

**REQUEST FOR PROPOSALS
RFP NO.: 2016-01**

**COMPUTER AIDED DISPATCH
SYSTEM FOR THE SUMMIT
COUNTY 911 CENTER**

**PROPOSALS DUE:
March 25, 2016**

REQUEST FOR PROPOSALS**RFP NO.: 2016-01**

Sealed proposals for a **Computer Aided Dispatch System (CAD)** for the Summit County 911 Center (also referred to as “the center” or “Summit 911”) will be received by the Summit County 911 Center, 0227 County Shops Road, CR 1003, PO Box 4188, Frisco, CO, 80443, **UNTIL: 5:00 PM, Friday, March 25, 2016.**

Staff of the center will hold a pre-proposal question and answer conference at **10:00 A.M. on Monday, February 8, 2016.** Participants are invited to meet at the Summit County 911 Center, 0227 County Shops Road, CR 1003, in Frisco, Colorado.

To obtain a copy of the RFP documents, you may contact the main office of the Summit County 911 Center at 970-668-4223 or contact Aaron Gregoire, CAD System Administrator, by phone at 970-668-4126 or by email at amgregoire@summit911.org. The RFP documents may also be obtained by visiting the Summit County website at www.summitcountyco.gov, and selecting the Bids and Proposals link.

Any questions regarding this Request For Proposal should be directed to Aaron Gregoire, CAD Systems Administrator, at 970-668-4126, or emailed to: amgregoire@summit911.org

All interested firms are invited to submit a proposal in accordance with the functional requirements and instructions to bidders stated in this Request for Proposal.

BOARD OF COUNTY COMMISSIONERS**SUMMIT COUNTY****/s/William Pessemier
DIRECTOR**

If you are not interested in submitting a proposal for this project or similar projects, please contact the Summit County 911 Center. We continue to look for opportunities to reduce the costs involved in the solicitation of both bids and proposals for Summit County. Your cooperation is appreciated.

**SUMMIT COUNTY 911 CENTER
STATEMENT OF NO RESPONSE FOR A
COMPUTER AIDED DISPATCH SYSTEM (CAD)**

We have declined to respond to the RFP for the following reason(s), please check all that apply:

<input type="checkbox"/>	We do not offer this service/product.
<input type="checkbox"/>	Our schedule would not permit us to respond at this time.
<input type="checkbox"/>	Unable to meet specification(s).
<input type="checkbox"/>	Insufficient time to respond.
<input type="checkbox"/>	We are unable to meet bond requirements.
<input type="checkbox"/>	Remove us from your bidders' list for this commodity or service.
<input type="checkbox"/>	Other (Please explain):

COMPANY NAME: _____

PHONE: _____

ADDRESS: _____

CITY /STATE/ ZIP: _____

AUTHORIZED REPRESENTATIVE: _____
(PRINT/TYPE NAME)

AUTHORIZED SIGNATURE: _____

COMMENTS:

If you are not interested in bidding on this project, please fax this form to the Summit County 911 Center at 970-668-4224.

INSTRUCTIONS **TO** **BIDDERS**

INSTRUCTIONS FOR SUBMITTING PROPOSALS

To be considered, all proposals must be submitted in accordance with these instructions.

NOTE: THE FOLLOWING ARE GENERAL INSTRUCTIONS FOR SUBMITTING PROPOSALS. ADDITIONAL AND/OR CONFLICTING INSTRUCTIONS OUTLINED IN THE GENERAL SPECIFICATIONS IN THIS REQUEST FOR PROPOSAL (RFP) MAY SUPERSEDE THESE INSTRUCTIONS.

A. ISSUING OFFICE

The Director, Summit County 911 Center, issues this RFP for Summit County.

B. PURPOSE

This RFP is designed to provide prospective firms sufficient information to enable them to prepare and submit proposals for consideration by Summit County.

C. SCOPE

This RFP contains the instructions for submitting proposals, the information to be included in the response and any mandatory requirements that must be met to have the response be eligible for consideration.

D. WHO SHOULD RESPOND

Summit County is hereby soliciting and contacting prospective firms who are known to do business relevant to this RFP. All interested firms are invited to submit a proposal in accordance with the specifications, procedures, dates and times as set forth herein.

E. INQUIRIES

Prospective firms may make written or verbal inquiries concerning this RFP to obtain clarification of the proposal requirements. If specified, a pre-proposal conference or a mandatory pre-proposal conference may be scheduled to clarify information contained within the RFP. All interested firms will be invited to attend at the date and time specified. No inquiries will be accepted after five (5) calendar days before the RFP closing date.

F. ADDENDUM OR SUPPLEMENT TO REQUEST FOR PROPOSAL

In the event that it becomes necessary to revise any part of this RFP, an addendum will be provided to each firm who received the original RFP or, if applicable, only to those firms who attended a mandatory pre-proposal conference.

G. PROPOSAL SUBMISSION

Your proposal must be received on or before the date shown on the RFP. Firms mailing their proposals must allow sufficient delivery time to ensure receipt of their proposals in the Summit County 911 Center on or before the time and date specified. The proposal package should be delivered or mailed to:

**SUMMIT COUNTY 911 CENTER,
0227 County Shops Road, CR 1003
P.O. BOX 4188 FRISCO, CO 80443**

One (1) proposal clearly marked "ORIGINAL" and two (2) copies should be submitted in a sealed envelope(s) or container(s) with the name of the proposer's firm clearly shown on the top left hand corner of each envelope. The following information must be clearly shown on the bottom left hand corner of each envelope:

**"RFP NO.: 2016-01, COMPUTER AIDED DISPATCH (CAD) SYSTEM
FOR SUMMIT COUNTY 911 CENTER"**

Note: Proposals should not be submitted by facsimile machine. Typically, proposals consist of several pages of required documentation. The Director opens the proposals at the specified time, tabulates their completeness and distributes them to members of the Evaluation Committee. Due to time schedules that have been preset with the committee members, it is suggested that the original proposal packages be delivered or mailed to be received as described above.

H. LATE PROPOSALS

Late proposals will not be accepted. It is the responsibility of all firms to ensure that the proposal arrives in the office of the communications center by, or prior to, the date and time specified in the RFP.

I. REJECTION OF PROPOSALS

Summit County reserves the right to reject any or all proposals received, to waive informalities and minor irregularities, and to accept any portion of a proposal deemed to be in the best interest of Summit County. No changes to the requirements of this RFP are allowed. The center reserves the right to reject a proposal if a vendor has made any changes to the requirements of this RFP.

J. PROPRIETARY INFORMATION

Any restrictions on the use of data contained within a proposal must be clearly stated in the proposal itself. Proprietary information submitted in response to this RFP will be respected in accordance with applicable Summit County Procurement Regulations.

K. MATERIAL OWNERSHIP

All material submitted regarding the RFP becomes the property of Summit County and will be returned to the proposing firm at the County's option. Summit County reserves the right to use any or all ideas presented in reply to this RFP, subject to limitations outlined in (J) Proprietary Information. Disqualification of a RFP does not eliminate this right.

L. INCURRING COSTS

Summit County is not liable for any cost incurred by a firm in developing its proposal unless stated otherwise in the RFP. Awarded vendor(s) may elect to extend the resulting contract or price agreement, pricing, terms and conditions to any Colorado political subdivision, but is not obligated to do so.

M. RFP CLOSING DATE

All proposals must be received by the date and time specified in the RFP. In the event of an emergency situation (i.e., large snowstorm, tornado, etc.), which causes the Board of County Commissioners (BOCC) to close the Summit County offices, the Summit County 911 Center has the authority to reschedule the RFP closing date. All firms will be allowed to resubmit their proposals prior to the new date and time specified.

N. INSURANCE

The successful firm will be required to provide any or all of the following insurance coverage at its own expense and maintain such coverage for the duration of the contract:

1. Standard Workers' Compensation and Employer's Liability Insurance, including occupational disease, covering all employees engaged in the performance of work at the site.

2. Comprehensive General Public Liability and Property Damage Insurance:

Bodily Injury:	\$350,000	(Per person)
	\$600,000	(Each occurrence)
Property Damage:	\$600,000	(Each occurrence)

Comprehensive Auto Liability and Property Damage Insurance:

Bodily Injury	\$350,000	(Each person)
	\$600,000	(Each occurrence)
Property Damage	\$600,000	(Each occurrence)

NOTE: THE COUNTY SHALL BE NAMED AS ADDITIONAL OR CO-INSURED ON THE INSURANCE CERTIFICATE.

If Workers' Compensation insurance is carried by the State Compensation Insurance Fund, evidence of such coverage shall be submitted on a certificate form or, if the insurance is by

private carrier, evidence shall be on certificate of insurance. Evidence of coverage shall be submitted to the Summit County 911 Center.

3. Professional Liability (if applicable) must be commensurate with risks of services provided under the resulting award of contract.
4. Errors and Omissions, which must be commensurate with risks of services provided under the resulting award of contract.

O. CONFLICT OF INTEREST

Failure to disclose a conflict of interest is a misdemeanor criminal offense under Colorado Law. Such conflict may arise if any public official exercises any substantial discretionary function in connection with a government contract, purchase, payment or other pecuniary transaction without necessary disclosures as defined by Colorado Revised Statutes (C.R.S.) Section 18-8-308 as amended.

P. EVALUATION PROCESS

1. Committee

An Evaluation Committee comprised of personnel from the Summit County 911 Center and the public safety agencies will evaluate all proposals received in a timely manner for completeness and the firm's stated ability to meet all specifications as outlined in the RFP.

2. Disqualification

Failure by a firm to provide all information requested in the RFP may result in disqualification of the proposal.

3. General Evaluation Criteria

Examples of evaluation criteria by which each firm's submitted proposal will be evaluated are as follows:

- a. Fee Schedule, including reimbursements
- b. Technical content of the proposal, methodology, understanding of, and approach to the project
- c. Previous background and experience of the firm relevant to this RFP
- d. Workload
- e. Consultants proposed for this project
- f. Experience of staff assigned to this project
- g. Estimated time required for completion of the project
- h. Location of offices
- i. References, including contact names and phone numbers
- j. Past experience with vendors
- k. Willingness of the firms to accept and negotiate under the conditions of the Summit County contract as submitted within this RFP.

Information submitted by the vendor should be in the order as outlined in the RFP Requirements and must clearly address each item. Each item listed in the RFP Requirements will be given a numeric weight and will be evaluated and scored independently by each Evaluation Committee member.

Short List

The Evaluation Committee may short-list the firms whose proposals are considered to be in the best interest of the County. Those firms may be scheduled for an interview with the committee and/or site visits to other 911 centers using the firms CAD/Mobile application for further evaluation.

Negotiations

The contract terms and conditions will be reviewed, discussed, negotiated and finalized for recommendation for approval by the Attorney's office, County Manager and BOCC.

In the event a contract cannot be negotiated with the first firm selected, the Evaluation Committee will select a second firm to repeat the negotiation process, and a third firm, if necessary.

Recommendation

The objective of the Evaluation Committee will be to recommend the firm whose proposal is most responsive to Summit County's requirements while staying within the funds budgeted. The specifications within this RFP represent the minimum performance necessary for response by any interested firm.

Upon recommendation by the Evaluation Committee and the Department Head, the contract will be presented to the BOCC at a scheduled public agenda meeting for approval. All required signatures, as well as approval by the Budget Office, must be obtained prior to submittal for approval.

All contractual documentation will become public information, according to C.R.S., Title 24, Article 72, for public (open) records, upon recommendation to the BOCC.

Q. AWARD

A Notice of Award will be issued to the successful design/build team. Any final documentation necessary to complete the contract requirements will be requested at that time (i.e., Performance Bond, original Certificates of Insurance) and the firm will be given ten (10) days from date of the Notice of Award to acknowledge and comply with these requirements. Final negotiation of the contract must occur within ten (10) days of Summit County's issuance of a Notice of Award.

Failure to comply with the requirements of the Notice of Award may result in the termination of the contract. The contents of the proposal by the successful firm will become a part of the contractual obligation if a Notice of Award action ensues. Failure by the successful firm to

accept the obligations specified in a purchase order, contract or similar acquisition instrument shall result in cancellation of the award and loss of any Bid Security. Such firm may be restricted from future solicitations for a minimum period of one (1) year.

Once all required documentation is received, a fully executed copy of the contract will be sent to the successful firm.

INTRODUCTION AND PROJECT DESCRIPTION

Operational Background

The Summit County 911 Center provides 911 call answering services for Summit County and dispatches calls for service for the following public safety organizations: Summit County Sheriff, Frisco Police, Breckenridge Police, Dillon Police, Silverthorne Police, Red White and Blue Fire, Lake Dillon Fire, Copper Fire, and Summit County Ambulance. The center also dispatches a number of other organizations, including the coroner's office, mental health services, and other organizations that support public safety.

Because Summit County is a destination resort community, the work load for the communications center varies significantly with the number of visitors in the county during the busy winter and summer months. While the resident population is approximately 24,000, there will be approximately 150,000 people in the county on a busy winter or summer weekend.

The dispatch center is staffed by 14 dispatchers and three supervisors. A total of five consoles are available for call taking and dispatching. Staffing levels vary from one dispatcher on duty during the early hours of the morning to three dispatchers and one supervisor during a busy weekend afternoon.

Technical Background

Currently, we are using the Motorola MCAD system and Premier MDC with the Airbus Sentinel/Patriot 911 phone system; ProQA as our medical case entry; Moducom as our radio interface; Eventide as our 911 and radio recording; US Digital Design as our station alerting system; PageGate as our SMS gateway; and CryWolf as our intrusion alarm management software. The law enforcement agencies use the New World RMS application while the fire and ambulance agencies use the High Plains RMS application. All the above are running on VMware ESXi 6.1 Standard edition hypervisor utilizing 1/10Gbs network fabric and hyper-converged storage.

Currently, we are using the Motorola MCAD system and the Airbus Sentinel/Patriot 911 phone system. The law enforcement agencies use the New World RMS application while the fire and ambulance agencies use the High Plains RMS application.

Goals of Project

The overall goal of this project is to improve the overall performance of the 911 center in terms of the efficiency and effectiveness of our call answering and dispatching services. A new CAD system is

expected to help reduce our call processing times and to improve our effectiveness in how we dispatch and manage calls for service for the public safety agencies we serve.

The critical functionality of the new CAD system is dispatch the appropriate response with the least possible delay. The basic functional requirement for the new CAD is to recommend the closest available units for calls for service based on call location and call type, to automatically select the correct toning or notification system for responding units, and to effectively use the automatic voice dispatching application to send incident information to the units assigned to the call for service.

MINIMUM QUALIFICATIONS

Persons interested in performing technical services for this project shall make their response to this RFP in standard presentation. Proposals should include consultants and anticipated sub-consultants to be part of the technical team and shall include information pertinent to these consultants and sub-consultants.

The prime contractor shall name a project manager who will be responsible for all aspects of the project. This person will be available to the Summit County 911 Center at all times during the course of the project.

The contractor shall have a minimum of 5 year(s) experience dealing with software development for and in the installation and service of multi-agency CAD systems.

Responses must include a complete resume of the service and installation agency proposed. It shall detail the company's experience in the installation and maintenance of the bidder's product, listing no less than 5 references.

Bidders must list in their proposal the names, addresses and telephone numbers of each subcontractor the bidder intends to employ in the installation and ongoing maintenance of the equipment. A complete resume of this service and installation agency shall be included to establish the competency of the subcontractor.

The center reserves the right to reject any subcontractors. Should a subcontractor be rejected, the bidder will be required to provide an acceptable alternate. Failure to provide acceptable subcontractors shall be cause for rejection of the bid.

Project team organization must be detailed in the proposal. Provide information on the location of technical team offices; physical and mailing addresses, phone and fax numbers, email address, and web site address.

RESPONSE FORMAT

To ensure consistency in proposal presentation and allow the evaluation team to compare competitive proposals, proposals must follow the format described in this section. If desired, Vendor may attach additional sections or appendices to substantiate their proposal claims. These attachments must be cross-referenced within the proposal as appropriate. Vendor may also include

brochures or other sales collateral as attachments to the proposal. All optionally requested items should be included and clearly identified as options, otherwise, Vendor may be required to provide the item(s) as part of the base proposal.

If confidential or proprietary information is included in the proposal, each page containing such information should be marked "Proprietary and Confidential." Due to FOIA requests, no headers or footers referencing confidentiality, proprietary rights or trademarking may be included.

Pages are to be numbered. Additional header or footer information (such as company or section title) may also be included.

Vendors may follow their standard proposal format concerning line length, spacing, indentations, etc. Hard copies should be double-sided.

Each copy, complete with appendices and/or attachments, should be bound separately. Proposals must include the following materials in the following identified order:

LETTER OF TRANSMITTAL

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Section 12: EXCEPTIONS

Section 13: SYSTEM DOCUMENTATION/MANUALS

Section 14: PRICING

LETTER OF TRANSMITTAL

The response should include a letter of transmittal with the following information:

1. RFP title (and number, if applicable)
2. Vendor company name
3. Vendor primary contact information, including name, title, and telephone number
4. Proposal validity period

5. Include the original signed letter of transmittal with the original proposal and a copy of the letter of transmittal with each copy of the proposal

CORPORATE AND COMPANY INFORMATION

Provide introductory information about Vendor's company, history, clients and industry involvement:

1. Provide company name, address, telephone number, and website
2. Provide information on the company history
3. Past experience of project team members with the installation of computer aided dispatch systems.
4. Explain what qualifies the company to assume the responsibility for the success of this project.

REFERENCES

This section should establish the vendor's ability to perform the required work by describing the vendor's experience with similar projects and include reference information from current customers.

Vendor must have successfully implemented five or more operational public safety systems comprising applications similar to those required in this RFP. Provide a brief summary for at least five such projects, including:

1. Client name
2. Client address
3. Contact name
4. Contact title
5. Contact telephone number
6. Contact email address
7. Software provided by Vendor
8. Number of licensed users for each major software product
9. Installation date for each major software product

RESPONSE TO REQUIREMENTS

This section should include the completed responses to the requirements. All responses must be completed on the provided forms. Any vendor failing to include these forms may be disqualified. Any specification without a response will be recorded as "NC – Proposed software does not meet the

specification and cannot be modified.” All vendors are required to use the following response codes for each specification:

VENDOR COMPLIANCE RESPONSE CODE KEY	
C	Compliant. Current proposed software meets specification without modification. The function is fully developed and can be demonstrated in the proposed software package.
PC	Partially Compliant. Proposed software meets part of the specification
NC	Non-Compliant. Proposed software does not meet the specification and cannot be modified.
F	The specification will be met by a future release of the software. Please provide an expected timeframe (quarter and year).
A	The specification can be met by an alternative method (provide a description of the alternative method in the comment column)
M	The proposed software will be modified to meet the specification.

For each “**M**” response, Vendor must include an explanation of the modification required, a timeframe for when the feature will be available, and identify any costs associated with the modification in the cost proposal. Vendor must provide clear explanations of all modifications proposed; failure to clearly explain any deviation from the specifications identified in this RFP may be grounds for rejection of the proposal.

PRODUCT INFORMATION

This section should include detailed product information that will help reviewers evaluate each of Vendor’s products. Include detailed descriptions of the base product(s) as well as any optional modules.

IMPLEMENTATION/INSTALLATION

This section should include information pertaining to installation and implementation, including project management methodologies, implementation methodology, and a preliminary project schedule. Vendor must assign a Project Manager to oversee implementation of the vendor’s solution. The Project Manager must have at least five years project management experience (ideally, in a public safety environment) and must hold a Project Management Professional (PMP) certification from the Project Management Institute (PMI).

