



CALIFORNIA HIGHWAY PATROL

REQUEST FOR INFORMATION

Event Number: **RFI_CHP_CAD_2023**

For

Computer Aided Dispatch (CAD) Solution



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Request for Information

DATE: March 15, 2023
TO: All Interested Parties
FROM: California Highway Patrol, Communication Centers Support Section
SUBJECT: Event Number: **RFI_CHP_CAD_2023, Computer Aided Dispatch (CAD) Solution**

1. Introduction

This Request for Information (RFI) is being released by the California Highway Patrol (CHP), Communications Centers Support Section (CCSS). This RFI is not a solicitation. This RFI is meant to survey the marketplace to understand what products or services may be available and to approximate the dollars that may be needed for future procurement(s). The intention of this RFI is to aid the CHP in determining what is currently available in the marketplace based on the project objectives and requirements as described within this document. Additionally, the CHP would like to validate information and functions for possible future solicitations.

1.1 Overview

The purpose of this RFI is to solicit information, suggestions, best practices, and cost estimates for the technical resources needed to configure, deploy, and maintain a Computer Aided Dispatch (CAD) and Mobile system for the CHP Communication Centers (CCs) and field personnel. As mentioned, the intent of this RFI is not to select a proposed solution or vendor. This request is being conducted as part of the CHP's business process review and market research efforts to acquire the necessary information on available CAD and Mobile system technology and program related services.

To further inform this effort, the CHP is requesting information from vendors about their ability to meet the proposed project requirements and to provide CHP with Rough Order of Magnitude (ROM) budgetary estimates. Additionally, the CHP is requesting information from vendors regarding potential modifications and improvements to the proposed project scope and requirements that may better align with the CHP's project goals.

The CHP intends to research Commercial-Off-The-Shelf (COTS) based CAD and Mobile application software and associated hardware, as well as potential cloud-based or hybrid options, for operation over the Department's established network infrastructure. Hereafter, the term "CAD system", will include the Mobile application, and shall refer to the integration, installation, training, and system testing of hardware and software, including message switch hardware and software, along with all documentation. The system will be utilized at the twenty-four (24) CHP CCs located throughout California, two (2) CCs utilized by the California Department of Parks and Recreation (DPR), two (2) CHP Academy/Training Centers, two (2) Mobile Command Centers and (4) four non-co-located Traffic Management Center (TMC) facilities utilized by the California Department of Transportation (Caltrans).



The CHP is interested in having one single CAD solution with no dependency on a middleware solution for remote access in the future. The CHP would like the CAD system to have 99.999% availability with no downtime during routine maintenance. The CAD system shall provide an efficient dispatching process, accurate map locations, Next Generation 9-1-1 (NG9-1-1) compatibility, a robust reporting system, and advanced data analytics features. Additionally, the CHP would like a fully operational CAD system while in Disaster Recovery (DR) mode and CAD-to-CAD interface options with other allied agencies. The DR system shall also be updated in real time with each data transaction.

As part of the RFI process, collected information provided by the vendor community may be used to develop or identify solution alternatives, specifications, and/or cost estimations necessary to acquire systems, solutions, and/or software. The CHP is asking for cost estimates to be broken down into specific component categories where possible. The CHP understands that data provided in this RFI may not be sufficient to enable detailed analysis and costing by vendors. Please provide your best advice based on your experience with other organizations and initiatives of this kind. Responses to this RFI should adhere to the questions listed in the included worksheets. Also, please include estimates for items that may need to be sourced to third party vendors if those items fall outside of your organization's lines of business.

Additionally, in this RFI the CHP is asking vendors targeted questions related to the overall implementation and design of a CAD and Mobile system to ensure an environment that effectively supports the required CAD environment. Thus, the CHP has prepared a supplemental questionnaire (Worksheet B-Questionnaire) related to the program concepts discussed in this RFI to obtain feedback from the vendor community on ways that CHP can improve a potential solicitation and to better understand the current capabilities that vendors possess related to the implementation of an enterprise level CAD and Mobile system.

