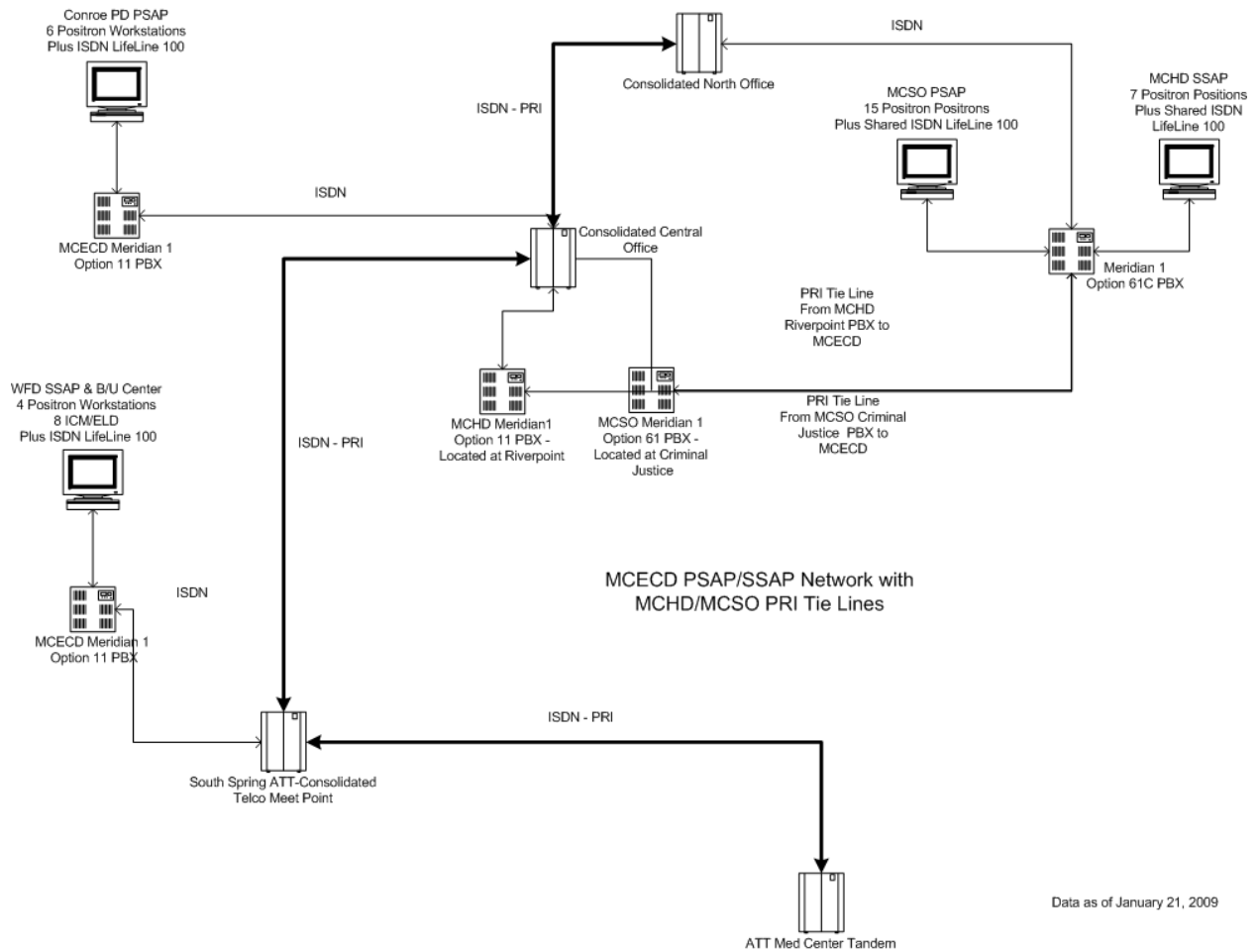
MCECD PSAP Expanded Call Volumes 2007					
PSAP	Total 9-1-1 Calls	Total Admin Calls	Total Annual Calls	Monthly Calls per Agency	Monthly Calls per Position
Conroe Police Department P	39,942	Not Tracked	39,942	3,329	555
County Fire Dispatch Woodlands S	3,826	33,741	37,567	3,131	522
Montgomery County Hospital District S	29,834	34,560	64,394	5,366	894
Montgomery County Sheriff Office P	144,790	354,270	499,060	41,588	6,931

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Figure D: Current Routing Diagram



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2. RFI GENERAL INFORMATION

2.1 HOW TO RESPOND TO THIS RFI

Responses are invited from any respondent or organization with an interest in participating in the proposed network.