In this section, Vendors are expected to:

1. Provide a high-level overview of the vendor’s Project Management function and Implementation Methodologies.

2. Provide resumes illustrating the vendor's project management expertise available to support this project.
3. Describe the vendor's recommended approach for cutover of the proposed application software products and related interfaces, i.e. single go-live, phased roll-out, etc.
4. Provide a preliminary Project Schedule.
5. Provide a Statement of Work that defines the scope of the project, the key tasks required to complete the project, and the responsibilities of both parties.
6. Describe the processes and practices employed to minimize risk and control the scope and schedule of the project.
7. Describe the processes and practices used by the vendor to evaluate the client's current operational practices and workflow and on how that information will be used in the setup of the proposed system.
8. Describe the processes and practices used by the vendor to validate (with the client) the setup and workflow of the proposed system.

ACCEPTANCE TESTING

This section should include information describing the vendor's proposed methodologies for administering an Acceptance Testing Process that allows the Summit County 911 Center to verify that all application software and interface deliverables comply with the resulting contract between the vendor and Summit County 911 Center.

In this section vendors are expected to:

1. Describe the vendor's proposed methodologies for verifying the function of each delivered application software product and interface.
2. Describe the vendor's proposed methodologies for verifying the integration between each delivered application software product and 3rd party interface.
3. Describe the vendor's proposed methodologies for verifying the reliability (availability) of each delivered application software product.

TRAINING

The vendor's training program shall be designed and conducted to provide complete familiarization with the proposed system(s), including functional training for user personnel and system administration training for select center management, administrative, and/or technical personnel. The Summit County 911 Center will provide a suitable environment for training. This section shall include training information, training plans, and sample course descriptions and recommendations from the vendor regarding the most cost effective approach (i.e., Train-the-Trainer, User Training, etc.) to achieve full and productive utilization and self-sufficient administration of the planned systems.

At a minimum, the descriptions for each proposed training course should include:

1. Description of the Class
2. Quantity of this class proposed
3. Recommended number of participants
4. Prerequisites
5. Location/Methodology of training
6. Personnel expected to attend
7. Class duration (hours)

ANNUAL SERVICE AND MAINTENANCE

The Summit County 911 Center requires, starting at go-live, ongoing maintenance support that ensure the continuous productive use of the planned applications software products and interfaces. The proposed maintenance plan should provide coverage 24 hours per day, 7 days per week for the CAD and Message Switch server software applications and all CAD workstation software. The proposed maintenance plan shall also provide coverage for 24 hours per day, 7 days per week for the Mobile software.

This section shall include support information, including procedures for reporting problems, as well as covered and non-covered maintenance, software upgrade information and roadmap of the next 5 years on product improvement. Include information on remote problem diagnosis, resolution, and response times.

In this section, vendors are expected to:

1. Describe the vendor's warranty support that is proposed with each application software product and related interface.
2. Describe the support hours that are available and proposed for each application software product and related interface.
3. Describe the support/facilities that are available to the center via the vendor's toll free (800) number.
4. Describe the support/facilities that are available to the center for documentation/manuals on upgrading and supporting the proposed solution.
5. Describe the support/facilities that are available to the center via the vendor's web-based online reporting/tracking facilities.
6. Explain the software upgrade/update provisions that are available as part of the vendor's proposed maintenance support program and the incremental costs (if any) that may be associated with upgrades/updates to the proposed application software products.

7. Explain the vendors security development cycle to patch/remediate software that are available as part of the vendor's proposed maintenance support/security program and the incremental costs (if any) that may be associated with security updates.
8. The center requires that all Priority 1 – Critical Calls for support be responded to immediately during business hours (within 30 minutes during non-business hours), with resolution of the reported problem within 12 hours of the call. The center requires that all Priority 2 – Urgent Calls for support be responded to immediately during business hours (within 60 minutes during non-business hours), with resolution of the reported problem within 48 hours of the call. Describe vendor's compliancy with this type of Service Level Agreement, the priorities used by the vendor to classify all client support requests, and the response time commitments for each that the vendor will commit to contractually in any resulting maintenance support agreement with the center.
9. Describe the vendor's proposed responsibilities for the ongoing maintenance support of all hardware, system software, and other third-party components proposed by the vendor as part of this planned system.
10. Vendors shall include a copy of their proposed Maintenance Support Agreement in Section 9 of their RFP response.

HARDWARE AND SYSTEM SOFTWARE

The center requires the selected vendor to act as the Systems Integrator and propose, price, deliver, install, and configure all server hardware and related system software required to support the proposed application software products and related interfaces while providing the level of availability and performance specified in this RFP.

Vendor shall provide the center with minimum recommended configuration requirements for the workstation-based computer equipment and network communications infrastructure needed to support proposed application software products and related interfaces while providing the level of availability and performance specified in this RFP.

As the application software provider and systems integrator, Vendor is expected to assume the following responsibilities for all third-party products and services through final system acceptance:

1. Negotiate/administer contracts with all third-party subcontractors
2. Provide a single point of contact for vendor and all third-party subcontractors
3. Coordinate assignments/deliverables of vendor and all third-party subcontractors
4. Create/administer a Statement of Work for vendor and all third-party subcontractors
5. Create/manage overall project schedule for vendor and all third-party subcontractors
6. Manage all communications between Agency, vendor, and third-party subcontractors
7. Assume the risk for accuracy, completeness, and quality of all third-party subcontract deliverables

8. Resolve inconsistencies in third-party deliverables and contractual requirements
9. Ensure that all vendor and third-party deliverables are delivered completely, as defined in the resulting agreement between Agency and vendor
10. Assume the risk for the faithful performance of all third-party subcontractors

This section of the proposal shall include:

1. A thorough overview of how the vendor will comply with the Systems Integration requirements defined above.
2. A thorough overview of the proposed hardware/system software solution.
3. An Architectural Drawing of the proposed solution, with all servers, interfaces and workstation types clearly identified.
4. A complete listing of all hardware, system software and related third-party elements included in the proposed price.
5. Provide a complete description of each server proposed and workstation recommended supporting the proposed solution.
6. The warranty included with each proposed component.
7. A complete list of all assumptions being made by the vendor regarding the expectations of Agency with respect to the computer equipment, system software, and network infrastructure required to support the proposed solution.

SAMPLE LICENSING AGREEMENTS

This section should include all applicable sample license agreements and maintenance support agreements for the proposed application software products and interfaces.

EXCEPTIONS

This section should include any exceptions to the RFP Instructions to Bidders or Functional Requirements sections stated in this document. Please provide your exceptions by indicating the RFP section or subsection number, the specific item that is the focus of the exception, and an explanation for the exception, with alternative(s) where applicable.

SYSTEM DOCUMENTATION/MANUALS

The vendor shall furnish four (4) complete bound system manuals upon completion of the system installation along with one electronic copy. This manual should include the following:

A complete instructions manual for all equipment in the system shall be provided.

Instructions for the determination of trouble reporting, including all trouble report telephone numbers and personnel contact information shall be provided with the system.

Complete instructions for system administration, system and client installation and end user training should be provided.

A complete schematics and parts list for all equipment in the system.

A complete description of the nature and scope of training functions for center personnel and managers must be provided.

The vendor must describe allowances for Source Code Escrow and associated costs in the project cost bid.

PRICING

This section should include a Fixed Price Quotation for the proposed public safety software, services, travel, and third-party deliverables, with an itemized list of all components.

All products and services shall be itemized with quantities clearly noted. Vendor shall provide maintenance quotes for five (5) years following warranty expiration for all proposed application software products and interfaces.

Vendor shall provide maintenance quotes for three (3) years following warranty expiration for all proposed computer hardware and system components.

Any proposed modifications must be included in the price proposal in an itemized format.

Vendor shall include all travel expenses associated with the project. Travel shall be presented as a fixed price to the Agency.

Vendor shall list any and all assumptions made in formulating the proposed price.

LIST OF ACRONYMS

Acronym	Description
SaaS	Software as a Service
OVF	Open Virtualization Format
OVA	.tar Archived (OVF)
CFS	Call For Service
WCTP	Wireless Communication Transfer Protocol
SMTP	Simple Mail Transfer Protocol
SNPP	Simple Network Paging Protocol
RCL	Road Center Line
FGDC	Federal Geographic Data Committee
CJIS	Criminal Justice Information Services

Functional Requirements

A.	GENERAL REQUIREMENTS	Vendor Compliance	Vendor Comments
A.1.	Architecture		
A.1.1.	Server Virtualization		
	<ul style="list-style-type: none"> a. Server systems, including those supporting proposed third-party applications, are deployed on a virtual platform using VMware vSphere 6.1 or newer. <ul style="list-style-type: none"> 1. Any proposed applications that are not certified or recommended for use in a virtual platform. (VENDOR TO IDENTIFY IN COMMENTS) 2. Any proposed applications that are only offered or recommended to be deployed as hosted (SaaS) solutions. (VENDOR TO IDENTIFY IN COMMENTS) b. Any additional VMware products proposed. (VENDOR TO IDENTIFY IN COMMENTS) c. The edition of VMware vSphere proposed. (VENDOR TO IDENTIFY IN COMMENTS AND REASONING) d. Should support vSphere High Availability features that are used in the proposed server configuration. e. Should support vSphere vMotion features that are used in the proposed server configuration. f. Should support vSphere Distributed Resources Scheduler (DRS) features that are used in the proposed server configuration. g. Should support vSphere Fault Tolerance (FT) features that are used in the proposed server configuration. 		
A.1.2.	Workstation Virtualization		
	<ul style="list-style-type: none"> a. Should be able to run the client application on a Virtual Desktop Infrastructure solution (i.e. XenDesktop) b. Should be able to deliver client applications on a virtual platform (i.e. XenApp) c. Should be able to host server applications on a cloud hosting solution and deliver it as a SaaS. 		
A.1.3.	Operating Software System		
	<ul style="list-style-type: none"> a. VMware ESXi is used as the host (physical server) operating system software: <ul style="list-style-type: none"> 1. Shall be compatible with with ESXi 6.1 or newer (VENDOR TO IDENTIFY IN COMMENTS) 2. Shall be compatible with Microsoft Windows Server 2012 R2 or newer, used as the guest (virtual machine) on a VMware virtual platform. b. All *nix components should be delivered as an OVF or OVA virtual appliance, for ease of configuration and deployment. (VENDOR TO IDENTIFY IN COMMENTS) 		
A.1.4	Licensing		

	a. Vendor shall provide a document explaining all licensing requirements with the proposed solution including 3 rd party tools, components, operating systems required to fulfill a complete deployment.		
A.2.	Operating Platform		
A.2.1.	Database Management System Software		
	a. Should use Microsoft SQL Server 2014 or newer as the Relational Database Management Software for all proposed systems: <ol style="list-style-type: none"> 1. The edition and version of SQL Server proposed (VENDOR TO IDENTIFY IN COMMENTS) 2. Should be compatible with all existing features of version of MS SQL proposed. (VENDOR TO IDENTIFY IN COMMENT) 3. Should support database hosting, full or in part, using cloud based technologies such as Microsoft Azure (VENDOR TO IDENTIFY IN COMMENT) 4. Should support data warehousing for interim database replication of CAD data for 3rd party application feeds. (VENDOR TO IDENTIFY IN COMMENT) 5. Should have a built in feature for CAD record archiving that may be configured and run to a defined schedule to meet purge and retention policies. (VENDOR TO IDENTIFY IN COMMENT) 		
A.3.	Data and Operational Reliability		
A.3.1.	Backup Solution		
	a. A solution for the efficient routine backup of all system files is included: <ol style="list-style-type: none"> 1. The manufacturer, edition and version of the proposed backup software or location of the backup data site if cloud-based backup is proposed (VENDOR TO IDENTIFY IN COMMENTS) 2. The backup method proposed (e.g., disk-to-tape, disk-to-disk, disk-to-disk-to-tape, disk-to-offsite disk, disk-to-hosted disk, etc.) (VENDOR TO IDENTIFY IN COMMENTS) 		
A.3.2.	Storage		
	a. Shall be compatible with hyper-converged storage solutions (i.e. Maxta, Simplivity, VSan) <ol style="list-style-type: none"> 1. The total amount of disk storage and the RAID configuration proposed (VENDOR TO IDENTIFY IN COMMENTS) b. Shall be configured with redundant networks (two switches) <ol style="list-style-type: none"> 1. The network speed of each proposed link (VENDOR TO IDENTIFY IN COMMENTS) 		
A.3.3.	Database Architecture		
	a. Each major application must use its own database and the databases must be “tuned” for optimal performance for the associated application using industry best practices for the type of data being stored b. The proposed database design ensures no searches, backup or other database functions impact the performance of mission-critical (CAD, mobile) applications		

	1. Provide a document describing/illustrating the proposed database architecture (VENDOR TO PROVIDE ATTACHMENT NUMBER IN COMMENT SECTION)		
A.3.4.	Enterprise Database		
	<ul style="list-style-type: none"> a. A single database of data from all major systems across the enterprise is provided for efficient and simple queries from a consolidated source. b. The enterprise database will be designed, configured, and optimized as a data warehouse. c. Tools to search, analyze and present data from the enterprise database are provided <ul style="list-style-type: none"> 1. Provide a document describing the tools supplied for searching and analyzing information in the enterprise database (VENDOR TO PROVIDE ATTACHMENT NUMBER IN COMMENT SECTION) d. Dashboards are provided for displaying real-time key performance indicators for use by managers and executives. e. The enterprise database will be expandable to meet reporting needs of the customer and their user base. 		
A.4.	System Performance		
A.4.1.	Availability		
	<ul style="list-style-type: none"> a. The CAD system is engineered for uptime of 99.99% or better b. Hardware-based fault tolerant server systems are included for the mission-critical CAD applications that require 99.999% 		
A.4.2.	Response Times		
	a. Response times will not differ significantly based on the load placed on the system (VENDOR TO PROVIDE DOCUMENTATION TO MEET REQUESTED QUALITY ASSURANCE)		
A.5.	Hardware Sourcing		
A.5.1.	Servers		
	a. Shall be deployed in an existing ESXi Cluster composed of 3 hosts with the following specifications (Servers – 3x DL360P Gen8 running VMware ESXi 6.1 or higher.)		
A.5.2.	Storage		
	a. Shall be deployed on existing solution with the following characteristics (Storage – MsXP MAXTA Hyper-Converged Storage w/ 16TB available.)		
A.5.3.	Network		
	a. Shall be compatible with 10Gbs network fabric with the following specification. (Network – 1/10Gbs Cisco Nexus 3000.)		
A.6.	Global Search		
	<p>Support an enterprise data warehouse composed of data from CAD, RMS, Jail, and 911 systems, with the following capabilities:</p> <ul style="list-style-type: none"> a. Search the data contained in the CAD, RMS, and Jail from either the CAD client application or the following web browser(s): Internet Explorer, 		

	<p>Edge, Chrome, Safari, Mozilla</p> <ul style="list-style-type: none"> b. Complete complex searches and reports on the data contained in the CAD, RMS, and Jail with no impact on the performance of the production system. c. Perform a single search that returns results from the following public safety systems: CAD, Jail, 911 phones, Law/Fire/EMS RMS. d. Perform a free-form simple search for a single word or multiple word phrases. e. Search fields including narratives and free-form text fields with a single search. f. Specify search criteria on one or more data fields to filter the search result. g. Save a search and provide fast, one click access to re-run frequent searches. h. Receive an alert message when the system identifies new information that matches a user's saved search. i. Receive an email notification when the system identifies new information that matches a user's saved search. j. Visually distinguish the hit context of the search result. k. Access the event and person details from the search result. l. Access, View, Save, and Print the attachments associated with a search result. m. Search the following types of public safety data using a "fuzzy logic" algorithm: CAD, Jail, 911 phones, Law/Fire/EMS RMS. n. Complete a wildcard search the following types of public safety data: CAD, Jail, 911 phones, Law/Fire/EMS RMS. o. Automatically search for diminutive names and include the matches in the search result. p. Automatically search for stemmed words and include the matches in the search result. q. Search for words or phrases that are within a specified distance of each other. r. Search for partial information. s. Search for information that 'starts with' a certain value. t. Search for information that 'contains' a certain value. u. Filter the information included in a search by agency, date and the following public safety entities: CAD, Jail, 911 phones, Law/Fire/EMS RMS. v. Order search results based on relevance to the search term. w. Rank search results based on that relevance. x. Restrict searching based on agency-defined parameters. y. Define module access across agencies. z. Define security user roles with module access. aa. Exclude access to narratives based on permission(s). bb. Exclude access to data that is restricted, sensitive, juvenile, or sexual. cc. View the images available for a person match. dd. View alerts. 		
A.7.	Security		

	<ul style="list-style-type: none"> a. Please note if any security frameworks, standards, or best practices are utilized when developing applications at your company. (IF ANY VENDOR TO IDENTIFY IN COMMENTS) b. Should provide CAD module access based upon user roles and permissions. c. Should provide appropriate safeguards to ensure that only authorized users and devices are allowed access to the CAD system and stored information. d. Should restrict application access and search queries based on agency-defined parameters. e. Should employ data security measures that are compliant with applicable State (Colorado) and Federal standards. f. Should employ data encryption that meets CJIS security policy standards for any exchange/transmittal of CAD data between remote devices and CAD system servers. g. Databases should be able to support column-level encryption; encryption at rest and encryption in transit. h. Shall synchronize with Microsoft's Active Directory Domain Services supporting integrated authentication to CAD modules and applications. i. Shall support single sign-on capabilities between Microsoft's Active Directory Domain Services and CAD Client/CAD Mobile applications. j. Shall provide a security profile to control individual user access to the various applications, modules, functions, features, and data available within the CAD system. k. Should enable system administrators to create and maintain a centralized and indexed database containing information about each system user, including their unique user ID, password, contact information, and security profile. l. Should enable system administrators to define individual user access privileges and assign them to security groups. m. Shall provide security to ensure that unauthorized personnel do not have access to Law incidents that are restricted by CJIS standards for user access. n. Shall provide security to ensure that unauthorized personnel do not have access to EMS incidents that are restricted by HIPPA standards. o. Shall meet CJIS Security Policy requirements v5.4. p. Should validate each user's credentials through a mandatory logon process before being granted access to any functions or data available within the CAD system. q. Should provide an enable/disable feature to allow a CAD Client user to quickly log off a currently logged on user and logon without the need to exit from CAD or re-start the CAD application. r. Should provide a method for authorized administrators and supervisors to reset a user's password. s. Should associate the user ID and workstation ID with all CAD system transactions, including data entry and report generation. t. Should limit access to the centralized user security database to only specifically authorized users. u. Should establish security profiles that are assigned to individual users or user groups based on personnel classifications (e.g. call taker, 		
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	<p>dispatcher, system administrator, and supervisor).</p> <ul style="list-style-type: none"> v. Should prohibit CAD client from deletion of any data entered into a CFS event. w. Should provide data entry form security that enables certain users to access specific data entry forms, while keeping other users from accessing these same data entry forms. x. Should provide record type security that enables users to access specific CAD system record types, while keeping other users from accessing these same record types. y. Should provide transaction level security that enables users to access specific transaction types (e.g. criminal history queries to NCIC), while keeping other users from accessing these same transaction types. z. Should provide data field level security that enables users to access specific CAD data fields, while keeping other users from accessing these same data fields. aa. Web applications where authentication is required, should take advantage of one or more Single Sign On standards (i.e. OAuth, SAML, etc.). (VENDOR TO IDENTIFY IN COMMENTS) bb. Desktop applications where authentication is required, should take advantage of one or more Single Sign On standards (i.e. OAuth, ADFS, etc.). (VENDOR TO IDENTIFY IN COMMENTS) cc. Should provide centralized user account management allowing "single entry" creation of an account that can be granted/prohibited access to CAD system modules. (e.g. Single account creation providing access to CAD, Mobile, Reporting, etc., and not having to generate separate accounts for these systems). 		
A.8.	Reporting		
	<p>Authorized users should be able to perform the following reporting tasks:</p> <ul style="list-style-type: none"> a. Design a report using aggregated data from CAD, RMS, Jail, and 911 b. View various predefined reports using aggregated data from CAD, Jail, 911 phones, Law/Fire/EMS RMS. c. Design a report using aggregated data from multiple agencies. d. View various predefined reports using aggregated data from multiple agencies. e. Design a report using aggregated data from third-party data sources. f. View various predefined reports using aggregated data from third-party data sources. g. Modify predefined reports provided by the vendor. h. Specify the data filters that will be applied on a user-defined report. i. Select the data fields that will display on a user-defined report. j. Specify the order of the data fields on a user-defined report. k. Specify the grouping of data on a user-defined report. l. Specify the sort order for records displayed on a user-defined report. m. Add a group total to a user-defined report that provides a total for each record group included on the report. n. Add a record total to a user-defined report that provides a sum for all records included on the report. o. Specify the report header that will print on a user-defined report. p. Define report access across agencies. 		