The design of the proposed technical environment must consider the high-level technical needs of a modern CAD system. Vendors are invited to describe potential products and solutions and to suggest strategies to help the CHP in deciding if a Commercial Off the Shelf (COTS), Modified Off the Shelf (MOTS), or integrated product set (i.e., integration of multiple products), would best address the required functions described in this RFI. Consideration should be given to all available software, platform, and infrastructure as service options (e.g., on-premises, cloud-based or a hybrid solution), as well as any available COTS solutions that could be used. Multiple products or solutions may be described in the RFI response.

Completion of this RFI shall be performed at no cost to the State of California or the California Highway Patrol. The intent of this RFI is solely for information and planning purposes and does not constitute a solicitation. **A contract will not be awarded based on this RFI.**

Please read this RFI document thoroughly and adhere to the response submission guidelines.



1.2 Key Action Dates

Listed below are the RFI Key Action Dates and times (all times noted are Pacific Time) by which actions should be taken or completed.

Event	Date / Time
Release RFI	March 15, 2023
Last Day to Submit Questions Due	March 22, 2023, by 10:00 a.m. PT
Release of Answers and/or Addenda	April 7, 2023
RFI Response Due Date	May 1, 2023, by 12:00 p.m. PT
Confidential Discussions/Product Demonstrations	May 31, 2023
Completion of RFI Process	June 30, 2023

1.3 Contact Information

Vendors must submit their written response via e-mail to the State contact listed below:

Contact: Communication Center Support Section (CCSS)

Agency: California Highway Patrol

Email: CCSS@chp.ca.gov

Respondents are directed to submit questions or clarification inquiries in writing in accordance with the instructions detailed in RFI Section 1.6, Submission of Questions. No other representative of CHP is authorized to communicate with respondents with respect to this RFI.

1.4 Submission of Questions

Vendors must submit questions about this RFI, via e-mail, by the specified date and time stated in the Key Action Dates to the email contact stated in Section 1.3, Contact Information.

What to Include in an Inquiry?

1. Include in the subject line of the e-mail: **RFI_CHP_CAD_2023**, and "Question(s)."
2. Vendor name and contact, telephone number, e-mail address.
3. A description of the subject or issue in question, or discrepancy found.
4. RFI section, page number, or other information useful in identifying the specific problem or issue stated in the question.
5. All questions will be responded to in writing (via e-mail) to all parties that have expressed an intent to respond to the RFI.



Questions will be compiled without identifying the party submitting the question(s), and answers will be emailed to all companies who receive this RFI. Questions not submitted via email by the Key Action Date specified above shall be answered at CHP's discretion. Responses to questions submitted timely will be provided to all Vendors.

1.5 Vendors Declining to Respond

The CHP is interested in learning the reason(s) a vendor chooses not to respond to this RFI. If applicable, please submit an email to CCSS@chp.ca.gov by the Response Due Date and include in the subject line of the email: **Declining to Respond to RFI_CHP_CAD_2023** in addition to the following in the email body:

- i. RESPONDENT's NAME has declined to respond RFI_CHP-CAD for the following reason(s):
 - o Reason A
 - o Reason B, etc.

- ii. Name of person sending declination:
 - o Title:
 - o Legal Business Name:
 - o Address:
 - o Phone:

1.6 RFI Response Instructions

- Responses to this RFI must be submitted to the email address listed in Section 1.3. Acceptable formats include MS Word and/or an Adobe .pdf (searchable). Please include the following in the email: submission:
 - o **Subject line:** RFI_CHP_CAD_2023
 - o **Contact Information:** Name, Title, Address, Phone Number, and E-mail address of the primary contact person for the RFI.
- Vendors should respond to all applicable information using the following Attachments:
 - o **Attachment A (Worksheet-A, Worksheet-B):** Vendor/Respondent Profile and Information Form, Questionnaire
 - o **Attachment B:** Rough Order of Magnitude (ROM) Cost Estimate
- Responses must be submitted by the date and time stated in the Key Action Dates.
- Vendors must submit a signed cover letter with their response to the RFI that also includes a statement by the individual certifying the information in the response is true and accurate to the best of his/her knowledge at the time of submittal.

1.7 Cost Information

- As previously stated, the CHP is requesting ROM cost estimate information from all RFI respondents. The CHP understands that the cost estimates provided are non-binding and will be used for informational and project budgeting purposes only. Vendors are encouraged to provide a general cost value (or range of costs) for each product or solution identified in the RFI Response.