- Vendors should describe their technical capabilities and relevant experience in providing and operating similar networks.
- Provide engineering plans that will impact the solution. Respondents should provide descriptions, diagrams, and information of how they propose to provide the desired network.
- If the solution involves fiber, it must be identified as company-owned resources or those utilizing another company's assets.
- Do not provide marketing materials in this or with this RFI.
- Vendor responses should be kept brief and to the point.
- All estimated costs should be documented in attached pricing information documents.
- A vendor is not required to respond to every segment or optional item.
- Identify a company single vendor point of contact.
- Response should be submitted on a CD in an electronic format that can be opened in office 2003 or PDF.
- Responses should be sent to:

Montgomery County Emergency Communications District
Attn: Russell Steffee, MIS Manager
150 Hilbig Road
Conroe, TX 77301

Solution(s) submitted by respondents should include all costs with one exception: The required connectivity to the 9-1-1 tandems that supports each local access transport area (LATA) is not required to be included. MCECD will request separate quotes from AT&T for this required connectivity if the solution calls for it.

2.2 SCHEDULE OF EVENTS

RFI Issue Date	02/09/09
Letter of Intent to Respond	02/16/09
RFI Inquiries Submissions Cutoff Date	02/27/09
MCECD Response to Inquiries Cutoff Date	03/06/09
RFI Response Submission Date	03/27/09

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All interested vendors must submit a letter of intent to respond to the RFI. Questions and answers will only be sent to vendors that have submitted a letter of intent. The letter of intent should at a minimum state that you are planning to submit a response, the lead person's name, phone number, address, and e-mail address along with an authorized signature. The letter of intent and vendor questions can be sent electronically. Please e-mail to rcsteeffee@mc911.org.

No questions will be responded to after the deadline posted above.

Upon reviewing the responses to the RFI, MCECD and Kimball may request clarification. MCECD and/or Kimball may contact individual respondents to seek such clarifications as may be necessary and appropriate.

2.3 PROPRIETARY INFORMATION

All information provided in response to this RFI is considered public information. If the RFI response is included by reference in any future contract, the information in the contractor's RFI response will be considered public information. Information from responses to this RFI may also be included in a Kimball-generated NG9-1-1 IP network assessment and recommendations report for MCECD's budgetary planning and RFP development.

Proprietary information can be protected under limited circumstances such as client lists and non-public financial statements. An entire response may not be marked as proprietary. Vendors must clearly identify in the executive summary and mark at the top and bottom of each page that contains any specific proprietary information they are requesting to be protected. The executive summary must contain specific justification explaining why the information is to be protected.

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3. NG9-1-1 SERVICES

NG9-1-1 is more than just an IP network. The i3 solution enables end-to-end IP-based E9-1-1 designs that support Voice over Internet Protocol (VoIP) originated call delivery and the transition of wireline and wireless service providers to IP interface technology. It provides a standard solution that incorporates all requirements of E9-1-1 and the potential to support future IP-based communications devices.

The services anticipated in this network fall into several major areas:

- Border control function
- Emergency services routing function
- Location validation function
- Call origination
- Call termination

The respondent's solution to the ESInet architecture should support interfaces to the PSTN and the existing ISDN-PRI oriented network if required. The use of network gateways and other interface methods should not derogate the service level required for access to advanced E9-1-1 hosted ANI/ALI controllers if MCECD chooses to pursue acquiring them. In addition, the network will provide for IP-based signaling for common broadband connections as well as the exchange of data; e.g., ALI queries/responses. The network designs should be capable of delivering 9-1-1 calls from, but not limited to, the following examples:

- Traditional 9-1-1
- IP to a traditional 9-1-1 network
- Traditional 9-1-1 to IP-enabled PSAP
- End-to-end IP-enabled

3.1 BORDER CONTROL FUNCTION

At the border control function, the access to and from the ESInet is controlled. Describe how the solution will cover these areas:

3.1.1 Gateway functionality should be addressed. Respondents need to address in detail gateway routing protocols in their network solutions and their application in the IP transport network.