	<ul style="list-style-type: none"> q. Exclude access to narratives based on permission. r. Exclude access to data that is restricted, sensitive, juvenile, or sexual. s. Authorized users can use any system-generated field when constructing reports. t. Save user-defined reports to a central report location for access by authorized users. u. Share user-defined reports in the central report location with authorized users. v. Export report results to the following formats .CSV, .PDF, MS Excel, MS Word, XML, MHTML, PowerPoint, TIFF, PNG, JPEG, GIF file. w. Provide an easily accessible reports menu to end users that contain all predefined reports. x. Provide an authorized user interface (such as a report wizard) for preparing various statistical and analytical reports based on data that crosses different tables. y. Provide a single location for users to access predefined and user-defined reports available in the system. z. Provide access to predefined and user-defined reports from the following web browsers: Internet Explorer, Edge, Chrome, Safari and Mozilla. 		
A.9.	Dashboards		
	<p>Authorized users should be able to perform the following tasks:</p> <ul style="list-style-type: none"> a. Create, save, and interact with a collection of one or more graphical dashboards. b. Modify and save the fields that display in a graphical dashboard. c. Operational data from CAD and RMS in a graphical and tabular can be viewed in near real time. d. Identify and export analytical graphical dashboards and graphs to Microsoft Excel. e. Save operational graphical dashboards and graphs as an image. f. Add notes to an operational graphical dashboard or collection of graphical dashboards and share with other users. g. Set a threshold on the data included in a graphical dashboard to alert users when the threshold has been exceeded. h. Restrict the ability to view operational graphical dashboards and charts by user role or agency. i. View and create operational graphical dashboards that can be displayed in a graph and chart view for the following types of public safety data: <ul style="list-style-type: none"> 1. Call for Service 2. Arrest 3. Incident 4. Citation 5. Civil 6. Field Interview 7. Confinement 8. Location 9. Person 10. Property 11. Vehicle 		

	12. Warrant j. Modify an existing graphical dashboard and share the changes with authorized users. k. Print a single or a collection of graphical dashboards. l. Share a single or collection of graphical dashboards with authorized users. m. Analyze calls for service by applying one or more filters, ordering, or grouping options, and display the results in a graph and chart view. n. Analyze incidents by applying one or more filters, ordering, or grouping options and display the results in a graph and chart view. o. Create, organize and save a collection of one or more graphical dashboards. p. View call volume graphical dashboards organized by priority, incident type, agency, date, and call taker. q. View crime graphical dashboards organized by incident type, date, agency, and location. r. View arrest graphical dashboards organized by location, date, charge, and subject. s. View warrant graphical dashboards organized by location, date, charge, subject, and service status. t. Restrict searching based on agency-defined parameters. u. Define dashboard access across agencies. v. Exclude access to narratives based on user security permissions. w. Exclude access to data that is restricted, sensitive, juvenile, or sexual.		
B.	CAD FUNCTIONAL REQUIREMENTS	Vendor Compliance	Vendor Comments
B.1.	CALL HANDLING / CAD EVENT CREATION		
B.1.1.	Call Handling		
	a. Shall import and attach/append, automatically upon user command, automatic number information (ANI) and automatic location information (ALI) to a CFS. b. Should import (automatically) external alarm data that conforms to the APCO/CSAA (Central Station Alarm Association) published ANS; and, Should generate a CFS upon receipt of a new alarm notification. c. Shall import (automatically) a CFS received from another CAD system. d. Shall import (automatically) a CFS generated on an MDC.		
B.1.2.	CAD Incident / Event Types		
	a. Shall allow for system administrator-defined CAD incident types or nature codes. b. Shall allow system users to modify the incident type and provide new/updated response plan information/suggestions based on the new incident type. c. Shall provide the capability to create an event, assign a unit, and close the event with a disposition without going through the dispatch process steps. d. Shall provide the capability to flag a CFS as an "Advised Event" separate from the incident type/nature code.		

	<ul style="list-style-type: none"> e. Incident numbers in numerical order by agency. f. Ability to cross reference. g. Ability to track agencies that assist others on call for service. h. Ability to separate incidents from advisory events. i. Ability to make notifications about advisory events in different ways (not as incidents). 		
B.1.3.	Update Call for Service Event Data		
	<ul style="list-style-type: none"> a. Shall enable the user to enter supplemental (new) information into the CFS event record of one or more user-specified CAD events. b. Shall display a notification of the event update at each appropriate CAD position whenever an active event record is updated, as determined by the system's configuration. c. Shall create an automatic time/date stamp for every transaction related to an event, and shall store the responsible operator's identification (ID), the console ID, and the nature of the change. d. Shall add audit records to the event history or store audit records in the CAD system's audit log file in chronological order; and, shall provide a complete historical audit of all event activity (e.g., comments, unit status changes, license plate information, field updates). e. Shall store old entry information, with the appropriate date, time, operator ID, and console stamps if the new entry replaces existing information in the event record. f. Shall enable the audit information to be retrieved and printed in both summary and detailed formats when incident information is displayed. g. Shall create a permanent audit trail for all information recorded related to an event, whether or not that information is later modified or deleted. h. Shall support ease of entry for supplemental event information and changes to existing event information. i. Shall allow the user to display a supplemental data entry screen by specifying either the event number or a unit assigned to the event. j. Shall allow the user to display a data entry screen to change information previously entered into a CAD event by specifying either the event number or a unit assigned to the event. k. Shall provide agency-definable visual and audible alerts to notify field units and other appropriate CAD system users, including users of systems interfaced to CAD such as Mobile Data Computers, of event changes and supplemental information. l. Shall allow the user to add supplemental information and/or change active events. m. Shall allow the user to update any field in the CFS event record (except user-designated fields, such as application-generated times and date stamps, operator identification information, ANI/ALI information, and CAD position that completed a CAD transaction). n. Shall document all changes and supplemental information in the event history. o. Shall provide an event update/change data entry screen. p. Shall allow the user to update or change a unit's most recent event by 		

	<ul style="list-style-type: none"> q. entering the unit's identification or any unit that is currently assigned. r. Shall require confirmation from the user when attempting to update any field in a closed event. s. Shall provide the user with acknowledgment that an update to a CAD event record was successfully completed. t. Shall allow the user to supplement and/or change active events. u. Shall allow the user to supplement and/or change any field of a closed event without having to change the state of the event. v. Shall have the ability to push updates to different types of devices. 		
B.1.4.	Determine Dispatch Need		
	<ul style="list-style-type: none"> a. Shall provide the capability to close out the CFS record without assigning a resource, if it is determined that a CFS does not require the assignment of a resource(s). b. Shall allow the user to append a disposition code and comments to events that are not assigned any resources. 		
B.1.5.	Utilize Incident Disposition		
	<ul style="list-style-type: none"> a. Shall allow the user to enter one or more dispositions, as dictated by agency policy, when a CAD event is closed. b. Shall close a CAD event record automatically if no resources remain assigned to the event. c. Shall provide the capability for a mobile unit to enter one or more dispositions when clearing from a CAD event. d. Shall allow the system administrator to define disposition codes. e. Ability to allow users to close out calls with disposition from the field. f. Ability to see status of all units on the same call, status, location. 		
B.1.6.	Assign Incident Classification and Priority		
	<ul style="list-style-type: none"> a. Shall enable CAD users to select the appropriate incident/event type from a pre-defined list of codes based upon information received from reporting party. b. Shall provide, in a multiple dispatch agency or jurisdiction environment, the ability to create multiple CFS events with a single CFS event entry (e.g. a shooting incident type would create a law enforcement, EMS, and possibly a fire event). c. Shall provide the ability to generate a CFS event with only the location and incident type code entered. d. Shall allow the user to upgrade or downgrade the CFS event to fit the reported event by changing the priority for the event. e. Shall allow the user to utilize incident screening menus, such as a drop-down menu, to assist in determining the appropriate incident/event type code. f. Shall allow the user to interrupt the CFS event creation process and save entered information, sometimes known as call stacking, to process a higher priority incoming incident. g. Shall provide a warning notification of the held CFS event generated at an administrator-configured time. Any position can review current CFS events, retrieve a partial CFS record, and complete the CFS event entry. h. The number of partial CFS events that can be stacked by a single 		

	<p>position</p> <ul style="list-style-type: none"> i. Shall be an administrator-configurable system parameter. j. Shall provide the ability to override the event priority for each agency. k. Shall provide the ability to create and maintain incident screening menus or prompts that can be used to aid the call taker in determining the appropriate incident/event type code. l. Shall provide the ability to save one or more partially completed CFS events in order to enter a higher priority incident, keeping all entered data intact. m. Shall provide a warning (visual and/or audible) that a partially completed CFS event has been held for an administrator-defined period of time. n. Shall provide the ability to view a summary of all system-wide, partially-completed CFS events being held and awaiting completion. o. The summary shall include, at a minimum, the position and user ID that placed the CFS event on hold and the elapsed time that the CFS event has been on hold. p. Shall provide the ability to redirect assigned resources to a higher priority CFS event based on agency defined criteria. q. Shall store all active and partially completed CAD events in system administrator-configurable queues. r. Shall allow CAD users to be able to select a partially completed CFS event from a CAD event queue and complete the CFS entry process. s. Ability to prioritize calls by type, send multiple units from different agency types (Law, Fire, Ambulance) to one call. 		
B.1.7.	Check for Duplicate Incidents		
	<p>In order to support the Check for Duplicate Incidents function, the CAD system:</p> <ul style="list-style-type: none"> a. Shall store all transactions resulting from the duplicate event detection process in the system's audit log. b. Shall identify during the creation of a CFS event whether the event is a potential duplicate of an active CAD event or an event recently closed; and, shall notify the call taker of the results. c. Shall check, as configured by the system administrator, by exact street address, street address block range, or geo-coordinates, the location of each new CFS event to determine whether another event exists. d. Based on system parameters set by the administrator, either all matching events shall be presented to the user, or only those events with the same or similar nature code. e. Shall check, as configured by the system administrator, within a pre-defined search radius of the location of each new CFS event, to determine whether another event exists within the search radius. f. Based on system parameters set by the administrator, either all matching events shall be presented to the user, or only those events with the same or similar nature code. g. Shall allow an authorized user to change the duplicate event search parameters (e.g. distance, exact street address match only, street address block range). h. Shall present the user with the following information for each potential 		

	<p>duplicate event if potential duplicates are located:</p> <ol style="list-style-type: none"> 1. Incident ID 2. Type of incident 3. Location of the incident 4. Status of the incident <p>i. Shall allow the user the ability to create a new CFS event and link the event to the primary event record; or, to merge any new information contained in a duplicate event into the main event record associated with the identified duplicate CAD event.</p> <p>j. Shall allow the call taker to re-open closed CAD events that are duplicates of a new event, add additional information to the re-opened CAD event records, and, if necessary, re-route them back through the dispatch process.</p> <p>k. Shall, based on agency policy, restrict users from changing or deleting any previously entered data contained in re-opened closed CAD events.</p> <p>l. Shall cross-reference duplicate events to the primary event records, leave both events open, or abandon processing of the duplicate event.</p> <p>m. Shall check early in call processing to determine if a duplicate call.</p>		
B.1.8.	Incident Information		
	<p>In order to support the Incident Information function, the CAD system:</p> <ol style="list-style-type: none"> a. Shall provide the ability to create a CFS with minimum required fields (e.g. location and event type). b. Shall provide the ability to dispatch once location and nature are obtained. c. Shall provide the ability to alter/augment event as further information is obtained by the call taker. d. Shall include an automated connection/interface to the 9-1-1 telephone system to use ANI/ALI data to populate the incident entry screen form. e. Shall provide the ability to use ANI/ALI data to assist with CFS entry. f. Shall provide the ability to enter unlimited narrative with text wrap-around feature. 		
B.1.9.	Determining Capture Locations		
	<p>Landline/VoIP 9-1-1 trunk</p> <ol style="list-style-type: none"> a. Physical address, the name of the account holder, call back phone number and response agencies for law enforcement, fire, and EMS at that location through use of an Emergency Service Number (ESN) <p>Wireless 9-1-1 trunk</p> <ol style="list-style-type: none"> a. WPH1—Cellular tower address and latitude/longitude, call back phone number, and Telco ID b. WPH2—Cellular tower address, latitude/longitude and possibly altitude of caller, callback phone number, and Telco ID c. Shall obtain all different versions (Standard, Standard Plus, Extended Plus) of ANI/ALI information automatically from interfaced phone systems without requiring the user to manually re-enter the information into a CAD event entry screen. d. Shall append 9-1-1 reported data to the record if the user has entered data into any field before accepting the 9-1-1 information, but not overwrite the data entered by the user. 		

	e. Shall auto update ANI/ALI data without deleting any CAD information already entered.		
B.1.10.	Location Verification		
	<ul style="list-style-type: none"> a. Shall provide the ability to enter a unique building and unit number to clearly identify the location (e.g. 100 West Ave., Bldg. 2, Unit 1). b. Shall, depending on the permissions granted to the user, provide the ability to edit ALI 9-1-1 information in the event record if the information provided by the phone company is incorrect. c. Shall include the following fields for all records containing an address: street number; apartment/suite number; street; road type (Drive, Avenue, Street, Alley); direction; city, state, and/or zip code (modify list as appropriate). d. Shall validate entered incident addresses against the CAD geofile. e. Shall provide various suggestions to assist users in selecting accurate incident locations. f. Shall allow each address or commonplace name to have an unlimited number of alias names. g. Shall allow authorized users to store multiple names for businesses and tenants for a given street address. h. Shall organize the display of possible address matches in an ergonomic, easily understood manner that aids users in identifying valid incident locations. i. Shall allow authorized users to configure their tactical map display to show jurisdictional boundaries (e.g. city boundaries) and to display potential valid incident locations by jurisdiction. j. Shall allow the user, in case the location entered by the user is unverifiable (e.g. the location does not exist in the geofile), the capability to exit or bypass the verification process and manually route the CFS event(s) to the appropriate dispatch position(s). k. Shall provide the ability to enter a partial street name, with a minimum number of characters, and be presented with a list of possible matches to pick from for an exact match. l. Shall provide the ability to enter a misspelled street name and be presented with a list of possible matches based on SOUNDEX6 and/or other methodology. m. Shall provide the ability to enter an incorrect street address for a correct street name and be presented with a list of valid ranges. n. Shall provide the ability to enter common street alias and abbreviations instead of the actual street name (e.g. MLK for Martin Luther King Blvd). o. Shall provide the ability to override the CAD system's geofile by manually entering valid response area data. p. Shall provide the ability to enter a reason for an overridden location. q. Shall provide the ability to generate a report of geofile overrides. r. Shall provide the ability to display the incident location in relation to other active incidents on the system's tactical map display during the CAD event entry process. 1. Data entry fields containing an address shall follow the NENA Standard for NG9-1-1 GIS Data Model (71-003), Section 3.5 (GIS 		

	<p>Database Model Layers) and should, at a minimum, include the data elements contained in the Site/Structure Address table.</p> <ul style="list-style-type: none"> s. Shall verify address immediately when address entered into CAD, not at end of CAD entry. t. Should have capability to integrate mass notification services u. Should have the ability to display historic emergency incident 		
B.1.11.	Retrieve Incoming Calls		
	<ul style="list-style-type: none"> a. Shall include an interface to the 9-1-1 telephone system that, upon user command, causes the automatic transfer of an emergency call's ALI information from the telephone system to an appropriate field of the CAD event data entry screen. b. Shall allow call takers to initiate a CAD command/or function that will cause the CAD system to populate the CAD event data entry screen with call-back telephone number information if it is available. c. Shall transfer, depending on PSAP policy, the telephone subscriber's name to a field in the CAD event data entry screen's reporting party's name data field. d. Shall include data fields within the CAD event data entry screen for reporting party's name, address and callback number. 		
B.1.12.	Involved Person Information		
	<ul style="list-style-type: none"> a. Shall be capable of collecting the following information about each individual associated with an event: <ul style="list-style-type: none"> 1. Age 2. Date of Birth 3. Eye Color 4. Hair color 5. Height 6. Name 7. Operator License Number 8. Operator License State 9. Race 10. Sex 11. Weight 12. Additional remarks (e.g. clothing description, scars/marks/tattoos) b. Shall initiate an automatic query, upon entry of information about an individual associated with an event, using the following guidelines at a minimum: c. If the name only is known, then a name query shall be initiated to local files capable of performing a lookup based only on a name. d. If the minimum required fields contain enough data for state and federal queries, then the system shall initiate queries to local, state and federal databases. e. Shall return all responses from local, state, and federal databases to the data entry originator. f. Shall bring positive responses (e.g. possible "hits") that require a review by the originator to the attention of the originator through the use of audible and visual indicators. 		