- Instructions for completing cost information can be found in Attachment B, Rough Order of Magnitude (ROM) Cost Estimate.

1.8 Product/Solution Demonstration

Respondents to this RFI and ROM may be asked to conduct software demonstrations of their proposed CAD and Mobile solutions. Demonstrations will be scheduled according to the timeline in Section B (Key Action Dates) and meeting invitations, demonstration scenarios, and questions will be provided to demonstration participants in advance.

1.9 RFI Disclaimer

This RFI is strictly informative for the CHP, and it is not a competitive bidding process. The CHP is under no obligation to vendors in any manner whatsoever. Neither this RFI nor any information provided by any vendors hereto shall be deemed to create any legally binding agreement or obligations upon the CHP. A response to this RFI is not an offer and cannot be accepted by the CHP to form a binding contract. This RFI is solely designed to provide the CHP with meaningful information to assist the CHP with developing or identifying solution alternatives, specifications, and/or cost estimations necessary to acquire systems, solutions, or software.

This RFI does not constitute a solicitation and responses to the RFI will not be returned. Vendors are solely responsible for all expenses associated with responding to this RFI. The CHP is not responsible for any expenses associated with responding to this RFI. The CHP may consider vendor responses in developing specifications and requirements for development of the future solicitations for the CAD system, such as, but not limited to, Request for Quotation (RFQ), Invitation for Bid (IFB), Request for Proposal (RFP), or other action.

The submission of a response does not constitute any commitment on the part of the vendor; however, the vendor agrees that the submitted information is correct to the best of the vendor's knowledge. Also, the right to compete in future procurements is not affected if a vendor chooses not to submit a response to this RFI. The CHP is also interested in learning the reasons for not submitting a response and may reach out to vendors who did not submit a response in this regard.

Vendors are advised that all documents submitted in response to this RFI will become the property of the State of California and will be regarded as public records under the California Public Records Act (PRA) pursuant to Government Code Section 6250 et seq. and subject to review by the public. The intent of this RFI is to validate project objectives and requirements for potential future solicitations. **Please do not include any confidential or proprietary information in responses to this RFI as it may be disclosed or be subject to the PRA.**

Preliminary Solution Requirements: Note that the requirements listed in this RFI are preliminary and may not represent all requirements eventually determined for this system. They are included in this RFI for informational purposes only to provide additional context and promote subsequent questions and clarifications.



1.10 General Provisions

The following terms and conditions, or their successor, will be incorporated into any solicitation resulting from this RFI. The State will not modify these terms and conditions. The following General Provisions are not included in hard copy but may be viewed at the website link provided below:

CLOUD COMPUTING SPECIAL PROVISIONS FOR SOFTWARE AS A SERVICE (SaaS):

https://www.dgs.ca.gov/-/media/Divisions/PD/PTCS/OPPL/CLOUDCOMPUTINGSERVICESPECIALPROVISIONS_18_0301.docx?la=en&hash=D15B144C86A54D492E4E19AE810F7F35EA8D171F

TELECOM GENERAL PROVISIONS:

[General Provisions eVAQ 09192019 FINAL \(ca.gov\)](#)

2. Project Description

2.1 Background

The CHP is a statewide law enforcement agency that employs more than 10,000 personnel (approximately 7,600 uniformed and 3,300 non-uniformed). The Department's primary jurisdiction is all State of California buildings, the unincorporated roadways, and all freeway systems in California; however, the CHP takes appropriate enforcement action statewide. The uniformed personnel patrol more than 106,000 miles of roadway and each year the CHP's more than 2,500 patrol vehicles (enforcement vehicles) and more than 400 motorcycles log millions of miles.

The mission of the CHP is to provide the highest level of Safety, Service, and Security to the people of California every day. This includes not only patrolling the roadways, but protecting the state infrastructure such as state buildings, the California Aqueduct, and the power grid. The CHP also provides security protection for the Governor, state constitutional officers, State Supreme Court Justices, Appellate Courts, and various dignitaries.

In 2012, the CHP finished the statewide implementation of the current statewide CAD system. In 2014, the Department of Parks and Recreation and the Department of Fish and Wildlife were added to the CHP CAD system as two additional, and fully operational, law enforcement dispatching agencies.