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- 3.1.2 *Respondents to the RFI should describe all coder/decoders (CODECs) used in their solution. Respondents should consider using G.711 CODECs for conversion of analog voice to digital signals and compression filtering of low-level background noises during 9-1-1 calls.*
- 3.1.3 *Respondents should address all network security applications designed to protect against intrusions. These should include access control, authentication, and identity management.*
- 3.1.4 *Respondents should address the method of call record logging to include the voice, video, text, routing, and associated data.*

3.2 EMERGENCY SERVICES ROUTING FUNCTION

The Emergency Service Routing Functions (ESRF) include several services to route the call for service to the proper locations. Describe how the solution will cover these areas:

- 3.2.1 *Respondents need to address in detail 9-1-1 calls and data routing methods in their solutions.*
- 3.2.2 *Respondents should describe the method used to provide policy based routing used in their solution.*
- 3.2.3 *Respondents should describe the method used to provide location-based routing (both geographic and civic) used in their solution.*
- 3.2.4 *Respondents should describe any telecommunication switches to include soft switches that are used in their solution.*
- 3.2.5 *Respondents should describe any automatic call distribution functions that may be included in their solution.*

3.3 LOCATION VALIDATION FUNCTION

The location validation function (LVF) is a function that is basically a storehouse of the various location databases. This centrally stored database will allow the various users to have a single location to access

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location information for populating a Location Information Server (LIS) or the Location to Service Translation (LoST) servers. Describe how the solution will cover these areas.

3.3.1 Respondents should describe the method used to store location-based information such as civic addresses, response agencies, etc., in their solution.

3.3.2 Respondents should describe the method used to maintain the location information in their solution. This will include update methods from the user and data checking features available to eliminate holes in the data.

3.3.3 Respondents should describe the method used to share the location data with the services in their solution, user agencies, and outside approved agencies such as telecommunications service providers.

3.4 CALL TERMINATION FUNCTION

The purpose of the NG9-1-1 system is to allow for advanced functions to be delivered to the call-takers. Describe how the solution will cover these areas.

3.4.1 Respondents should describe the method used to answer calls by the call-taker in their solution.

3.4.2 Respondents should describe the method used to connect to legacy call-taker CPE in their solution. Describe the functionality that may be lost using this method.

3.4.3 Respondents should describe in detail the call-taker equipment, if any, in their solution.

3.5 LEGACY CALL ORIGINATION FUNCTION

During the transition to full NG9-1-1, there will be a need to provision legacy 9-1-1 calls into the solution. Describe how the solution will cover these areas:

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- 3.5.1 *Respondents should describe the method used to receive calls from the legacy selective routers. This should include the devices, the location of devices, and methods of transporting these calls to the system.*
- 3.5.2 *Respondents should describe the method used to acquire the location information for legacy calls in their solution.*
- 3.5.3 *In reiteration, for legacy environments especially, respondents to the RFI should describe all CODECs used in their solution. Respondents should consider using G.711 CODECs for conversion of analog voice to digital signals and compression filtering of low-level background noises during 9-1-1 calls.*

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4. TRANSPORT (ESINET)

The transport or ESInet needs to be redundant and diverse, leveraging high-speed digital technologies where possible, to interconnect all 9-1-1 call centers with the network. The network design and architecture should provide for the capability to transfer E9-1-1 calls between all 9-1-1 entities in the MCECD and other agencies.

The network needs to be designed to handle the current annual call transfer volumes with a 15 percent annual growth over the next five years. The following outlines the ratio of annual calls per PSAP position.