B.1.13.	Involved Vehicle Information		
	<ul style="list-style-type: none"> a. Shall return all responses from local, state and federal databases to the data entry originator. b. Shall bring positive responses (e.g. "hits") that require a review by the originator to the attention of the originator through the use of audible and visual indicators. c. Shall be capable of collecting the following information about each vehicle associated with an event: <ul style="list-style-type: none"> 1. License plate 2. License plate state 3. License plate type 4. License plate year of expiration 5. Primary vehicle color 6. Vehicle Identification Number (VIN) 7. Vehicle make 8. Vehicle model 9. Vehicle year 10. Secondary vehicle color 11. Remarks d. Shall initiate an automatic query to local, state and federal databases, upon entry of information about a vehicle associated with an event, using the following guidelines at a minimum: <ul style="list-style-type: none"> 1. License plate number and license plate state 2. VIN and vehicle make e. Shall initiate a cascaded query, upon receipt of a response from the DMV containing the name of the registered owner of the vehicle, to local, state and federal databases, to check the wanted status, driver's license status, and other statuses of interest about the registered owner. 		
B.1.14.	Premises Hazards and Previous History		
	<ul style="list-style-type: none"> a. Shall have the capability to retrieve information about a premises and the surrounding/adjacent area as an automatic function during the creation of a CFS. b. Shall have the capability to retrieve information about a premises and the surrounding/adjacent area as an ad-hoc query. c. Shall display historical incident information based on a configurable date range pre-set by the systems administrator, and according to local SOP. d. Shall display historical incident information based on a configurable geo-area range pre-set by the systems administrator, and according to local SOP. e. Shall display historical incident information based on a configurable date range pre-set AND geo-area range pre-set by the systems administrator, and according to local SOP. f. Shall be capable of storing information of interest to responders including, but not limited to: <ul style="list-style-type: none"> 1. Hazardous materials stored at the location 2. Firearms kept at the location 3. Information specific to individuals at the location, including, but 		

	not limited to: i. Warrants on file ii. Serious medical information iii. Impairments iv. Potential dangers to first responders 4. Information specific to the address, including, but not limited to: 5. Entry codes 6. Knox Box information g. Shall have additional fields available that are user definable. h. Shall enable all required data for direct input, to be uploaded, or to be loaded via a live interface from RMS(s). i. Shall be capable of integrating with a third-party syndromic alerting/tracking application. j. Ability to enter information in real time, notify users and dispatchers about history and info. k. Ability for law to access fire pre-plans and other information entered into CAD or other databases.		
B.1.15.	CAD Event Creation		
	a. Shall support the creation of a CFS event with a bare minimum amount of information to trigger the dispatch of resources when the matter is urgent. This includes the location of the event and the event type. b. It must be possible to update CFS event as additional information is gathered from the reporting party. c. Shall support the creation of new CFS events—in communications centers where separate call takers and radio dispatchers are employed—by either call takers or dispatchers depending on the source of the event information. d. Shall auto-create a CAD event for the Automated Secure Alarm Protocol (ASAP) standard if applicable. e. Shall spawn a copy of the CFS event—in agencies where multiple agencies and/or services are dispatched, or when an interface to another CAD system exists—for the additional agencies with a unique incident/event number for each; however, all copies of the CFS event shall be linked to each other so CAD users can ascertain that they are a single CAD event.		
B.1.16.	Determining Response Agency and Service Area		
	a. Shall store all service agency and response area assignments in CFS events and the system's audit log file. b. Shall validate the location of new a CAD event against the system's geofile to verify the location is within the service area handled by the PSAP. c. Shall identify the new CAD event's location and nature code, and use the system's geofile to identify the appropriate service agencies that need to handle the event. d. Shall identify the appropriate service agencies to handle a CAD event, and use the system's geofile to determine the appropriate response area(s) within each agency's service area. e. Shall provide a method for CAD users to manually enter/assign the		

	<p>appropriate service agencies and response areas to CAD events if the CAD event's location cannot be validated against the system's geofile or if the validation process results in the assignment of an improper service agency or response area.</p> <p>f. Shall use the service agency and response to notify the appropriate dispatchers that they must process a CAD event.</p> <p>g. Ability to redefine response areas easily.</p>		
B.1.17.	Alarm Processing		
	<p>In order to support the Alarm Processing function, the CAD system:</p> <p>a. Shall provide a feature where the location of an alarm can be retrieved by the number displayed on the enunciator panel, if the PSAP monitors alarm enunciator panels.</p> <p>b. Should adhere to the APCO/CSAA 2.101.1-2008 External Alarm Interface Exchange American National Standard (see below).</p> <p>c. Shall receive alarm notifications and updates related to the alarm notification from alarm monitoring companies.</p> <p>d. Shall utilize the alarm notification data to create a CFS event without call taker involvement if the address is valid and minimum required fields have been provided.</p> <p>e. Shall spawn a copy of the CFS event to other agencies, if applicable.</p> <p>f. Shall process updates from the alarm company as an update to the CFS and shown to the telecommunicator responsible for dispatch operations with an audible and visual indication that a new update has been received.</p> <p>g. Shall send the appropriate response messages to each message received from the alarm company and enable system users to send update messages to the alarm company operator when additional information is required.</p> <p>h. Should send an automatic update message to the alarm company during the progression of the event—when the primary agency has been dispatched, when the primary agency has arrived on scene, and when the CFS has been closed, including any disposition information reported by the primary agency that responded.</p> <p>i. APCO/CSAA 2.101.1-2008 External Alarm Interface Exchange American National Standard (Also-known-as: Automated Secure Alarm Protocol [ASAP])</p>		
B.1.18.	CAD Event Routing		
	<p>a. Shall examine the location, event type and response plans (when dedicated dispatch positions are in operation) to route the CFS event to one or more dispatch positions as the CFS event entry is being performed by a call taker.</p> <p>b. Shall have a CAD-to-CAD interface for CFS routing to a secondary PSAP if the secondary PSAP operates its own CAD system independent of the primary PSAP's CAD system.</p> <p>c. Shall display the dispatch position's pending event queue in priority order and in chronological order once the CFS event has been routed by the CAD system.</p> <p>d. Ability to create other incident types from initial incident types.</p>		

B.1.19.	Ability to Route to a "Decision Dispatcher"		
	<ul style="list-style-type: none"> a. Shall be capable of routing a CFS to a decision dispatch position that will dispatch resources. b. Shall route the event (once the decision dispatcher has dispatched the event to the appropriate resources) to another dispatcher that takes responsibility for the event from that point forward. c. Shall be able to route CAD events to the appropriate decision dispatcher (when multiple "decision dispatchers" exist) based on parameters configured by the system administrator. d. Shall be able to route to the appropriate radio dispatcher (when multiple radio dispatchers exist to handle the remainder of the event) based on the actions by the decision dispatcher and/or predicated by event type and location. 		
B.2.	DISPATCH SUPPORT		
B.2.1.	Run Cards / Response Plans		
	<ul style="list-style-type: none"> a. Shall allow for dynamic and fixed/static response plans. b. Shall allow for unlimited alarm levels. c. Shall allow for the use of primary and secondary capabilities. d. Shall allow for assignment to be by resource type, capability and equipment (e.g. thermal imager). e. Shall allow for the use of personnel capabilities (e.g. personnel with Spanish speaking ability). f. Shall allow for the use of resource groups made up of individual units [e.g. a Hazmat (hazardous material) group made up of several units and dispatched as a single "Hazmat team" (i.e. single unit)]. g. Shall allow for the use of premises-based or address-based response plans. h. Shall allow for the use of AVL systems for selecting units. i. Shall support multiple agency response plans. j. Shall allow for unit assignment based on time or distance to the incident. k. Shall allow for adjustable plans that are based on time of day or day of week. l. Ability to easily customize/change response plans. Use of plain English, 		
B.2.2.	Adjustable Dispatch Levels		
	<ul style="list-style-type: none"> a. Shall allow for adjustable dispatch levels. b. Shall allow for an unlimited number of dispatch levels. c. Shall allow for a user-defined naming convention for the dispatch levels. d. Shall enable adjustable dispatch levels to be individually activated (e.g. a fire response plan would change to Level 2 and an ALS response would change to a Level 3, or all plans could change to a defined level). e. Shall have an easily viewable method to review current dispatch levels. f. Shall alert the dispatcher when the required number or types of units are not dispatched (e.g. one police unit to a domestic call instead of two, or two fire engines to a commercial fire instead of four). g. As units available decreases, ability to make dynamic changes to reduce 		

	response level, or notifies dispatcher to request additional resources.		
B.2.3.	Additional Attributes		
	<ul style="list-style-type: none"> a. Shall provide a means to assign multiple attributes to units. b. Shall provide a means to assign multiple attributes to personnel. c. Shall provide a means to search for units or personnel attributes on the fly. d. Shall provide a means to assign resources to multiple units (i.e. shared crews). 		
B.2.4.	Mutual Aid Function		
	<ul style="list-style-type: none"> a. Shall recognize the resources and capabilities of the host agency's own units and those of neighboring agencies. b. Shall allow for custom mutual aid agreements, including business rules for utilization, and recognize various levels of response/mutual aid. c. Shall recommend the use of other agency resources based on parameters within the mutual aid agreements. d. Shall allow for redundancy and backup of the host agency's CAD system. e. Shall auto-populate incident information (e.g. address information, nature of incident, resources needed) from other CAD systems via a CAD-to-CAD type interface. f. Shall support the Joint NENA/APCO Emergency Incident Data Document (EIDD) or similar CAD-to-CAD functionality for sharing incident information as required for mutual aid agreements. 		
B.2.5.	Automatic Aid Function		
	<ul style="list-style-type: none"> a. Shall provide the capability to track the status (availability) of the host agency's own units and neighboring agency resources/units via a CAD-to-CAD type interface (i.e. overall view of unit resources). b. Shall recognize the resources and capabilities of the host agency's own units and those of neighboring agencies. c. Shall allow for custom automatic aid agreements, including business rules for utilization. d. Shall recognize various levels of response/automatic aid. e. Shall recommend the use of other agency resources based on parameters within the automatic aid agreements. f. Shall allow for redundancy and backup of the host agency's CAD system. g. Shall auto-populate incident information (e.g. address information, nature of incident, resources needed) from other CAD systems via a CAD-to-CAD type interface. h. Shall support the Joint NENA/APCO EIDD or similar CAD-to-CAD functionality for sharing resource and incident information as required for automatic aid agreements. 		
B.2.6.	Unit Rotation (Unit Load Balancing)		
	<ul style="list-style-type: none"> a. Shall allow for customization based on the needs of the agency. (e.g. incident address, response type, assignment, resources required, unit-on-task-time, unit utilization, time of day and proximity if you have 		

	multiple available companies with the capability required). b. Shall make unit response recommendations based on the configuration of rules defined by the agency.		
B.2.7.	Conditional Availability of Apparatus		
	a. Shall have the capability to code the conditional availability of units. b. Shall be able to prioritize an incident and recommend the type of units based on the prioritization of that event and the current status of the unit. c. Shall have a unit recommendation feature with the flexibility to be overridden by the dispatcher.		
B.2.8.	Special Dispatch Areas		
	a. Shall define special dispatch area types and assign each a unique identifier. b. Shall assign a special dispatch area type to CAD geofile addresses, intersections, and blocks for each service agency (e.g. law enforcement, fire, EMS, utility). c. Shall specify a non-standard response for a location identified with a special dispatch area type. d. Shall define non-standard responses as being applicable only during certain days of the week and/or times of the day (i.e. window for utilization). e. Shall provide the capability that if one or more windows are defined but none of them are applicable, then the standard response is employed.		
B.2.9.	Emergency Medical Dispatch / Incident Triage		
	a. Shall include (or allow for the installation of) an EMD or incident triage program. b. The CAD system or EMD or incident triage program: c. Shall allow for customization based on the needs of the agency (e.g. medical direction, operations). d. Shall guide or prompt the call taker through defined forms based on the information provided by the caller. e. Shall assist the call taker in identifying the: 1. Type of incident (i.e. law enforcement, fire, EMS, multi-agency) 2. Resources needed [e.g. law enforcement, ALS/BLS, engine(s), extrication] 3. Level of response (e.g. Alpha, Bravo, Charlie, Delta or priority) f. Shall provide the capability to allow a unit to be dispatched to the incident as soon as the address is confirmed and the nature of the incident is determined. g. Shall prompt the call taker to provide pre-arrival instructions to the caller or responding unit(s). h. Shall recommend a change, based on the information obtained and entered into the program, in: 1. Response priority (e.g. upgrade or downgrade to emergent, non-emergent) 2. Resources required (i.e. law enforcement, fire, EMS)		

B.2.10.	Channel Designations		
	<ul style="list-style-type: none"> a. Shall have a table of radio channels/talk groups. b. Shall allow each radio channel or talk group to be used for tactical purposes to be flagged as such in the CAD system. c. Shall allow each radio channel or talk group defined in the CAD system to have an associated list of the agencies whose units have those radio channels or talk groups on their radios. d. Shall allow the radio channels or talk groups used for tactical purposes to be ranked according to the order in which they are assigned. e. Shall track the maximum number of concurrent incidents that may be specified for each radio channel or talk group. f. Shall include a flag indicating a requirement for the automatic assignment of an Operations or Tactical channel that can be set for each incident type in the CAD system. g. Shall assign an Operations or Tactical radio channel available to units upon the dispatch to an incident requiring the automatic assignment of a channel. h. Shall allow the dispatcher to manually flag or assign one or more Operations or Tactical radio channels or talk groups to an incident. i. Shall track the release and reassignment of radio channels/talk groups. j. Shall release the Operations/Tactical channels/talk groups assigned to an incident when that incident has been cleared and make the channels/talk groups available for other incidents. k. Shall be able to record which radio channels were patched together for an incident including start and end times. 		
B.2.11.	Be On the Look-Out / Attempt to Locate		
	<p>In order to support the Be On the Look-Out / Attempt to Locate function, the CAD system:</p> <ul style="list-style-type: none"> a. Shall support creation and distribution of any BOLO entered into the system. b. Shall provide a BOLO structure to include all necessary information such as the nature of the BOLO, priority, date, range of effectiveness, subject and/or vehicle information, hazard information, and contact information. c. Shall allow narrative fields for additional information. d. Shall provide the means for BOLO information to be easily searchable, printable, and have the ability to automatically populate on an incident sheet referencing any particular name, address, or vehicle information. e. Shall flag the field (automatically) with configurable visual and audible alerts. f. Shall support a workflow record for initial BOLO creation and any additional edits. 		
B.2.12.	Dispatch Units		
	<ul style="list-style-type: none"> a. Shall have the optional ability to assign one incident number to each unit responding to the incident. b. Shall assign an incident number to each agency responding to the incident. 		

	<ul style="list-style-type: none"> c. Shall assign, for an EMS response, a patient care report (PCR) number to each patient at the incident. d. Shall capture every time stamp associated with each unit's response and status change related to the incident. e. Shall capture all status changes and their times for statistical and research purposes (e.g. out of service versus in service to calculate "lost unit hours"). f. Ability for field units to attach themselves to a call and to view all information about other units on the call. 		
B.2.13.	Resource Alerting		
	<ul style="list-style-type: none"> a. Shall alert via CAD mobile application. b. Shall generate (automatically) information appropriate for use with "rip and run" printers and/or alphanumeric pager devices when units are dispatched or on demand by a dispatcher. c. Shall generate (automatically) information appropriate for use with email and/or SMS sent to a mobile device when units are dispatched or on demand by a dispatcher. d. Shall interface with tone encoder systems. e. Shall interface with fire station, law enforcement, and EMS status and alerting systems. f. Shall support "rip and run" printing via IP network using protocols, such as Internet Printing Protocol (IPP), Line Printer Daemon (LPD), and Hewlett-Packard Printer Job Language (PCL), and via facsimile transmission based on operational requirements. g. Shall support alphanumeric paging via WCTP, SMTP, and SNPP. h. Should support alphanumeric paging via TAP i. Shall support sending SMS messages either directly via cellular modem or using a common carrier's SMTP interface. 		
B.3.	RESOURCE / UNIT MANAGEMENT		
B.3.1.	Move Up ("Fill-In" and "Station Fill")		
	<ul style="list-style-type: none"> a. Shall recognize resource gaps that will likely result in response performance under prescribed standards. b. Shall recommend or automatically dispatch units to move up to address those identified gaps. c. Shall initiate move ups based on user defined manual or automated logic processes. 		
B.3.2.	Staffed vs. Unstaffed Units		
	<ul style="list-style-type: none"> a. Shall provide the ability to dynamically document that a unit is staffed or unstaffed before or after it is assigned to an incident. b. Ability to track hours of operation assigned to an incident. 		
B.3.3.	Cross-Staffing / Crew Counting / Shared Staffing / Contingent Staffing		
	<ul style="list-style-type: none"> a. Shall account for the number of qualified personnel available in a station, and determine the best possible resource allocation from that station at any given moment. b. Shall utilize any combination of dedicated or contingent staffing to most 		

	<p>appropriately utilize resources.</p> <p>c. Shall account for the qualifications of personnel—such as fire apparatus driver/operator, EMS certification, and rescue certification—to establish the best possible resource allocation based on prioritized needs for the response.</p> <p>d. Shall take, based on a single shared crew assigned to multiple pieces of apparatus, the remaining piece(s) of apparatus out of service, when one piece of apparatus is assigned to an event.</p> <p>e. Ability to track the status of up to six units in one station.</p>		
B.3.4.	System Status Management (Dynamic Resource Deployment)		
	<p>a. Shall build multiple system status plans (e.g. by hour of day, day of week) that define the levels of resource availability and which posts/stations shall be prioritized for coverage.</p> <p>b. Shall monitor, on a continuous basis, each plan in effect and alert the dispatcher if the plan goes “out of compliance” (i.e. units not in their proper position).</p> <p>c. Shall include the capability for multiple plans by unit resource type.</p>		
B.3.5.	Additional Unit Status		
	<p>a. Shall include the various statuses needed for unit readiness or during patient care.</p> <p>b. Shall add parameters to the incident that relate to the response priority (i.e. lights and siren or non-emergency mode).</p> <p>c. Shall show if a unit is BLS or ALS.</p> <p>d. Shall allow for multiple transports by the same unit on the same incident (e.g. a mass casualty incident).</p>		
B.3.6.	Strike Team / Task Force Designations		
	<p>a. Shall allow the dispatcher to group units into a task force or strike team (i.e. virtual unit).</p> <p>b. Shall track (individually) all resources in the system’s database, and shall also make a record that the resources were part of a virtual unit so the virtual unit response data can be easily retrieved.</p> <p>c. Ability to track the status of strike teams assigned to special events.</p>		
B.3.7.	Rostering		
	<p>a. Shall provide the capability to create rosters (i.e. assign personnel to a vehicle or position to facilitate on/off duty transactions).</p> <p>b. Shall allow the dispatcher to adjust the rosters and/or assignments (i.e. on-the-fly, during shifts, and above normal complements).</p> <p>c. Shall warn the dispatcher if a resource complement is below minimum.</p> <p>d. Shall contain a 2-way, real-time interface to auto populate roster information in CAD.</p>		
B.3.8.	Scheduling		
	<p>a. Shall provide scheduling capabilities to include pre-assignment of personnel to shifts, platoons, beats</p> <p>b. Shall allow the dispatcher, with proper permissions, to make adjustments to scheduling on-the-fly and/or during shifts.</p>		

B.3.9.	Mileage Tracking		
	<ul style="list-style-type: none"> a. Shall capture beginning and ending mileage for individual transports. b. Shall provide a visual and audible error indication to the user upon failure to enter beginning or ending mileage based on transport or response type. c. Shall provide a method of integration with an AVL system for increased accuracy and efficiency. d. Shall use GIS/mapping to supplement driving directions based on shortest route beginning and ending address locations, with regard to environmental factors such as time of day, weather conditions, train schedules, and road/bridge blockages. e. Shall include the use of intuitive interfaces that facilitate mandatory entry based on given incident types or processes. f. Shall provide an interface to billing and reporting components. g. Shall provide the ability for an authorized user to manually override an entry by a dispatcher or supervisor. h. Shall record the overridden information in an audit log. 		
B.3.10.	Hydrant Location and Status		
	<ul style="list-style-type: none"> a. Shall track fire hydrants, including: location, service status, recent test date, flow rate, and main size. b. Shall display hydrant locations and related info on the map. c. Shall indicate (automatically) the closest hydrants to fire calls for service. d. Shall record, and display, with hydrant information, alternative water sources (e.g. ponds, creeks). 		
B.3.11.	Additional Unit Dispositions		
	<ul style="list-style-type: none"> a. One of two engines enroute to an incident is cancelled before arriving on scene. The cancellation places the engine in an available status and can be assigned to another incident. b. Two ambulances arrive on scene and one transports while the other does not transport. Individual unit dispositions may be independent of the incident disposition. c. Multiple law enforcement units respond to an incident. Agency policy may require that one of more dispositions be recorded on a per unit basis. 		
B.3.12.	Exception Reason Tracking		
	<ul style="list-style-type: none"> a. Shall identify and require an exception in any case when user defined response time standards are not met. b. Shall establish a system administrator-defined list of exception reasons established for each CAD time interval. 		
B.3.13.	Station Dispatch		
	<ul style="list-style-type: none"> a. Shall provide the capability to dispatch a fire and/or EMS station to an incident regardless of the number of units or personnel that station has assigned to it or on duty. 		
B.3.14.	Vehicle / Unit Change		