To prepare for a possible procurement of a replacement CAD system, the CHP is releasing this RFI to understand what is available in the marketplace to obtain the next generation CAD system given the size, scale, complexity, and statewide geographical needs of the CHP.

2.2 Operational Objectives

- i. **One CAD:** Currently, the CHP CAD is divided into four (4) geographic (and Divisional) CAD "Hubs". Each Hub utilizes its own independent CAD system. The four Hubs are interconnected with CAD-to-CAD interfaces that allow incidents to be transferred from one Hub to another Hub; however, the four (4) Hub concept creates problems when patrol units work across Hub boundaries and messages need to traverse to CCs in other Hubs. Although the four (4) Hubs in the current CHP



- CAD solution work satisfactorily, the CHP is interested in having one single CAD solution in the future.
- The CHP will also consider a cloud-based or hybrid cloud CAD solution that can provide sub-second data availability, as well as advanced reporting and analytics capabilities to assist the CHP with optimizing resource allocation and increasing operational efficiency.
 - ii. **Eliminate Remote Access to the CAD:** Currently, the CHP CAD solution uses Citrix for remote access from each CC to the CAD servers at each respective Hub. For example, the CAD servers housed at the CHP Headquarters Data Center support a Hub with ten (10) CCs spread throughout northern California.
 - The Citrix solution typically provides acceptable response times at each hub, but it causes complexities when users log-on, and when CAD application patches are applied (and CHP experiences longer downtime as Citrix images are updated). The CHP is interested in a CAD solution that will eliminate the dependency of a middleware solution for remote access to a single statewide CAD system.
 - iii. **Solution Uptime:** The current CHP CAD solution involves extensive downtime for CAD application upgrades, critical Microsoft software patches, Citrix image updates (commonly referred to as refreshes), and other maintenance activities. The CHP would like the CAD system to have 99.999% availability with no downtime during routine maintenance.
 - iv. **Efficient Dispatching Process:** The CHP would like a CAD system that can streamline and optimize dispatching workflows that are consistent with the CHP operational needs. For example, the CHP would like the CAD system to streamline call entry and dispatching workload, thereby reducing emergency call processing times and allowing call-takers to focus more intently on their interactions with reporting parties and radio dispatchers to concentrate on dispatching duties such as maintaining updated unit statuses.
 - v. **Accurate Map Location:** The CHP would like a CAD system with embedded Geographic Information Systems (GIS) functionality that is kept updated with industry standard GIS versioning to enable increased accuracy of incident locations and with geo-rule capabilities to auto-fill related incident information (e.g., Tow-Zone, fire district responding, and incident locations). The CAD system requires the use of geo-validation, buffers, Geo-Fencing, and other GIS-based tools; additionally, robust searching functionality using GIS data is essential. The CHP's jurisdiction is mainly the California highway system and many roadways do not contain street addresses. This makes it difficult for a 9-1-1 Call Taker to identify the accurate location of an incident. The CHP would like to understand how respective vendors can solve this issue.
 - vi. **Next Generation 9-1-1 Compatible:** The CHP would like an NG9-1-1 compatible CAD system that supports NG9-1-1 data streams (e.g., text, image, video) integration into the call processing workflow, standard interfaces, and conveyance formats from/to 9-1-1 call handling and other systems and applications.
 - vii. **Robust Search and Reporting Capability:** The CHP is interested in a CAD solution that can facilitate decision making processes through enhanced statewide statistical reporting, GIS spatial queries, the use of dashboards, ad hoc/custom reporting capabilities and user-friendly data extraction methods. Additionally, the CHP would like a CAD solution that provides robust, intuitive search functionality and system health monitoring and reporting.
 - viii. **Advance Data Analytics Features:** The CHP is interested in a CAD system that can provide advanced crime detection and crime analysis capabilities (e.g., spatial analysis of event data with heat density mapping) and the ability to process large amounts of data using advanced reporting tools (e.g., SQL Server Reporting Services).



- ix. **Communication with other Allied Agencies:** The CHP would like a CAD system that enables communication with other public safety agencies within the State of California through the implementation of a CAD-to-CAD interface to improve process and data integration with the allied agencies.
- x. **Disaster Recovery:** The CHP is seeking a solution with a mission-critical system architecture, including all applicable interfaces, for full operation in Disaster Recovery (DR) mode. The CHP would like a CAD system with hot stand-by DR capability or, if available, a high availability (HA) DR environment.
- xi. **CAD Mobile Application for Chain of Command:** The CHP desires a smart phone and computer tablet based Mobile application for Commanders and Executives to access the real-time CAD information (e.g., special details, hazard/caution information, unit location) on their smart phones or tablets without logging into a CAD or Mobile workstation.