Conroe Police Department*

Ratio of annual 9-1-1 calls per position: $39,942/6 = 6,657$

Woodland Fire Department*

Ratio of annual 9-1-1 calls per position: $3,826/4 = 957$

Montgomery County Hospital District*

Ratio of annual 9-1-1 calls per position: $29,734/7 = 4,262$

Montgomery County Sheriff Office*

Ratio of annual 9-1-1 calls per position: $144,790/15 = 9,653$

*The annual call growth percentage at 15 percent may be a good metric. The District had increased volume due to Hurricanes Katrina and Rita, as well as tropical storms. This would skew a normal call count.

4.1 POTENTIAL MICROWAVE RADIO NETWORK–BACKUP

If approved, and proves viable, the County Hospital District microwave (MW) network could provide limited 9-1-1 call delivery transport for the 9-1-1 calls to the PSAPs in the County. See Appendix A for a display of its current MW network. The MW network could also provide backup transport services if major outages were to occur on the IP network depending on the future 9-1-1 CPE hosting solution MCECD chooses for its PSAPs. Respondents' solutions need to address a potential MW network interface in their designs.

4.1.1 Respondents should describe the feasibility of using microwave transport for their solution. This does not need to evaluate the current MCECD facilities.

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4.1.2 *Respondents should describe in detail the required bandwidth and data throughput requirements, as well as latency and jitter limitations for their solution if microwave transport is used.*

4.2 NETWORK DESIGN

The network architecture should be such that the failure of any one-network module will not result in total system failure, but only the loss of the equipment or connectivity associated with that module. The following is a list of network design specifications RFI respondents should address in detail. Although, not all-inclusive, they do provide some insight into what MCECD desires of a new IP network.

4.2.1 *Network call congestion items and grades of service need to include non-blocking equivalent to the traditional P.01 grade of service or better, connectivity to the local exchange carrier (LEC) selective router, and bandwidth for advanced communications applications.*

4.2.2 *The respondents should describe their network 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.*

4.2.3 *RFI respondents need to address administrative and maintenance processes of their network solution to include secure access for all administrative and maintenance activities, access rules and restrictions, and authentication processes.*

4.2.4 *RFI respondents need to address ALI and alternate data access, taking into account the assumptions that ALI will be accessed via AT&T ALI networks and ALI may still be delivered to four separate locations depending on 9-1-1 CPE installed when the network is implemented.*

4.2.5 *Network fault tolerance of the IP network needs to be addressed in detail by respondents to include how their applications address replication, redundancy and diversity schemes.*

4.2.6 *Meridian 1 Option 11 and 61 PBXs will be maintained at the PSAPs. Respondents, when offering solutions, should take into account any potential bandwidth requirements for the interface of administrative lines from these PBXs should it be required.*

4.2.7 *Respondents need to list all network protocols their solution will support.*

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4.2.8 *Network diagrams provided with RFI responses should be as follows:*

- *A conceptual network diagram. The conceptual diagram should be directed at a non-technical audience and enable them to understand how calls and data flow through the network.*
- *A detailed engineering diagram. The detailed diagram should be directed at a technical audience and provide enough information that the technical reviewers can identify how the vendor's design meets the goals of this RFI.*
- *Visio diagrams are preferred.*
- *The diagrams should show all interconnection points, including where wireline, wireless, and VoIP calls enter the network. The diagrams should show all redundant components. Vendors should include a call flow diagram detailing wireline, wireless, and VoIP E9-1-1 traffic.*

4.2.9 *The vendors should explain how the proposed system will handle congestion due to multiple, simultaneous 9-1-1 calls. Options for overflows, queuing, default and alternate routing must be thoroughly explained and diagrammed.*

4.3 NETWORK OPTIONS

It is the intent of this RFI for the vendors to respond with their solutions. Several network technologies and topologies will accommodate the solutions to this request. Designs that support the re-route of 9-1-1 traffic in the event of a network outage without interrupting any in-progress 9-1-1 calls are highly recommended. Cost and other factors will determine the final network configuration.