	<ul style="list-style-type: none"> b. Shall account for the number of personnel currently staffed on the unit. c. Shall allow system supervisors and other authorized users the ability to modify vehicle and resource capabilities, as required, without adversely impacting the system (i.e. without having to shut the system down). d. Shall allow easy modifications to unit crew capabilities to accommodate frequent changes throughout the day. e. Shall track units having multiple units with multiple capabilities, and attributes shall be reflected as multiple types (e.g. a Quint, pumper, or ladder). f. Shall recommend resources based on the appropriate type (e.g. a "Quint" type fire apparatus may be recommended as either a pumper or a ladder truck). g. Shall allow the dynamic entry of personnel staffing specific units/apparatus. h. Shall allow the staffing module to be accessed from the field by authorized users to dynamically reflect changing assignments. i. Shall allow for tracking vehicle ID in addition to unit radio call sign (e.g. a given vehicle may be referred to as "Unit 1" one day and a different vehicle the next day). 		
B.3.15.	Automatic Driving Directions / Routing		
	<ul style="list-style-type: none"> a. Shall present the destination address visually for validation and acceptance. b. Shall provide a route that considers current impedances (e.g. road closures, road construction, accidents, disable vehicles) c. Shall provide a route that considers speed limits, traffic lights, stop signs, and other traffic control variables. d. Shall provide a visual map that presents the entire route. e. Shall provide a visual map that centers the unit and presents a configurable radius around the unit (i.e. feet, miles, meters), and provides turn-by-turn navigation. f. Shall provide consistent route re-evaluation, and visually present alternate routes based on estimated drive time without interfering with current route. g. Shall provide a directions list from unit current location to destination. h. Shall present visual and audible warnings about travel impedances. i. Shall allow authorized field units to create and clear impedances, which may be used for directing other units. j. Shall account for one-way roads, highway overpasses, and other considerations that impact safety. k. Shall include traffic weights that are considerate of time-of-day, day-of-week, and day-of-year to account for rush hour and holiday congestion. l. Shall store suggested route and route taken for future evaluation. m. Shall provide configurable forms that allow resizing, on-off, and night/day modes. n. Shall provide configurable audible alerts and voices that can be enabled and disabled. o. Shall provide a manual entry interface for non-CAD driven use. p. Shall prevent audible alerts from interfering from other system notifications that may impact unit safety. 		

	<ul style="list-style-type: none"> q. Should allow for tracking of train schedules/locations that result in blocked crossings. r. Should allow for tracking of train AVL data to factor blocked crossings. s. Ability to exclude Forest Service roads. t. Ability to close and open roads on the map from point to point. u. Ability to provide talking turn by turn instructions on the MDC. 		
B.3.16.	Bypassed Units		
	<ul style="list-style-type: none"> a. Shall alert (automatically) the dispatcher in the case of a unit becoming available that is closer to a CFS in which the currently assigned unit is still in route and farther away. 		
B.3.17.	Post-Dispatch Response Re-evaluation		
	<ul style="list-style-type: none"> b. Shall notify the dispatcher when a response re-evaluation is appropriate based on AVL data (i.e. units that should be considered for a CFS and units that could be cancelled if those under consideration are assigned to the event). 		
B.4.	CALL / INCIDENT / EVENT MANAGEMENT		
B.4.1.	Display of Incident / Event Data		
	<ul style="list-style-type: none"> c. Shall display CFS event data on the CAD monitor after being selected by the dispatcher. All CFS event data shall be accessible to the dispatcher. d. Shall enable Windows tabs to be used to allow the dispatcher to select supplemental history about the incident (e.g. premises history, past event history, hazards, persons of interest) e. Shall display (automatically) updates to the CFS event for the dispatcher. f. Shall provide updated information that is easily discernible from the previously read data (e.g. newest information on the top, different font/color text). g. Shall present an audible and/or visual indication to the dispatcher when a CFS event is updated by another source such as a call taker, another dispatcher, or a field unit. h. Shall provide, upon receipt of an update, a method of ease, such as an 'Update' button, for the dispatcher to retrieve the CFS event that has been updated. i. Shall remove CFS events as they are closed by the dispatcher from the CFS event display, without additional interaction from the dispatcher. j. Ability to view status of all units on a CFS by any agency/unit on the call or other units (supervisors). 		
B.4.2.	Update Incident Status		
	<ul style="list-style-type: none"> a. Shall provide the capability to record supplemental information updates in the CFS event as it is received from callers, field resources and other sources. b. Shall retain a copy of any information updated prior to the update for audit purposes. c. Shall provide a method to update the actual incident type versus the reported incident type. d. Ability to turn off/on the audible notification by users. Configurable 		

	notification settings.		
B.4.3.	Dispatch Resource Decision		
	a. Shall recommend resources, when the resource requirement is changed, based upon agency defined procedures, workload balancing, unit capability, and proximity of the resources.		
B.4.4.	Update Assigned Resources		
	<ul style="list-style-type: none"> b. Shall detect when a reduction in dispatched resources is required. c. Shall recommend readjusted resources that meet the requirements of the incident. d. Shall record the modifications to the CFS event when changed by the dispatcher. e. Shall record any changes to assigned resources as an update to the CFS event. f. Shall provide the capability to recommend additional resources based on response plans and/or local policies. 		
B.4.5.	Update Supplemental Resources Tracking		
	<ul style="list-style-type: none"> a. Shall allow the ability to divide the response area into multiple zones, based on user-defined criteria, to ensure a quick response to the request. b. Shall make recommendations for resources to prevent any one entity from being favored. c. Shall allow cancellation of or by-passing the recommendation, returning the skipped company to be placed back in the rotation either at the bottom or top of the rotation, depending on the circumstances. d. Shall provide the ability to skip a suggested resource, capturing the reason for the exception and placing the resource either back at the top of the queue or at the bottom, based on the reasoning. e. Shall provide the ability to create and maintain rotating and non-rotating service provider information (i.e. towing companies). 		
B.4.6.	Assign Units		
	<ul style="list-style-type: none"> a. Shall allow the assignment of units by using drag-and-drop and point-and-click pull-down menus. b. Shall re-queue the CFS that has had all units removed, but has not been handled. c. Shall recommend a unit that is unavailable only if SOP permits units to be pre-empted for a higher priority event. d. Shall provide the ability to assign one or more units to an incident with a single command. e. Shall provide the ability to dynamically, and without user intervention, change the unit recommendation if relevant incident information changes (i.e. type, location, alarm level). f. Shall provide the ability to notify users that the unit recommendation 		

	<p>has changed.</p> <ul style="list-style-type: none"> g. Shall provide the ability to cancel a unit from an assignment: If the cancelled unit is the only unit assigned, then the CFS will be returned to the pending event queue. h. Shall provide the ability to assign or add multiple units to a CFS event with a single command. i. Shall provide the ability to assign a single unit to multiple CFS events. j. Shall provide the ability to hold a CFS event for a specific unit. k. Shall allow the dispatcher to override the system recommended units and assign other units. l. Shall allow the dispatcher to assign any valid field unit to an incident even if that unit is not currently logged on to the system. m. Shall notify the dispatcher and confirm that the correct unit has been assigned if a unit assigned to an incident is not logged on the system. 		
B.4.7.	Update Incident Data		
	<ul style="list-style-type: none"> a. Shall log the following information for all entries into the CFS event: date, time, user ID (or note if action was system generated), position (terminal) ID, action performed, and any notes associated with action. b. Shall display additional CFS event information to the dispatcher for action. c. Shall allow, at any time, additional incident information to be added to the CFS event, both prior to and after closing the incident. d. Shall allow the user to display the added comments in reverse chronological order. e. Shall provide the user the option of specifying the CFS event to update by entering the call sign of any assigned unit or by entering the incident number. f. Shall permit multiple users, including MDC-equipped field resources, the ability to simultaneously update information to the CFS event. g. Shall provide controls when two or more CAD users attempt to update the same field in the CFS event h. For example, in the event that User A is saving modifications to a field, and that field has been modified by another user since User A retrieved the CFS event, the application shall notify User A that the field that is being modified has been changed since User A retrieved the record and confirm that User A wants to continue with the update. i. Shall provide the ability for one or more CAD users to simultaneously add incident information to an active or closed CFS event. j. Shall provide the ability to add supplemental information to closed incidents based on assigned user rights. k. Shall notify the entering party that the incident being updated has been closed. This will allow the entering party to reopen the incident for re-queuing to dispatch if necessary. l. Shall provide the ability to update the CFS event by specifying the incident/event number or the call sign of assigned units. 		
B.4.8.	Assign Records Management System Incident / Case Number		

	<ul style="list-style-type: none"> a. Shall facilitate an interface to an RMS to allow the transfer and tracking of incident data. b. Shall provide the ability to transfer the incident data to the RMS at a set time (incident closure) or at dispatcher discretion based upon the field unit's needs. c. Shall coordinate the assignment of RMS incident/case numbers through a jointly used, shared list by the RMS and CAD system or through a list maintained in the CAD system. d. Shall provide the ability for the dispatcher to retrieve the RMS incident number at any point during the event or after the incident has been closed. 		
B.4.9.	Transfer Basic Incident Data to the Records Management System		
	CAD system: <ul style="list-style-type: none"> a. Shall provide the ability to automatically transfer CAD system CFS event data relating to an incident to an RMS for use by the agency. b. Shall provide the ability to transfer data prior to the normal chronological transfer point to provide the public safety responders with an RMS incident number when needed, and if this method is required to retrieve an RMS incident number. c. Ability to transfer location data from CAD to RMS in decimal/degrees. 		
B.4.10.	Display Additional Incident Data		
	<ul style="list-style-type: none"> a. Shall notify the appropriate CAD users via visual and/or audible indication when information is added or changed to a CFS event. b. Shall provide a separate notification for each entry made. c. Shall provide the ability to visually differentiate text notes in the CFS event added by different operators for the same incident (i.e. color and/or CAD user identification). d. Shall display additional CFS event data with the newest information displayed first. e. Shall display additional CFS event data with the newest information displayed in differently formatted text (e.g. color, font, formatting, such as bold, italics). f. Shall provide the ability to view all additional CFS event data at one time. g. Shall provide the ability to automatically notify users monitoring or displaying the CFS event that information has changed. h. Shall provide the ability to dynamically, and without user intervention, display changes to a CFS event as they occur based on assigned user rights. i. Ability to show new information at the top of the screen on MDC's. 		
B.4.11.	Reopen Incident		
	<ul style="list-style-type: none"> a. Shall ensure all changes to the CFS event are time/date stamped. b. Shall notify the CAD user attempting to add information to a closed CFS event that the event is closed. c. Shall provide the ability to add comments to a CFS event without reopening the original CFS event. d. Shall provide the ability to reopen a CFS event by incident number, 		

	<p>location, or unit ID.</p> <p>e. Shall provide the ability to reopen closed CFS events and assign units.</p> <p>f. Shall provide the ability to open a closed CFS event as a new CFS using information from the old CFS event, but with new time stamps.</p> <p>g. Ability to open/reopen a case for additional follow-up with people so that follow-up is part of initial call. Ability for a dispatcher to be re-open calls.</p>		
B.4.12.	Add Destination Locations		
	<p>a. Shall have the ability to accurately track the destination of all units assigned to a particular incident within the CFS event, and to allow these locations and activities to change throughout the incident.</p>		
B.4.13.	Hospital Status / Availability and Hospital Recommendation		
	<p>a. 24-hour Beds Available—An informed estimate of how many staffed, vacant beds for each category above could be made available above the current number within 24 hours. This would include created institutional surge beds, as well as beds made available by discharging/transferring patients.</p>		
B.4.14.	Linking an Audio File to a CAD Event		
	<p>a. Shall provide the ability to record multiple types of incoming media types and associate them with the CAD CFS event record for easy retrieval.</p> <p>b. Shall provide the ability to add additional types of data to this association as they are developed.</p> <p>c. Shall provide the ability to associate a CAD incident with audio logging/recording.</p> <p>d. Shall allow the user to open a window to support streaming multimedia feeds (i.e. video and audio).</p> <p>e. Shall allow users to start, stop, pause, and rewind the multimedia feed.</p> <p>f. Shall allow for adequate start/stop capabilities.</p> <p>g. If the multimedia feed is stopped or paused for less than 30 seconds and then restarted, then the multimedia feed shall start where the stop or pause occurred.</p> <p>h. Stopping or pausing the data stream for up to 30 seconds shall not cause loss of data.</p> <p>i. There shall be at least a 30-second cache of the multimedia data stream.</p> <p>j. Shall allow multimedia data to be recorded into CFS event history; or, otherwise allow the recording of streaming media to a separate data repository with appropriate information that would allow the users to easily match multimedia files with specific incidents.</p> <p>k. Shall allow authorized users to start/stop the recording process by the use of graphic command buttons or function keys.</p> <p>l. Shall support the resizing of the multimedia window and the auto-resizing of the video display portion of the window.</p> <p>m. Shall interface with a separate audio recording device to include linking a CFS to the appropriate recording(s).</p>		
B.4.15.	Multiple Simultaneous Incidents to Single Unit		

	<ul style="list-style-type: none"> a. Shall allow a dispatcher to hold or stack events to a busy unit, as well as units that are in-service. b. If a unit is on an assignment, when the unit clears its assignment, then the system shall notify the dispatcher the unit is available. c. Shall provide the agency a method to define what events can be held. d. Shall notify the unit that it is being held when an event is placed on hold. e. Shall allow several events to be placed on hold for a single unit. f. Shall allow a CFS event to be held for a unit that is not yet logged on. g. Shall record in the history of the CFS event when an event is placed on hold. h. Shall apply timers to all held CFS events and alert the dispatcher when a held event has exceeded the allowable time in a held status. i. Shall provide dispatchers with the ability to pre-empt a unit and dispatch the unit to another event. j. If all units are removed from the original event, then it shall be placed in the pending CFS events monitor. k. Shall NOT limit the ability of the dispatcher to assign another unit to the incident or for field units to self-dispatch (assign) themselves to an event that has been placed on hold, if permitted by agency policy. 		
B.4.16.	Scheduled Events		
	<ul style="list-style-type: none"> a. Shall provide the ability to automatically schedule the CFS event for future dispatch. b. Shall allow scheduled events to be created by entering a CFS or by sending a message. c. Shall be capable of displaying a list of all scheduled events. d. Shall provide the ability for authorized users to activate a scheduled event at any time. e. Shall send a message to the appropriate users when the scheduled activity occurs. f. Shall support location override for scheduled incidents. 		
B.4.17.	Secondary Incident Location		
	<ul style="list-style-type: none"> a. Shall provide the ability to note responding apparatus has arrived "in staging," which may be a remote secondary address associated with the primary incident location. b. Shall provide the ability to change a unit's location from the primary address to a secondary address without clearing the unit from the incident or CAD record. c. Shall log a date/time stamped record of the change in the CFS event. 		
B.4.18.	Single Discipline Incident to a Combined Discipline Incident		
	<ul style="list-style-type: none"> a. Shall provide the ability to add another agency's resources to a CFS event. b. Shall provide the ability to assign an agency specific incident/event number to the CFS event. c. Shall provide the ability to link added agency records with the initial CFS event. d. Shall provide the ability to share incident information across multiple linked records. 		

	e. Shall provide the ability to track the added resources for the duration of the incident.		
B.4.19.	Timers		
	<ul style="list-style-type: none"> a. Shall have, and allow configuration of, multiple timers based on unit status and CAD incident type, such as time on a particular call, time since last check-in, and time at the hospital or jail. b. Shall have, and allow configuration of, timers for CAD system events, such as a priority 1 call overdue to be dispatched. c. Shall allow for operators to manually place a timer alert on a CFS or a unit. d. Shall minimally include “down to the second” timestamps (e.g. hhhh/mm/ss). e. Shall allow configurable timers (i.e. ‘hh:mm:ss’, ‘mm:ss’, or ‘ss’). 		
B.4.20.	User Defined Status Timers		
	<ul style="list-style-type: none"> a. Shall be equipped with predefined timers that can be configured by the system administrator. b. Shall provide the ability for the system administrator to create customized definable timers. c. Shall record timer activity to the CFS event log. d. Shall produce both visual and audible alerts to the dispatcher when a timer is triggered. 		
B.5.	SUPPLEMENTAL RESOURCE REQUEST AND TRACKING		
B.5.1.	Request Supplemental Resource		
	<ul style="list-style-type: none"> a. Shall be able to store, and easily retrieve, a file for standardized and ad-hoc supplemental resources that may be recalled and requested as needed for services not available from the public safety agencies. b. Shall make request and “dispatch” of said resources on the basis of the unique type of service needed, the geographic proximity to the site of the needed service, or a rotation of the unique service providers of a given type—or, a combination of methods. c. Shall be able to create a unique or supplemental unit designation in real time. d. Shall be able to record the activities of unique or supplemental units in the same manner in which agency response units are tracked and their activities recorded. e. Shall allow for agency-configurable non-agency units to be recommended, such as the closest towing company recommendation when a unit is dispatched to an accident event type. The recommendation will take into account the rotation of towing companies. 		
B.5.2.	Request Supplemental Resource Rotation List		
	<ul style="list-style-type: none"> a. Shall store, and provide for easy retrieval, a list of authorized providers of unique or supplemental supplies or services. b. Shall provide multiple sources of contact for each authorized vendor. 		