3.Current Environment

The CHP's current CAD solution (consisting of four (4) disparate CAD systems) is large and complex. In summary, the current CAD solution has:

1. Four CAD systems that provide call taking and dispatch functionality for the following agencies:
 - a. California Highway Patrol (CHP)
 - b. Freeway Service Patrol (FSP)
 - c. California Department of Parks and Recreation (DPR)
 - d. California Department of Fish and Wildlife (DFW)
2. About five hundred sixty (560) CAD workstations (mostly thin client and some thick clients)
3. Twenty-six (26) CCs, two training centers and four (4) non-co-located TMC locations.
4. Thirty-two hundred (3,200) patrol vehicles and motorcycles (the CHP currently has approximately 2,500 patrol vehicles in service).
5. A centralized and aggregated browser-based reporting system for CAD data from all four Hubs, commonly referred to as the Central Reporting System (CRS), which is maintained by the CHP.
6. To meet CHP protocol, the CHP dispatchers use a feature in CAD to document and query hospitalized, or incarcerated subjects related to CHP incidents. These entries are also transferred to the CRS for queries from users in other Hubs.
7. Approximately 4.5 million street segments which includes all California streets and a 50-mile buffer around California.
8. Tens of thousands of address-points and premise records to denote commonly used intersections, points of reference, common place names, etc.
9. Four (4) Production CAD systems, four (4) Disaster Recovery (DR) systems, four (4) Training systems, one (1) Testing system, one (1) Development system for a total of thirteen (13) individual systems.
10. A statewide CLETS/NCIC message switch supplied by Level II Inc that facilitates on-line access to the Criminal Justice Information System (CJIS), the Department of Motor Vehicles (DMV), the National Law Enforcement Telecommunications System (NLETS), and the National Crime Information Center (NCIC). This Interface is also used to transmit administrative messages with other criminal justice agencies.



3.1 Number of CAD Workstations and Locations

Currently, with the four (4) Hubs that are in operation, about two hundred (200) of the CAD workstations are located at the same physical location as their CAD servers, so they are referred to as “thick clients”, which do not require the use of Citrix. The rest of the CAD workstations currently use Citrix and are referred to as “thin clients.”

The CAD locations and workstation counts are shown below:

Communications Center	Total Workstations Required	Client Type
Bakersfield	14	Thin
Bishop	5	Thin
Barstow	7	Thin
Border (San Diego)	35 (Includes 5 TMC*)	Thin
Capitol (State Capitol)	7	Thin
Chico	20	Thin
El Centro	5	Thin
Fresno	13	Thin
Fresno (TMC Positions)	2	Thin
Golden Gate (Vallejo)	59	Thick
Golden Gate (TMC Positions in Oakland)	12	Thin
Humboldt	5	Thin
Indio	11	Thin
Inland (Fontana)	50 (Includes 5 TMC)	Thick
Los Angeles	78 (Includes 10 TMC)	Thick
Merced	10	Thin
Monterey	10	Thin
Orange County (Irvine)	25 (Includes 6 TMC)	Thin
Redding	6	Thin
Redding (TMC Positions)	1	Thin
Sacramento (Rancho Cordova)	44 (Includes 7 TMC)	Thin



San Luis Obispo	9	Thin
San Luis Obispo (TMC Positions)	2	Thin
Stockton	17	Thin
Susanville	5	Thin
Ukiah	4	Thin
Ventura	14	Thin
Yreka	6	Thin
Academy North	16	Thin
Academy South	16	Thin
HQ -Admin	16	Thin/Thick
NORCOM (DPR)	16	Thin
SURCOM (DPR)	16	Thin
TOTAL POSITIONS	556	

*TMC- Traffic Management Center Positions for Caltrans users

All CCs listed in the above table are either CHP or Caltrans locations, except NORCOM and SURCOM, which are DPR CC locations. Additionally, the Mobile CAD software runs in approximately 3,200 patrol vehicles and motorcycles, which are spread throughout California.