4.3.1 *Detail the topology of the transport network of the respondents' solution. This can be ring, star, or other, and explain how that topology best provides the needed fault tolerance.*

4.3.2 *Detail the transport technology of the respondents' solution. This can be MPLS, Ethernet or other, and explain how this technology best provides the needs of MCECD.*

4.3.3 *Address latency (delay) in the network solution describing packet transmission time intervals of data packets between designated points in the network.*

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- 4.3.4 *Address jitter in the network, the variation in the time between packets arriving, caused by network congestion, timing drift, or route changes, and its impact on VoIP.*
- 4.3.5 *Address bandwidth in the network solution, detailing point-to-point data transfer rates (per second) and the ability to handle call volumes as previously outlined including data transfers volumes such as ALL, other text and graphical modes.*
- 4.3.6 *Address the network solution's compatibility with Cat 5e cable, its performance characteristics and test methods in supporting the network's performance. Detail the potential for reuse, if possible, during network installation and CPE interfacing. Cat 5e cable performance characteristics and test methods are defined in TIA/EIA-568-B.2-2001.*
- 4.3.7 *RFI respondents should provide exact details of their solution and pricing criteria to the component level.*
- 4.3.8 *Detailed benefits, including cost savings realized by MCECD, should be included in the responses along with detailed network diagrams.*

4.4 OTHER NETWORK OPTIONS

Although MCECD is interested in a turn-key end-to-end service solution for the new network, with the vendor providing all facilities and equipment to the PSAP/secondary PSAP call-centers, options addressing the use of either Dark Fiber or Dim Fiber might be considered depending on costing and pricing figures as tendered by respondents to this RFI. Those options would have to take into consideration the following:

1. Dark Fiber with 20-year indefeasible right-to-use with the vendor providing ongoing operation and maintenance of dark fiber strands. These solutions should include all components that prepare the fiber to be lit upon the addition of MCECD provided equipment.
2. Dim Fiber with the vendor providing optical amplification, regeneration, add/drop sites and the vendor will install and maintain all owned equipment.

In reiteration, all options need to consider facility solutions running to the call centers' 9-1-1 CPE within the buildings if required and, at a minimum, to equipment rooms that currently serve existing equipment in those centers. Full diversity and redundancy of outside facilities and/or self-healing ring technologies need to be addressed in order to ameliorate full call center isolation problems that now exist.

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4.5 NETWORK TESTING AND ACCEPTANCE

It is important that the response to this RFI include a detailed statement that outlines how the vendor would manage the migration of 9-1-1 voice traffic and ALI from the current system to the new MCECD NG9-1-1 network system, test the network and certify its completeness.

4.5.1 *The response should include migration plans with all PSAPs and rollback plans if problems occur during the transition.*

4.5.2 *The respondents to this RFI should include how a pre-cutover acceptance testing plan and a final acceptance testing plan should be developed. The RFI respondents may explain how they normally perform their own acceptance testing. The respondents should include all post-cutover acceptance testing plans with respect to, but not limited to, the following:*

- *Application tests*
- *Integration tests*
- *Interface tests*
- *Complete call processing*
- *Complete transfer processing*

4.6 SUPPORT-WARRANTY

The RFI respondents need to include a description of the support infrastructure they normally use. List any third-party maintenance agreements you foresee. Please address the following:

4.6.1 *The respondents should outline the various service level agreements (SLA) appropriate for the entire NG9-1-1 system. The ESInet should be a public safety grade network requiring 99.999 percent availability, or better.*

4.6.2 *Describe how preventative maintenance will be handled, including how the proposed network and services can and will be maintained and upgraded without interruption of service delivery.*

4.6.3 *Respondents need to address recommendations for 24 x 7 x 365 support for network elements and services they describe. Annual costs for this level of maintenance should also be provided on an annual recurring basis.*

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- 4.6.4 *The respondents to this RFI should describe in detail the monitoring and network management capabilities for their proposed system. Include costs for this service.*
- 4.6.5 *Respondents please describe an adequate inventory of spare parts and how it can be maintained and tracked.*
- 4.6.6 *RFI respondents need to describe the operating system, data files, applications backup and restoration processes for all equipment on the network and permission levels for MCECD staff to perform those functions. Describe all information retrieval processes.*

REQUEST FOR INFORMATION (RFI)

NEXT GENERATION 9-1-1 SOLUTION FOR
MONTGOMERY COUNTY EMERGENCY COMMUNICATIONS DISTRICT
FEBRUARY 2009

Appendix A–Microwave Map