	<ul style="list-style-type: none"> c. Shall be able to display the list of authorized service providers based upon geographical proximity to the site of need, by rotation, or by agency preference based upon contractual agreement. d. Shall record the transactions that occur with supplemental or unique resources. 		
B.5.3.	Notify Supplemental Resource Service		
	<ul style="list-style-type: none"> a. Shall provide the ability to contact the supplemental resource; and, shall provide dispatch information by the dispatcher about the incident to which the resource is requested to respond. b. Shall provide the ability to record the availability of the entity to provide its services. c. A supplemental service that cannot be contacted or informs the agency of its inability to respond within a prescribed time shall be considered unavailable to provide the service. d. Shall provide the ability to select a supplemental resource. e. If a resource is unavailable, or unable to respond in a reasonable time frame, then the user shall contact the next listed resource until one is found that is available. 		
B.5.4.	Enter and Update Supplemental Service Record		
	<ul style="list-style-type: none"> a. Shall provide the ability to create a record of the supplemental service request. b. Shall accommodate selection from the provided list either at random, by geographic proximity to the site of need, or by rotation. c. Shall trigger the next provider in the rotation, when selected by rotation and upon creation of the record d. Shall process the rotation regardless of the requested resource's ability to respond. 		
B.6.	INCIDENT DISPOSITION		
B.6.1.	Determine Incident / Event Status		
	<ul style="list-style-type: none"> a. Shall provide the ability to change the event status as the situation evolves or a resolution is achieved. b. The MDC interface: <ul style="list-style-type: none"> 1. Shall allow the field user to enter one or more event dispositions. 2. Shall allow the field user to update the CFS event in CAD and make that data available to the RMS. 		
B.6.2.	Utilize Incident Management		
	<ul style="list-style-type: none"> a. Shall have the ability to dynamically update the CFS event with notations, updates, status changes, and notifications. b. Shall make the updated CFS data available for transfer to an RMS. 		
B.6.3.	Determine Report Functionality		
	<ul style="list-style-type: none"> a. Shall provide the ability to automatically transfer incident/event data relevant to external RMS or reporting systems. b. Shall be able to determine, based upon incident type and/or disposition, 		

	<p>whether an agency report is required.</p> <p>c. Shall accommodate either a push or pull of incident/event data from/to the RMS.</p>		
B.6.4.	Record Disposition		
	<p>a. Shall provide for the CFS event to contain the disposition of the incident.</p> <p>b. Shall provide for narrative to be added giving detail to the disposition.</p>		
B.6.5.	Send Data to Records Management System		
	<p>a. Shall provide the ability to exchange all CFS event information with an RMS.</p> <p>b. Ability to send all CAD dataset elements required by NEMSIS (National EMS Information System) v3.4.0 or later to current Fire/EMS RMS.</p>		
B.6.6.	Assign Agency-Specific Report Numbers		
	<p>c. Shall assign an agency-specific report (i.e. case) number—if a report is required, and if required by agency policy—in addition to the CAD incident/event number, before the CFS event data is transferred to the RMS.</p> <p>d. Shall allow for both the CAD CFS Event Number and the Agency Report Numbers to be fully configurable (e.g. "1 to n," "mmddyyxxxx," "mmddyyhhmmssxxx," "FY12xxxxxx," "2012-mmdd-xxxx").</p>		
B.7.	CAD SYSTEM ADMINISTRATION		
B.7.1.	Geofile Maintenance		
	<p>In order to support the Geofile Maintenance function, the CAD system:</p> <p>a. Should validate all locations entered into or processed by the CAD system against the CAD system's geofile.</p> <p>b. Should provide an interactive, GUI-based address matching tool for assisting users to determine the location of incidents that do not have an exact geofile match for their initially entered location.</p> <p>c. Should be capable of determining what resources should be assigned to an incident based upon geographic location.</p> <p>d. Should be capable of calculating (automatically) the shortest and/or fastest driving route to an incident, and providing driving instructions to responding units.</p> <p>e. Should be capable of determining the nearest confirmable address in the vicinity of a wireless emergency call.</p> <p>f. Should be capable of determining X/Y coordinate values that represent the location of incidents whose locations have been validated.</p> <p>g. Should be capable of displaying coordinates anywhere on the map with mouse over.</p> <p>h. Should support coordinate-based operations including X/Y, Lat/Lon, and USNG.</p> <p>i. Should make possible integration of the CAD system's geofile with Global Positioning Satellite (GPS), AVL, and Automatic Person Location (APL) systems.</p> <p>j. Should support X/Y coordinate-based geographic searches for such things as nearby hazardous materials, duplicate incidents, and premises</p>		

	<p>information at or near an incident's location.</p> <ul style="list-style-type: none"> k. Should be capable of importing geographic boundary information (e.g. station boundaries, jurisdictional boundaries, reporting districts, response zones, neighborhoods, precincts) from GIS and other geographic data sources. l. Should be capable of importing topologically-structured street networks and other linear features (e.g. rivers, streams, utility right of ways, bus routes) from GIS and other geographic data sources. m. Should be capable of importing point data (e.g. landmarks, parcel address points, business locations, retail store address points, fire hydrants) from GIS and other geographic data sources. n. Should be capable of importing other types of geographic data (e.g. park boundaries, trailer parks, apartment complexes) from GIS and other geographic data sources and be compatible with Pictometry aerial photography. o. Should include location databases such as hazards, general premises information, street closures, and other user-definable GIS type data. p. Should support parcel-level GIS information and use this information for address/location validation. q. Should support multiple layers of information; for example, the storage of building footprints, aerial photographs and other images (i.e. pictures of specific buildings) that are associated with specific areas and addresses. r. Should maintain the CAD system's geofile while the system is live and operational. (Please provide documentation and procedure with your proposed solution to accomplish live updates). s. Should use native ESRI tools to maintain the CAD systems geofiles. (Please provide supported 3rd party tools used to satisfy the above). t. Should include interactive tools for validating the accuracy and completeness of the geofile. u. Should support boundary assignments (i.e. determining the response zone and jurisdiction for each incident) in real time by processing the incident's X/Y coordinates against the RDCL and/or address point file, and the appropriate boundary files. v. Should support implementation of static and/or dynamic geo-fencing on user defined areas. (Please specify if this can be done by CAD Client and/or Mobile client users). w. Should support the ability to alert dispatch or mobile users when mobile users enter or leave a defined geo-fenced area. x. Should support the ability to (automatically) change mobile user status upon entering and/or leaving a defined geo-fenced area (e.g. automatically changing from dispatched status to enroute when leaving the station and changing the status to on-scene when entering the incident location). y. Should support duplicate incident checks based upon the location of the incident. z. All incidents located within the CAD systems duplicate incident search radius should be checked as potential duplicates. aa. Should meet i3 standards and functions in order to comply with NG911 requirements. 		
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	<ul style="list-style-type: none"> bb. Should be able to support different search distance criteria for different types of incident situations and hazards (e.g. a search radius of 300 feet will be used for hazardous conditions, and a search radius of 1,320 feet will be used to identify potentially duplicate incidents). cc. CAD system administrators should be able to modify these search distance parameters. dd. CAD users should have the ability to select the unit of measurement necessary (feet versus meters). ee. Should generate an audible and/or visual alert when any potential duplicate incidents are identified. ff. Should include the capability for manually editing and entering any geographic data required by, or imported into, the system's GIS (given the appropriate user permissions). gg. Should have the ability to push map updates to mobile CAD users. 		
B.7.2.	Logging		
	<ul style="list-style-type: none"> a. Should include a transaction audit database table that contains all system transactions and that includes the logon identification (i.e. user ID and workstation ID), date and time stamp, transaction type, contents before and contents after the transaction completes. b. Should enable system administrators to turn the transaction audit log function on and off by application module, transaction type, specific data entry form(s), specific tables and data fields within tables, individual users, user groups, and various combinations of these factors. c. Should enable authorized system users to search the transaction audit database by date and time ranges, by application module, transaction type, specific tables and data fields within tables, specific data entry forms, individual users, user groups, workstation ID, and by various combinations of these factors. d. Should enable authorized system users to create formatted reports and/or export the results of transaction audit database queries and searches. e. Should enable authorized system users to generate statistical reports on transactions contained in the transaction audit database for all users, a subset of users and/or user groups, for a specified date and time range, and for various combinations of these factors. f. Should prohibit any changes to the contents of the CAD transaction audit database. g. Should store all transactions completed on open/active incidents, including the transactions date and time stamp, the user and workstation ID performing the transaction, and the before and after results of the transaction. h. Should store all system messages, including the message's date and time stamp, the user and workstation ID sending and receiving the message, and the message contents. i. Should store transaction information associated with all CAD configuration parameters and files, including any time a user views, prints, edits, ads, or deletes the configuration parameters and/or CAD system configuration file records. j. Should capture the messages and associated information (e.g. date and 		

	<p>time stamp, user ID, workstations ID) of user and system generated queries to interfaced system and databases (e.g. NCIC, NLETS).</p> <p>k. Should capture the date, time and user ID associated with previous incident history access.</p> <p>l. Should capture transaction information associated with all CAD security transactions, including any time a CAD user views, prints, edits, ads, or deletes the security information within the CAD system.</p> <p>m. Should store transaction information associated with all CAD system modifications completed by system administrators, including administrator user ID, date/time of modification, modification made, and table value prior to the completed modification.</p> <p>n. Should store the date, time, workstation ID, and user ID associated with unsuccessful sign-on attempts.</p> <p>o. Should capture transaction information associated with all CAD security transactions, including any time a CAD user views, prints, edits, ads, or deletes the security information within the CAD system.</p> <p>p. Should store transaction information associated with all CAD system modifications completed by system administrators, including administrator user ID, date/time of modification, modification made, and table value prior to the completed modification.</p> <p>q. Should store the date, time, workstation ID, and user ID associated with unsuccessful sign-on attempts.</p>		
B.7.3.	Configuration		
	<p>a. Vendor shall identify which components of the proposed system (CAD and Mobile) where documentation regarding initial configuration is not provided to the customer. (VENDOR TO IDENTIFY IN COMMENTS)</p> <p>b. Vendor shall identify which components of the proposed system (CAD and Mobile) must be configured by the manufacturer of the CAD system. (VENDOR TO IDENTIFY IN COMMENTS)</p> <p>c. Should provide the customer with API's that can integrate to the different CAD products, making the CAD system more extensible and easier to manage when integrating 3rd party products.</p> <p>d. Should enable authorized system administrators to configure the CAD system to meet the requirements of the agencies using the system by creating and modifying CAD configuration parameters.</p> <p>e. Should enable authorized system administrators to modify CAD configuration parameters without the requirement for programmer or other support from the manufacturer of the CAD system.</p> <p>f. Should include functionality for table driven and directly modifiable functionality by authorized system administrators.</p> <p>g. Should include functionality for interactive, menu-driven, GUI-based tool that allows authorized administrators to easily update and modify parameters.</p> <p>h. Should include functionality for on-line help that lists all of the available options for a configuration parameter, and a description of the impacts resulting from changing the parameter to each of its available options.</p> <p>i. Should include functionality for modifications to CAD configuration parameters when the CAD system is active without having to shut the entire CAD system down or restart it.</p>		

	<ul style="list-style-type: none"> j. Should include functionality for modifying agency and user specific workflows, such as when and under what circumstances a CFS event is automatically routed from a call taker to a dispatcher and which users (e.g. call takers, dispatchers, and supervisors) receive system routed CFS events. k. Should include functionality for specifying the agencies that will be included in the CAD system, along with their attributes (i.e. fire department, volunteers, law enforcement agency). l. Should include functionality for specifying and modifying the type of resources available in the system. m. Should include functionality for specifying the incident types that will be processed by the system. n. Should include functionality for entering and modifying dispatch policies that specify the type of resources that are dispatched to specific incident types. o. Should include functionality for configuring different system dispatch policies for each incident type, priority, and agency using the system. p. Should include functionality for specifying the type of alerts and timers available in the system and their specific attributes (e.g. on/off, time interval, triggers, display features). q. Should include functionality for entering and modifying the type of dispositions, priorities, and other CFS event related parameters of the CAD system. r. Should include functionality for specifying the starting point and formats of case numbers created by the CAD system for each agency using the system. s. Should include functionality for specifying the sort order, layout, color, font, and other appearance and operational attributes of the CAD system's windows and menus. t. Should include functionality for modifying the look and feel of CAD workstations without the need for programmer or other support from the manufacturer of the CAD system. u. Should include functionality for modifying the look and feel of the tactical map display available in the system (e.g. setting up the graphic information appearing at different zoom levels, predefined zoom levels for different incident types, icons). v. Should include functionality for modifying the display and functional characteristics of CAD system queues (e.g. pending incident queue, incident queue, active incident queue, stacked incidents queue). w. Should include functionality for modifying the display and functional characteristics/capabilities of the CAD systems unit resources. x. Should include functionality for modifying the display and functional characteristics of interfaced systems and gateways (e.g. 911 call/text interfaces, paging and other responder alerting interfaces, NCIC and other criminal database interfaces, mobile computer system). 		
B.7.4.	Table Maintenance		
	<ul style="list-style-type: none"> a. Should include CAD tables that are maintained using entry windows. b. Should include CAD table maintenance entry windows that have 		

	<p>context-sensitive, field-level help.</p> <ul style="list-style-type: none"> c. Should enable changes made to CAD tables to become immediately effective and not affect overall CAD system availability nor require any CAD system down time. d. Should allow agencies to define additional data elements based on their operational requirements. e. Should provide the ability for tables to be defined to support the maintenance of the following CAD objects, including, but not limited to: <ul style="list-style-type: none"> 1. Agencies 2. BOLOs, including location, person, and vehicle 3. Clearance/disposition codes 4. Hazards 5. Hydrants 6. Incident/event types 7. Fire Stations 8. Memos 9. Messages (e.g. canned, scheduled) 10. Notifications 11. Personnel 12. Rosters 13. Run cards/response plans 14. Service types (i.e. law enforcement, fire, EMS) 15. Skills (personnel) 16. SOPs 17. Units 18. Unit attributes (e.g. ALS, BLS, Hurst tool) 19. Unit statuses (i.e. dispatched, en route, arrived, cleared) 20. Unit Types 21. Vehicles 		
B.7.5.	Communication Center / PSAP Relocation		
	<ul style="list-style-type: none"> a. Shall provide detailed documentation for proposed data-backup plan. b. Should account for coordination of external inputs to the CAD system from third-party vendors (e.g. telephone, data, 911) for a minimal loss of functionality. c. Should provide for access to a copy of the production system through the backup or disaster recovery environments taking advantage of virtual or cloud environments. d. Should denote the manually-entered CFS event so there is a record that the CFS event was not entered when it was actually received. e. Should provide ability to manually designate the “starting” incident number (i.e. the last incident +1 for the starting number once the system is restarted). f. Should allow for simultaneous automatic and manual entry without degradation. g. Should include all the information in back entered records that a live incident/event sheet should require. 		
B.7.6.	CAD Catch-Up		
	<ul style="list-style-type: none"> a. Should have the ability to manually open and create a CFS event sheet. 		

	<ul style="list-style-type: none"> b. Should provide the ability to log the entering individual's information and time of entry. c. Should provide the ability for all information to be entered without any restrictions, and times/dates changed to reflect the actual time that notice of the CFS event was received. 		
B.8.	SYSTEM FUNCTIONS		
B.8.1.	Notifications		
	<ul style="list-style-type: none"> a. Shall enable the system administrator to define the rules for automatic CFS event notifications. b. Shall provide the ability to create messages that are retained in the system and sent at pre-specified times. c. Shall provide the ability to maintain a log of all messages processed by the system. d. Shall allow the user to send and store messages to other users, groups, positions, or mobile devices. e. Shall allow a message to be sent to multiple recipients and/or groups. f. Shall log all sent messages. g. Shall provide the ability to create and maintain automatic reminders of scheduled activities (e.g. radio tests): <ul style="list-style-type: none"> 1. Daily 2. Weekly 3. Monthly 4. Annually 5. User-defined (e.g. 30 minutes, 15 minutes, first day of the month) 6. Multiple activities or reminders per time slot. 		
B.8.2.	Contact List		
	<ul style="list-style-type: none"> a. Shall allow a message to be sent to multiple recipients and/or groups. b. Shall be able to log all sent messages. c. Shall provide an emergency contacts list, to include: <ul style="list-style-type: none"> 1. Contact name 2. Street address 3. City 4. State 5. Zip 6. Telephone numbers 7. Relationship 8. User-defined/configurable fields 		
B.8.3.	Premises Information / Hazards		
	<ul style="list-style-type: none"> a. Shall provide the ability to enter a premises location by address, cross street or latitude/longitude. b. Shall provide the ability to capture, maintain or interface to specific premises information types for operators: <ul style="list-style-type: none"> 1. Hazardous materials 2. Hazardous conditions 3. Lock codes 4. Dangerous animals 		

	<ul style="list-style-type: none"> 5. Handicap 6. Emergency contact information 7. Unit safety 8. Warrants 9. Alarms 10. Protective Orders, Sexual Offenders 11. Fire Pre-plans 12. Other user-defined premises fields/information 13. Electronic attachments (e.g. images, files) c. Shall provide the ability to automatically create (i.e. upon closing of an incident) premises history based on pre-determined criteria. d. Shall provide the ability to define valid date ranges for time-limited premises information at a given location (i.e. information valid between start date and end date), and to notify supervisor of pending expiration dates. e. Shall provide the ability for supervisors to delete premises information for a given address or location based on expiration date and/or time of record, with prompted review prior to deletion (i.e. minimum of five years, on-line storage). f. Shall provide the ability to define criteria for automatic premises information purges and activate or deactivate this feature. g. Shall provide the ability to verify that premises warning or hazard information has not been affected by changes to the geofile. h. Shall provide the ability to view premises information for a specific suite/apartment/unit, or to view all premises information for an entire building. i. Shall provide the ability to automatically embed premises information into the event history at the time the event is created. j. Shall create a permanent record of the premises information in the event history. k. Shall provide (or interface to) a "cautions" file to contain information pertaining to dangerous individuals possibly residing at that location or near proximity, and exceptional persons at the location, such as an emotionally disturbed person. <ul style="list-style-type: none"> 1. This shall include a caution type category and free form narrative. 2. The caution type shall be searchable. l. Ability to exchange data between CAD and RMS to access pre-plans by all user agencies. m. Field personnel are able to create/update/delete premises hazard information and all their related fields. n. Ability to audit premises hazard record entry on a user, console, and mobile client basis. o. Ability to set permissions for premises hazard record entry on a user and agency basis. p. Ability for field personnel to have access to history of calls by location, how many, what type. 		
B.8.4.	Communications Center / Public Safety Answering Point Standard Operating Procedures		

	<ul style="list-style-type: none"> a. Shall provide the ability to store and easily retrieve SOPs for the PSAP. b. Shall provide a SOP tool to prompt the user to ask for additional information, perform certain tasks, or relay critical information to responding units or other responders. c. Shall provide a method where the retrieval of relevant SOPs are accessible from the CFS event information window and associated with the location, incident type, unit, or special skilled personnel responding. 		
B.8.5.	Agency-Specific Incident / Location / Unit Standard Operating Procedures		
	<ul style="list-style-type: none"> a. Shall be able to store SOPs that are associated with incident types, properties and/or units. b. Shall make these SOPs available for viewing and/or transmitting when an associated incident type is encountered, the response is to a specific location with unique response/operational requirements, and/or specialized units are assigned to the incident. c. Should include more sophisticated functionality (e.g. alert and check off of tasks, notifications made, or other issues capable of being tracked). 		
B.8.6.	Remote Access		
	<ul style="list-style-type: none"> a. Shall support remote access for users outside of the communications center. b. Shall provide access that includes permission-based views of CAD data by certain workstations and/or individuals. c. Shall provide remote access that includes security-controlled, web-based access. d. Shall be capable of remote access from a separate location, such as a mobile command post or a secondary location. e. Ability to view CAD info, unit status, location, units on scene, from desktop and other mobile devices. 		
B.8.7.	CAD Client to CAD Client Messaging		
	<ul style="list-style-type: none"> a. Shall provide short messaging from one CAD workstation to another. b. Shall include the ability to create message groups, whether they are dispatch workstations, mobile computers, groups within the PSAP, or other communications devices. c. Shall enable the system administrator to disable this function if desired on an agency or user basis. d. Shall log all messages. e. Shall provide the ability to create user definable "canned" messages for selection and distribution to other system users. 		
B.8.8.	Incident Command Support		
	<ul style="list-style-type: none"> a. Shall be able to support the functions of the NIMS and to provide data to support NIMS-required reporting from an RMS. b. Shall provide the ability to track roles, tasks and situation reports. c. Shall provide NIMS functions directly or through an interface with an external system. d. Should interface with incident command software. (vendor to provide a list of supported software) 		

B.8.9.	Narrative Field "Shorthand" / Auto Text		
	<ul style="list-style-type: none"> a. Shall provide the ability to recognize character patterns and automatically fill in expanded text. b. Shall expand (automatically) the shorthand into a full description and save it into the narrative. c. Shall allow the agency to add agency-specific shorthand terms and their expansions. 		
B.8.10.	Command Line / GUI		
	<ul style="list-style-type: none"> a. Shall include the ability to be operated via a command line entry, mouse and keyboard, or both. 		
B.8.11.	Date/Time Stamps		
	<ul style="list-style-type: none"> b. Shall stamp date/time and log CAD activities, such as status changes, task accomplishments (i.e. Fire Attack Initiated, Time Fire Declared Under Control, Time at Patient), and notifications, as well as many other system transactions and the time they occur. c. Shall save original time stamps even if they are overridden. d. Shall protect time stamp overrides; and, any changes shall be documented on the incident, including the ID of the person performing the modification and the reason for the modification. e. Shall maintain all time stamps to be minimally accurate to the second (e.g. hh:mm:ss). 		
B.8.12.	Unit Status Transitions Matrix		
	<ul style="list-style-type: none"> a. Shall prohibit unit status transitions that do not conform to the business rules of the agency. 		
B.8.13.	Single Sign-on for CAD and CAD Sub-systems		
	<ul style="list-style-type: none"> a. Shall be designed to provide a single sign-on for CAD and its integrated sub-systems. 		
B.8.14.	Multi-Agency / Multi-Jurisdictional Capability		
	<ul style="list-style-type: none"> a. Shall have the ability to create a CFS event for user-defined multi-agency events and route the CFS event to the appropriate agency dispatch position(s). b. Shall have the ability to create a linked CFS event for each required agency and route the CFS event(s) to the appropriate dispatch positions when an event involves more than one agency. c. Shall have the capacity to create a multi-jurisdictional response; for example, should Jurisdiction X determine that Jurisdiction Y resources are needed on the scene, the fire dispatcher shall have the ability to forward/copy the CFS event without re-entering the event information to the appropriate Jurisdiction Y dispatcher based on CAD recommended or dispatched units. d. Shall provide the ability to create and route a CFS event for dispatch even though the event is in another jurisdiction. 		

	<ul style="list-style-type: none"> e. Shall provide the ability to transfer an active CFS event to another agency without closing the CAD CFS event within the originating agency. f. Shall provide the ability to link cross-jurisdictional events using agency-definable parameters. g. Shall update the originating jurisdiction's CFS event information if the dispatcher in the receiving jurisdiction updates or supplements the event. h. Shall have the ability to create agency-definable recommendations for cross jurisdictional responses and automated messaging based on user-definable parameters. i. Shall provide the ability to identify other jurisdiction addresses and alert the CAD user with the jurisdiction's name and contact information. 		
B.9.	REPORTING & MONITORING		
B.9.1.	Dispatch Supervisor Support		
	<ul style="list-style-type: none"> a. Shall provide the ability for a CAD supervisor, or another dispatcher with appropriate system permissions, to observe the activity of a given dispatcher including the pending events queue, active events, available units list, and map. b. Shall enable a supervisor, or another dispatcher with appropriate system permissions, to co-dispatch the units under the control of another dispatcher. c. Shall have the ability to add additional dispatchers "on-the-fly" for one or more services (law enforcement, fire service, and/or EMS), either globally or for predetermined geographical areas. 		
B.9.2.	CAD Management Reporting		
	<ul style="list-style-type: none"> a. Shall include standard reports that simultaneously use date, time, location, and/or incident type search parameters for report definitions. b. Shall include the capability of customizing standard reports and for creating user-defined reports. c. Shall provide access to all reports to the user, subject to permissions, from within the CAD system. d. Shall include reports in the CAD security/permissions function (i.e. individual reports can be made available/unavailable based on a user's security profile). e. Shall provide all reports to users, subject to permissions, regardless of the application used to create user-defined or custom reports (i.e. internal to the CAD system or via a third-party reporting or analysis tool). f. Shall provide an ad hoc reporting capability. g. Shall provide a data exporting capability. h. Standard reports include Daily Field Activity, Event Request (CAD Log), Call Processing Times (Call Answer to Dispatch), AVL/GIS unit tracking, Call Times by fractal percentage (90%), Geographic Call Location report (specific areas, beats, zones). 		
B.9.3.	Training and Testing		

	<ul style="list-style-type: none"> a. Shall include a training environment that accurately mirrors the live environment, including all tables and administrative configurations, and allows for call takers and dispatchers to train on specific services (i.e. law enforcement, fire service, and/or EMS) and on pre-configured geographic areas identical to that of the live environment. b. The CAD system's training environment: c. Shall be clearly identifiable as the training environment (e.g. "TRAINING" prominently displayed on the screen). d. Shall have a separate E911 test connection or canned script E911 information and provide realistic training regarding incoming E911 data. e. Shall be able to be used, operated, started up, shut down, and updated to match the live application without affecting the live environment. f. Shall be able to be used to test modifications and updates to the live CAD application prior to implementing the modifications and updates in the live environment. g. Shall have a separate E911 test connection or canned script E911 information (i.e. wireline, cellular, no record found, and VoIP) and shall provide realistic training regarding incoming E911 data. 		
B.9.4.	Snapshot / Incident Replay		
	<ul style="list-style-type: none"> a. Shall include functionality to provide a detailed, system-wide snapshot report and/or graphic display of the system status to include all units and events, based on a user-specified date, and time and an incident replay, based on a user-specified date and time, specific incidents, or other CAD events. 		
B.10.	INTERFACES		
B.10.1.	Essential Interfaces		
	<p>In order to support External Database Interfaces, the CAD system:</p> <ul style="list-style-type: none"> a. Should support an interface from the Cassidian/Airbus Sentinel/Patriot and Vesta 911 system for the receipt of ANI/ALI information. b. Should support text to 911 handling originating from the Cassidian/Airbus Sentinel/Patriot and Vesta products. c. Should capture and forward all ANI/ALI data sent by the ANI/ALI controller to the appropriate workstation which picked up the call. d. Should be capable of accepting 10 and 8 digit data from Caller ID, provided in a "spill" that must automatically populate the Location, Name, Phone Number, Address Fields in CAD, and call answered time. <ul style="list-style-type: none"> 1. The "spill" shall also automatically populate Phase 2 Latitude and Longitude on the "Mapping Component". e. Shall enable incoming E911 ANI/ALI data to be automatically mapped to corresponding address and phone data fields based on the Master Street Address Guide (MSAG) standard in the CFS event entry form. f. Shall support all E911 ANI/ALI formats including wireline, WPH1 and WPH2, VoIP, and Multi-Line Telephone Systems (MLTS). g. Shall enable the capture of additional fields captured in the CFS event, including ESN, call type (landline, wireless), and ANI/ALI tracking ID (if available). h. Shall use GIS data, if available, to extrapolate the closest geographical attribute (address, intersection, common place). 		

	<ol style="list-style-type: none"> 1. The radius used to extrapolate the closest geographical attribute shall be a configurable item within the system. 2. If GIS data is used to create the caller location, then the offset used to determine the approximate location shall be displayed. i. Shall provide configurable query forms and response displays and be able to be custom-built to accommodate different federal, state and local database protocols. j. Shall provide authorization to perform various queries, and the ability to read responses definable by the individual agency and by role to the field level. k. Shall allow users to submit queries either with the query form or the command line (if applicable). l. Shall allow users to automatically submit queries for persons and vehicles as part of other data entry processes, such as CFS event creation. m. Shall enable the query request type and the database(s) to be queried to be specified from a predefined list, with automatic narrowing of pertinent databases based on user data input. n. Shall provide intelligent updating of the query forms based on other CAD forms that contain person or vehicle data. o. Shall provide a capability for entering new information into the selected external database(s) provided the external database(s) allow updating. p. Shall provide a method for multiple queries to be submitted through a single form or command. This is sometimes referred to as query spawning or cascading. q. Shall make query responses accessible either through the query response form or from the command line and shall be associated with a query response type. r. Shall allow users to submit new queries based on data in the query response to logical links; and, shall also reference attachments that are associated with the response, which can be downloaded and viewed. Ideally, CAD will provide the capability to view common industry-standard multimedia file-types. s. Shall provide the capability to alert dispatchers, PSAP supervisors, and street-level supervisors of "Hot Hit" responses to queries made by officers in the field, or data run that exists elsewhere in the CAD system (i.e. in a CFS event). t. Shall provide optional audible and visual alerts that can be configured by the system administrator. u. Shall log all queries and their responses (when permitted) for audit purposes. v. Shall provide the ability to configure alerts for queries run by unauthorized personnel or devices, as well as the ability to monitor multiple queries of the same data or specified data. <p>In order to support the Messaging Subsystem Interfaces, the CAD system:</p> <ol style="list-style-type: none"> w. Shall be capable of TCP/IP communication, using industry-standard messaging protocols such as SMS and SMTP. x. Shall provide the capability of pre-formatted messages, especially to paging and other handheld devices. 		
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	<ul style="list-style-type: none"> y. Shall create (automatically) an alphanumeric page for selected CAD incidents. z. Shall allow a dispatcher to initiate an alphanumeric page for any paging group. <ul style="list-style-type: none"> 1. The information sent in the page shall be configurable by the agency and shall generally contain the incident number, type of incident, and location of the incident. aa. Shall provide an administrative mechanism to define paging groups. bb. Shall include multiple message types, including email, BOLOs, notifications, tactical command chat rooms, and others. cc. Shall provide a capability to format and send messages using just-in-time information, such as incident dispatch information, BOLOs or emergency weather alerts, and configurable triggers for these messages (e.g. incident type, assigned resources or location) for configurable recipients (i.e. send the chief a page when a specific incident type occurs at a specified location). dd. Shall ensure that messaging interfaces make use of the CAD address book. <ul style="list-style-type: none"> 1. The CAD address book shall allow for defining the types of devices recipients are able to receive messages on; and, shall have the ability to define a default device, as well as what devices (one, some or all) to receive messages on by day/time/response mode. bb. Shall provide the ability to include attachments associated with the message that can be downloaded and viewed by operators and recipients. Ideally, CAD should provide a capability to view common industry-standard multimedia file-types. cc. Shall include an interface to CodeRED public awareness messaging system. <ul style="list-style-type: none"> 1. The CodeRED system maintains a list of all callers who have elected to be a part of this community alert system. The system then calls, emails and texts every person on the list and plays or transmits the voice message. 2. The CAD system should take advantage of the CodeRED API to maximize native functionality from the CAD system, without the need to open a browser and access CodeRED directly. dd. Should also include the ability to interface with other available community notification messaging systems or other standalone systems available to be activated by the PSAP or through local emergency management. <p>CAD-to-RMS interfaces should be two-way (bi-directional) and:</p> <ul style="list-style-type: none"> ee. Shall provide CAD incident and resource information to the RMS for use in reporting and case management. ff. Shall be a data push triggered by definable incident elements, such as incident status, incident disposition or manual submission by a dispatcher and/or call taker. gg. Shall enable CAD users to be configurable by agency and role to the field level (and vice versa). hh. Should provide a mechanism to create, record and otherwise 		
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	<p>manipulate a report number (separate from the CAD incident number) for cross-referencing purposes in the two systems.</p> <p>ii. Shall provide a capability to flag a CAD call for submission as a Suspicious Activity and submit that call to the agency's intelligence/counterterrorism unit or designated Fusion Center. This interface must conform to the standards set forth by the NSI and contained in the Functional Standard (FS) Suspicious Activity Reporting (SAR) Ver. 1.5.</p> <p>jj. Shall interface with ProQA medical case entry software.</p> <ol style="list-style-type: none"> 1. ProQA interface must support bi-directional communications emphasizing support for customized incident creation workflow(s). 2. ProQA interface should be able to be activated after the address has been entered. 3. ProQA interface should support the ability to invoke it by selecting it with the mouse or pressing a customized hot key. <p>kk. Shall interface with radio systems hardware/software supporting the ability to manually or automatically page and tone units. Shall also provide support for the following services:</p> <ol style="list-style-type: none"> 1. Shall support automatic voice dispatching that may be configured/customized by system administrators. 2. Shall provide the ability to receive alerts from portable radio (i.e. Man-down/Distress signal). 3. Shall provide the ability to identify portable radios via alias 4. Vendor to provide a list of supported 3rd party radio interfaces and systems. <p>ll. Shall interface with audio recording software.</p> <p>mm. Shall interface to New World Systems Aegis MSP Law records management software supporting the following capabilities:</p> <ol style="list-style-type: none"> 1. Shall provide data import of any or all Law incidents to be transferred into the associated Incident module. 2. Shall have the ability for CAD and Mobile client(s) to query Law RMS Records (i.e. Accidents, Global Subjects, and Arrests). 3. Supports data access to the New World RMS - Jail Module, querying inmate information, such as currently housed/confined inmates and active warrants, present in the jail. <p>nn. Shall interface to High Plains Fire/EMS records management software.</p> <ol style="list-style-type: none"> 1. Shall provide data import of any or all Fire/EMS incidents to be transferred into the High Plains software. 2. Shall have the ability for CAD client to query Fire/EMS RMS Records (i.e. Patient Data and Medical History). <p>oo. Shall interface to US Digital Designs Station Alerting software supporting the following capabilities:</p> <ol style="list-style-type: none"> 1. Shall provide the ability to automatically and/or manually initiate radio paging tones from the CAD client, without having to manually generate and send radio tones from the radio system interface. 2. Shall provide either a customizable XML output or TCP/IP 		
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	<p>connection to the station alerting system.</p> <p>pp. Should support a bi-directional interface with the CryWolf false alarm tracking and billing system including ability to perform:</p> <ol style="list-style-type: none"> 1. Should provide ability to send false alarm incidents to the alarm management software. 2. Should allow CryWolf software the ability to create/modify/delete alarm records in CAD. 3. Should provide CryWolf the ability to modify incremental counters applied to addresses/locations associated with alarm records in CAD. <p>qq. Should interface with alarm monitoring companies. This interface must conform to standards contained in the APCO/CSAA ANS 2.101.1-2008: Alarm Monitoring Company to Public Safety Answering Point (PSAP) Computer-Aided Dispatch (CAD) External Alarm Interface Exchange.</p> <p>rr. Should support an interface to the NLETS/NCIC/CCIC system for querying from CAD, Mobile, RMS and Jail.</p>		
B.10.2.	Locational Systems Interfaces		
	<ol style="list-style-type: none"> a. Should interface with existing state GIS databases. b. Shall have a seamlessly integrated map (GIS database) supporting Tactical Map Display (TMD). c. Shall contain a map-centric TMD, in which the GIS/map is fully integrated with the CAD system. <ol style="list-style-type: none"> 1. In the case of a separate TMD application linked to the CAD system, the TMD shall support the automatic display of units as derived from an AVL system. d. Shall integrate with Pictometry Imagery aerial imaging technologies to provide digital, oblique, aerial imaging. e. Shall link high-resolution aerial photos to mapping systems; overlay shape files directly on top of both oblique and/orthogonal images; and, display vector data. f. Shall enable users to obtain measurements such as distance, height, elevation, and area directly from the 3D imagery, as well as insert GIS content and other data. g. Shall include geographic data to support, at a minimum, the following: <ol style="list-style-type: none"> 1. System and boundaries registered to the street centerline in the geofile. 2. Boundary assignments (i.e. determining the response zone for each incident) completed in real time by processing the incident's X,Y coordinates against the RCL and boundary files to determine the incident's location and response zone. 3. Parcel-level GIS information, in which the approximate location of the front door of all the parcels in the state are stored in the geofile. 4. Address validation and to determine an incident's location. 5. Bulk data uploading. 6. Weekly data updates. 7. Metadata. 8. FGDC standard format feed, like XML (Extensible Markup Language) and KML (Keyhole Markup Language). 		

	<p>In order to support the geofile system, the CAD system:</p> <ul style="list-style-type: none"> h. Shall provide geo-fencing, and add the capability to establish law enforcement on-the-fly response zones, fire response areas, ambulance (EMS) response areas, street networks, and other geographical layers using typical mapping/GIS tools. i. Shall support valid MSAG names and multiple "aliases" for street names, intersections, commonplace names, landmarks, and street or highway route numbers. j. Shall stem geographically sensitive hazards, dispatch policies, and other system functions from validated locations. k. Shall initiate a location verification step to add the coordinates of the incident location to the event and display an incident icon on the TMD as the CFS event is created. l. Shall make a duplicate event check based upon the location and/or coordinates of the event, during the CFS event creation process. m. Shall notify the event entry position via a prompt and show a list of the potential duplicate(s) if, during event creation, a potential duplicate event in the area is found. n. Shall have a parameter (modifiable by the system administrator) specifying the distance in number of feet or other unit of measurement, from the location of the incident for duplicate checking. o. Shall define location databases such as hazards, general premises information, street closures, and other user definable databases. p. Shall perform a distance search to identify the existence of location information (e.g. hazards) during the event creation process. q. Shall support different search distance criteria for different types of locations. r. Shall support coordinate-based operations; shall be capable of full integration with a GPS-based AVL system; and, shall be capable of accepting named standards driven GPS reporting devices, such as GPS-enabled smartphones and portable radios. s. Shall allow the system administrator to be able to modify parameters. <p>In order to support the AVL system, the CAD system:</p> <ul style="list-style-type: none"> t. Shall seamlessly integrate with the CAD system and provide detailed, accurate, real-time vehicle tracking. u. Shall include the AVL ID (represented as an alias) for each unit user's status. v. Shall include the indication that AVL is enabled for each unit on the user's status window. AVL can also be used for reporting, messaging, response and alerting functionalities. w. Shall include a visual indication if units displaying on the map and in the queues are AVL equipped. <ul style="list-style-type: none"> 1. The visual indication if units displaying on the map and in the queues are AVL equipped shall be customizable by the system administrator. y. Shall be able to play back a unit's AVL travel history and see the unit icon move from location to location on a map window. z. Shall be capable of integrating with the existing GIS database. aa. Shall have other interactive functionalities also available, such as the 		
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	<p>ability to create and view unlimited groups of vehicles.</p> <p>bb. Shall provide for an automated alert function.</p> <p>cc. Shall provide for an automated alert for when vehicle is out of service.</p> <p>dd. Shall provide the ability to determine and modify all such alerts.</p> <p>ee. Shall provide the following information on any unit suffering loss of GPS signal (e.g. vehicle stopped, vehicle shut off, loss of network signal, loss of GPS data):</p> <ol style="list-style-type: none"> 1. Last known position 2. Time of signal loss 3. Time lapse since signal loss <p>ff. Shall provide minimal AVL reports that include:</p> <ol style="list-style-type: none"> 1. Complete activity detail for specific date range 2. Vehicle last stop/end time for date range 3. Exception reports including all events that triggered an alert 4. Vehicle first start/begin time for date range 5. Miles per day, stops per day, average and summaries per vehicle <p>gg. Shall pass unit status information to the AVL system whenever unit status is changed.</p> <p>hh. Shall pass any changes in unit location information to the AVL system if unit location changes are generated within the proposed system (as opposed to the AVL navigation system).</p> <p>ii. Shall display AVL updates on the map within two seconds of their receipt from the AVL controller.</p> <p>jj. Shall should be able to dispatch the nearest appropriate unit based on its AVL location using an appropriate routing engine to make that determination.</p> <p>In order to support the map and GIS analysis systems, the CAD system:</p> <p>kk. Shall support either directly or, through an easily invoked (i.e. seamless) third-party mapping tool, the creation of thematic maps; for example, a map showing the relative crime rate in each law enforcement district/zone in a given county.</p> <p>ll. Shall support either directly or, through an easily invoked (i.e. seamless) third-party mapping tool, the creation of automatic pin maps; for example, the system shall produce a map showing the location of all auto thefts that occurred in a given county during the last two months.</p> <p>mm. Shall support either directly or, through an easily invoked (i.e. seamless) third-party mapping tool, the creation of spatial data aggregation; for example, generate crime rates by district statistics by aggregating individual crimes occurring in each district of the County.</p> <p>nn. Shall support either directly or, through an easily invoked (i.e. seamless) third-party mapping tool, the creation of trend analysis/forecasting.</p> <p>oo. Shall access other RMS informational files to accommodate the needs and requirements of the crime analysis function and display this information using "pin mapping" techniques.</p> <p>pp. In order to support map integration and functionality, the CAD system:</p> <p>qq. Shall validate all incident locations, whether obtained from an E911 controller or entered directly by the call taker for administrative line (ten-digit) calls, against the CAD system's geofile to provide, at a minimum, cross streets, response areas, map page and coordinate, legal</p>		
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	<p>street names, and zip code.</p> <p>rr. Shall allow for the manual processing of the incident location, in the event a location cannot be properly validated against the geofile, so that a CFS event can be created if the location has been confirmed or known to exist within the local jurisdiction.</p> <p>ss. Shall produce (automatically) a report of all incident entries that did not validate, on a scheduled basis.</p> <p>tt. Shall save original E911 ANI/ALI information as part of the CFS event if the user changes the original information (e.g. the incident is not at the caller's location).</p> <p>uu. Shall allow for processing of non-validated locations and notify the dispatcher of the special address.</p> <p>vv. Shall identify the appropriate agency (i.e. law enforcement, fire and/or EMS), district, sector, reporting area, agency of jurisdiction, and any other geographic boundaries containing an address, once it has been validated.</p> <p>ww. Shall display the two nearest cross-streets.</p> <p>xx. Shall perform location validations/geofile lookups independent of the CFS event creation process.</p>		
B.10.3.	Administration Interfaces		
	<p>a. Shall have the ability to import and display the radio ID (and optionally the officer ID) information to the dispatcher by those keying mobile and/or portable radios.</p> <p>b. Shall have the ability to interface and synchronize all servers and CAD workstations with the master time clock.</p> <p>1. This ensures each workstation and server provides an accurate time stamp.</p> <p>c. Shall provide the ability for the agency to schedule personnel, including communications center personnel and officers.</p> <p>1. This application is sometimes found in the agency's RMS.</p>		
B.10.4.	Communications Interfaces		
	<p>a. Should accept, depending on agency policy, non-dispatchable incidents across the Internet.</p> <p>1. Incidents accepted across the Internet will be of a general nature, in which a case (report) number may be needed for insurance purposes. The case number is generated and recorded. The incident is recorded in the incidents/events history database for statistical reporting.</p> <p>b. Shall page or text (automatically) a message to pre-defined recipients or groups of recipients based on the event type.</p> <p>c. Shall provide the capability for a CAD operator (PSAP personnel or CAD users) to page, email, or text a message to pre-defined recipients or groups of recipients.</p>		
B.10.5.	Additional Interfaces		
	<p>a. Shall allow the agency direct access to the underlying system information stored in the database (ODBC, FTP, web services) for future interface configuration, as well as appropriate database and system</p>		

	<p>documentation to support this access.</p> <p>b. Shall interface to an Automated License Plate Reader (ALPR) software (such as Genetech). Please provide a list of currently supported ALPR vendors.</p> <p>c. Supports an interface from DMV or any other motor vehicle accident reporting software providing historical queries based upon a license plate number, driver's license number or persons name.</p>		
B.11.	NEXT GENERATION 911		
	<p>Shall provide in the future scope, the ability to support next generation 911 technologies including:</p> <ol style="list-style-type: none"> 1. Digital information such as voice, photos, videos, and text message information. 2. Ability to flow new data types seamlessly from the Public through the 911 network on to public safety entities and emergency responders. 		
C.	MOBILE SYSTEM REQUIREMENTS	Vendor Compliance	Vendor Comments
C.1.	Mobile Client Module		
C.1.1.	General Functionality		
	<ol style="list-style-type: none"> a. CAD and Mobile users can access the BOLO records. b. User can search the BOLO records. c. Automatically search the BOLO list when the user enters a license plate into the system. d. CAD and Mobile clients should automatically trigger a visual or audible alert when a BOLO record is received by the CAD system. e. Shall provide the ability to easily retrieve SOPs for the PSAP. f. Shall provide a SOP tool to prompt the user to ask for additional information, perform certain tasks, or relay critical information to responding units or other responders. g. Should provide the ability to configure custom function keys for frequently used actions. h. Should provide the ability to configure custom hotkeys to access additional actions. i. Designed for a touchscreen computer. j. Should have the ability to send a photograph to all users. k. Should have the ability to send messages all users. l. Mobile users can view, edit and add supplemental information to any call for service. m. Any supplemental information entered in the mobile client is synchronized with CAD in near real time. n. Any supplemental information entered in CAD is synchronized with mobile client in near real time. o. Mobile users can perform the following searches from supplemental information in the existing mobile search query: <ol style="list-style-type: none"> 1. Person 2. Vehicle 		

	<p>3. Article</p> <p>4. Weapon</p> <p>p. System administrator configures triggers for banner-type event notification</p> <p>q. System administrator configures all aspects of the feel, look and sound of the Mobile client to accommodate for different agencies.</p> <p>r. Notify users of an event.</p> <p>s. Mobile users can take action from the notification.</p> <p>t. Automatically change unit status based on their geographic location.</p> <p>u. Mobile user can activate mobile functions verbally (voice recognition) and receive results back audibly from the computer.</p> <p>v. Provide the mobile user audible results pertaining to the incident information screen.</p> <p>w. Provide the mobile user audible results pertaining to the records check results screen.</p> <p>x. Shall provide access to MDC functions authorized at the field level within each function, configured by system administrators, down to the user role level (i.e. a patrol officer may not have access to some functions that a street sergeant may have).</p> <p>y. Shall be capable (depending on agency policy) of providing silent dispatch orders to a mobile unit, in addition to providing the unit with details of the CFS event, pre-plan information, patient information, premises history information, and other types of relevant information.</p> <p>z. Shall enable the mobile unit to, if authorized, self-initiate incidents, self-dispatch incidents from a queue, change its status, query CAD and RMS information, and query local and national databases, such as wanted-person checks.</p> <p>aa. Shall be able to have summary incident and resource monitoring capability.</p> <p>bb. Shall provide the ability for street supervisors in multi-agency, multi-jurisdictional environments to choose what agencies or areas within individual agencies they wish to monitor.</p> <p>cc. Shall provide the ability for CAD users to drill down into the details of summary incident and resource data, and have the ability to configure what data is displayed, as well as how it is displayed in terms of layout, font, font size, and colors.</p> <p>dd. Shall provide a day/night mode for mobile users.</p> <p>ee. Shall provide an integrated mobile mapping client.</p> <p>ff. Shall provide incident and resource management and monitoring capabilities through the in-car mapping solution.</p> <p>gg. Shall provide the ability to view real-time AVL data for user-selected units from the mobile client, and the ability to interact with the units identified on the map display.</p> <p>1. This capability shall include messaging and other unit-related functionality.</p> <p>k. Shall provide drive directions from the current location to a dispatched incident (or any selected location).</p> <p>l. Shall provide mobile search capability for resources and personnel by type of vehicle, status and location.</p> <p>m. Shall enable mobile users to search for incidents and locations.</p>		
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C.1.2.	Operating Systems		
	<ul style="list-style-type: none"> a. Shall be compatible and supported on Windows 7 and Windows 10 64-bit architectures. b. Should be compatible and supported on Android devices 4.2.2 or higher. c. Should be compatible and supported on Apple iOS 9.x or higher. 		
C.1.3.	Security		
	<ul style="list-style-type: none"> a. Shall comply with CJIS policy 5.4. b. Pass mobile user credentials to the Field Based Reporting (FBR) application, eliminating the need to re-enter user credentials into FBR. 		
C.1.4.	Dispatch		
	<ul style="list-style-type: none"> a. Audible alert when a new call is assigned. b. Visual alert when a new call is assigned. c. Present the following information on a single screen when a new call is dispatched: <ul style="list-style-type: none"> 1. Location 2. Complaint type 3. Caller location (can be different from incident location) 4. Landmark name 5. Map grid 6. Additional units assigned 7. Notification of previous call information 8. Display of driving directions 9. Notification of subjects on the call 10. Notification of vehicles on the call 11. Notification of fire pre-plan d. Updated as information is updated in the CAD system. e. Audible alert as information is updated in the CAD system. f. Automatically display the call location on a map upon dispatch. g. User can update the following statuses with a single action: <ul style="list-style-type: none"> 1. En route 2. On scene 3. In service 4. Left scene for secondary location 5. Arrived at secondary location 6. Busy but available 7. Conditional availability (including reason and location) h. User can update their status. i. User can add narrative to a call. j. User can add one or more dispositions to a call. k. User can supplement a dispatched call with additional comments, unit notes, or any miscellaneous data by use of the command line or the call screen. 		
C.1.5.	Officer Initiated Calls		
	<ul style="list-style-type: none"> a. Provide a button for creating a traffic stop. b. Provide a button for creating an officer-initiated call. c. Upon entry of a traffic stop or officer-initiated call, set the unit status to On Scene. 		

	<ul style="list-style-type: none"> d. When the user initiates a call, the data from the last query executed is available for use in the new call. e. User can add information on vehicles and subjects during entry of an officer-initiated call. f. Automatically send vehicle queries upon entry of an officer-initiated call. g. Automatically send person queries upon entry of an officer-initiated call. h. Can add a button to the main toolbar for officer-initiated calls. i. Can add a button to the main toolbar for traffic stops. j. User can dispatch themselves to a call already entered. 		
C.1.6.	Messaging		
	<ul style="list-style-type: none"> a. Can send messages to any user who is logged on to the system. b. Can send messages to multiple users simultaneously. c. Can send messages to users who are not logged on d. Audible and visual alert when a message is received e. Audible and visual message alert upon log-on f. System administrator can set up groups to receive messages g. User can message with any mobile system user or CAD system user h. Log all chat messages i. The email component can send, receive, and include attachments 		
C.1.7.	Call Queue		
	<ul style="list-style-type: none"> a. Sort units by status b. Automatically update unit queues c. Update unit logs in real time d. Define and lock unit queue filters e. User can view the narrative for any call in the queue f. User can view the unit on the map with one click from the unit queue g. User can sort unit queues by any value displayed in the queue h. User can sort the order of the data displayed in the queue i. User can modify the column width of the displayed data j. User can access the unit log from the unit queue k. User can map the location of any call assigned to a unit in the queue l. System administrator can configure the update interval for the unit queues 		
C.1.8.	Query Capabilities		
	<p>Automatic query to the following agency's upon scanning a driver's license:</p> <ul style="list-style-type: none"> a. NCIC b. State c. RMS <p>Provide the following queries:</p> <ul style="list-style-type: none"> e. Vehicle f. Person g. Plate h. Article i. Gun j. Boat k. Free-form <p>Automatically populate CAD with the following data entered from the mobile</p>		

	<p>client:</p> <ul style="list-style-type: none"> l. Person m. Vehicle n. Weapon o. User can view query results in their native format <p>Return Images (where applicable) in response to a Name query of:</p> <ul style="list-style-type: none"> p. Accident report q. RMS r. Jail Management System (JMS) <p>Query the following RMS activities:</p> <ul style="list-style-type: none"> 1. Incident reports 2. Field interviews 3. Accident reports 4. Civil papers 5. Warrants 6. Master Name index <ul style="list-style-type: none"> s. System administrators can set keywords that trigger a notification to other mobile and CAD users when a unit receives a hit. <ul style="list-style-type: none"> 1. This notification alerts the user of a hot return. t. Users can run the following checks to standard law enforcement databases (NLETS and NCIC), local RMS databases, and supplemental information <ul style="list-style-type: none"> 1. Person 2. Vehicle 3. Warrant u. Users can automatically search NLETS, NCIC, local RMS databases and supplemental information with a single query. v. Mobile users can query on one or more of the three available law enforcement databases (NCIC, RMS, supplemental information) 		
C.2.	Message Switch Module		
C.2.1.	Supported Protocols		
	<p>Support the following protocols:</p> <ul style="list-style-type: none"> a. Radio IP b. CDMA c. G2/3/4 must be compatible with NetMotion® and Radio IP 		
C.2.2.	Security		
	<p>Support Security requirements</p> <p>The system administrator can:</p> <ul style="list-style-type: none"> a. Integrate Access Control with Microsoft Active Directory Domain Services b. Integrate using one or more Single Sign On technologies (ie: ADFS, SAML, OAuth, etc). c. Set a minimum password length d. Require the use of uppercase letters in passwords e. Require the use of special characters in passwords f. Require the use of numbers in passwords g. Require that users change their passwords after a defined interval h. Set the frequency for password re-use 		

	<ul style="list-style-type: none"> i. Set the number of unsuccessful logon attempts allowed before the user is locked out j. Lock a user's account k. Log off a mobile client l. Lock a device m. Record unsuccessful logon attempts n. Each mobile client device is provisioned with access to the system. The system will display an authorization error in the event of unauthorized access attempt. 		
C.2.3.	Technology		
	<ul style="list-style-type: none"> a. Should be able to run as a virtual machine in a VMware ESXi 6.1 environment. b. Uses Microsoft SQL database 2014 or higher. c. Ability to integrate with SQL Server Reporting Services. d. Ability to integrate with SQL Server Integration Services. e. Ability to integrate with SQL Server Analysis Services. 		
C.2.4.	System Administration Functions		
	<ul style="list-style-type: none"> a. The system administrator can send mobile client software updates to the mobile client devices. b. Mobile client software upgrades are automatically downloaded to the mobile client devices. c. Accommodate software updates through WiFi hotspots. d. Automatically switch from an 802.11 hotspot to a commercial wireless network without impacting the mobile client operations. e. The mobile client software automatically downloads and installs updates when available. f. Support manual mobile client requests for mobile client software updates. g. Software updates prompt the user to accept updates. h. Software updates download in the background of the application without interrupting use of the application. i. The system administrator can view all users logged into the mobile server in a printable output that includes the following: <ul style="list-style-type: none"> 1. Device Registration ID 2. Unit Name 3. User ID 4. User Name 5. Current Sector 6. Home Sector 7. Beat 8. Agency 9. Connection Status 10. Login Status 11. Last AVL Time Stamp 12. Latitude/Longitude 13. Speed 14. Heading 		

	15. Location 16. Cross Street 17. Out of Vehicle Status 18. Destination 19. CAD Status 20. Timestamp of CAD Status 21. Incident ID (if incident assigned) 22. Incident Number (if incident assigned) 23. Destination Latitude/Longitude (if incident assigned) Incident		
C.3.	Mapping Module		
C.3.1.	GIS		
	<p>a. Features:</p> <ol style="list-style-type: none"> 1. A single-button traffic stop 2. Easy-to-view display 3. Large buttons for touchscreen 4. Screen tinting options for different lighting environments 5. Able to invert every color on the map to accommodate lighting condition variations in the vehicle 6. Day mode to night mode to enable easy viewing of the mobile client. 7. Built on the Esri Map Objects® or Esri ArcGIS® map engine. 8. Compatible with standard graphics forms, such as raster and vector. 9. Display maps, call locations, and any tracked vehicles in the main map window. <p>b. User can select from a list of pre-configured map views to access different map views.</p> <p>c. Configurable for user access, map views and default zoom levels.</p> <p>d. System administrator can configure multiple layers to be toggled on/off with a single button.</p> <p>e. User can turn map layers on and off.</p> <p>f. Support overlays of basic hazard plume modeling and advanced ALOHA chemical plume modeling.</p> <p>g. Quick navigation of the map display to manually search addresses.</p> <p>h. User can query and locate addresses on the map with a single click.</p> <p>i. User can view address attributes from the map with a single click.</p> <p>j. User can query for location premise information including pre-plans without an active call for service.</p> <p>k. Mobile users can access preplans associated with an address.</p> <p>l. User can quickly measure the distance from point A to point B on the map.</p> <p>m. The system administrator can set AVL polling rates for each configurable status.</p> <p>n. The AVL polling rate is configurable for a min/max time between AVL polls as well as distance travelled by the vehicle.</p> <p>o. Define the interval for automatic AVL log purge.</p> <p>p. Automatically show current unit locations.</p> <p>q. Automatically compute the route between units and an address when</p>		

	<p>the user manually locates an address on the map.</p> <p>r. Show the CAD and/or mobile user a configurable number of closest premises to the incident location based on premise type and incident type upon unit recommendation and assignment. Results contain the premise name, address, and estimated drive time from the incident location.</p> <p>s. Find a route from origin to destination via:</p> <ol style="list-style-type: none"> 1. Touch On Map (allows the user to select any origin/destination by touching the map). 2. Select Vehicle (allows the user to select the current position of any displayed vehicle as the origin/destination). 3. Select CAD Incident (allows the user to select a displayed CAD incident as the origin/destination). 4. Select Building (allows the user to select a building as an origin/destination). <p>t. Upon assignment of a new call for service:</p> <ol style="list-style-type: none"> 1. Automatically create a route on the map, including turn-by-turn directions. 2. Zoom to the nearest level while allowing both the call location and the current location to be visible on the map. <p>u. Rotate map to heading.</p> <p>v. User can request the system re-draw the route in a single action.</p> <p>w. Notify the user if the unit deviates from the path drawn by the map.</p> <p>x. Center on the vehicle and destination.</p> <p>y. Re-center when vehicle icon reaches the edge of the map.</p> <p>z. User can turn off the re-centering feature.</p> <p>aa. Automatically zoom in as the unit nears the call location.</p>		
C.3.2.	Client Configuration Options		
	<p>a. The system administrator can configure mobile client buttons for the following functions:</p> <ol style="list-style-type: none"> 1. Add new call 2. View all calls 3. View all units 4. Update status 5. View call time 6. Request case number 7. Message 8. Run queries 9. Map <p>b. The system administrator can configure buttons can be configured to launch any application loaded locally on the host personal computer (PC)</p> <p>c. Buttons can be configured to launch Internet Explorer and default to a specific URL.</p> <p>d. Provide buttons that can be configured for: one-touch or two-touch access.</p> <p>e. The vendor shall identify which if any components are only configurable with support from the manufacturer (VENDOR TO IDENTIFY IN COMMENTS)</p>		

	<ul style="list-style-type: none">f. Shall allow custom sounds to be added to alerts, notifications and events.g. Shall allow enabling and disabling of audible alerts, notifications and events.h. Shall allow customization regarding look and feel of applications based on user agency.		
C.4.	Reporting Module		
C.4.1.	<ul style="list-style-type: none">a. User can access reporting functions via a website via a web browser, without requiring that the mobile software be installed on the client.b. User should be able to access reports based on daily activity reports that will contain the unit, vehicle, time, date, incident, etc.c. User can access reports based on CAD user security authorization.d. The reports provide drill-down capabilities.e. The reports accommodate use of graphs.f. The report footer displays the following:<ul style="list-style-type: none">1. Date and time report was run2. Page x of xg. Export reports in the following formats:<ul style="list-style-type: none">1. Microsoft Excel2. PDF		

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