3.2 Workload Volume

This table provides the current monthly average incident volume at each CC in 2022:

Communications Center	Monthly Average Incident Volume
Bakersfield	13,057
Bishop	9,799
Barstow	3,174
Border (San Diego)	41,227
Capitol (State Capitol)	10,913
Chico	22,380
El Centro	2,780
Fresno	20,035



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Golden Gate (Vallejo)	80,138
Humboldt	4,097
Indio	10,953
Inland (San Bernardino)	52,993
Los Angeles	106,120
Merced	13,455
Monterey	12,254
Orange County	23,409
Redding	4,532
Sacramento (Rancho Cordova)	41,464
San Luis Obispo	6,057
Stockton	12,966
Susanville	6,101
Ukiah	3,065
Ventura	10,579
Yreka	1,665
NORCOM (DPR)	4,594
SURCOM (DPR)	4,559
Total	52,2369

This table provides the current highest incident volume **on a given day** at each CC in 2022.

Communications Center	Highest Incident Volume
Bakersfield	646
Bishop	250
Barstow	519
Border (San Diego)	1,970
Capitol (State Capitol)	662



Chico	304
El Centro	220
Fresno	928
Golden Gate (Vallejo)	3,889
Humboldt	224
Indio	578
Inland (Fontana)	2,521
Los Angeles	4,574
Merced	694
Monterey	721
Orange County (Irvine)	1,252
Redding	250
Sacramento (Rancho Cordova)	2,424
San Luis Obispo	313
Stockton	652
Susanville	489
Ukiah	165
Ventura	564
Yreka	159
NORCOM (DPR)	392
SURCOM (DPR)	424
Total	25,766

* Depending on the architecture, CHP Headquarters (HQ) may still require access to all incident records.

3.3 Number of CAD Systems (Hubs)

Currently, the CHP CAD is divided into four (4) geographic (and CHP Division) CAD Hubs. Each Hub operates with an independent CAD system and are interconnected with CAD-to-CAD interfaces. Today the four CHP Hub locations where the CAD servers are located are:



1. Hub 1: CHP HQ in Sacramento (covers CHP HQ, Protective Services Division and the CHP Northern and Valley Divisions)
2. Hub 2: Golden Gate Communications Center in Vallejo (covers the Golden Gate and Coastal Divisions)
3. Hub 3: Los Angeles Communications Center in Los Angeles (covers the Southern and Central Divisions)
4. Hub 4: Inland Communications Center in Fontana (covers the Inland and Border Divisions)

3.4 CAD Users

Although current staffing levels in the twenty-four (24) CCs is about eight hundred (800) dispatchers, the CHP is allotted for nine hundred twenty-two (922) full-time dispatchers. In addition to Dispatchers, the CHP is allotted for one hundred forty-seven (147) Dispatch Supervisors between the twenty-four (24) CCs, thirty (30) CAD coordinators (one to two at each CC), and approximately thirty (30) technical staff (application administrators and GIS specialists) and all will need to be trained on a new CAD system.

3.5 Agencies

The CHP maintains the CAD systems for four independent “agencies” at each CAD Hub. The four agencies are:

- CHP – managed by CHP dispatchers.
- Freeway Service Patrol – managed by CHP dispatchers.
- Department of Parks and Recreation – managed by DPR dispatchers
- Department of Fish and Wildlife – managed by DPR dispatchers

3.6 Interfaces

The CAD solution has the following interfaces:

1. The four (4) Hubs are all interconnected through CAD-to-CAD interfaces that allow CHP personnel to transfer incidents, exchange messages, and share responsibility for officers that are moving between the Hubs (e.g., vehicle pursuit).
2. Each of the four (4) Production CAD systems and the single Test system have Mobile interfaces to support the current thirty-two hundred (3,200) Mobile licenses.
3. The San Francisco Bay Area Freeway Service Patrol (FSP) has an electronic custom interface to their FSP system. Currently, the CHP is implementing a second interface in San Diego for the FSP; however, it is a standard interface with the vendor and not a custom interface. These interfaces allow the CHP dispatchers to assign FSP tow trucks through the CHP CAD system or the FSP truck drivers to self-assign to new incidents.
4. Automated Vehicle Locator (AVL) for all mobile users to display the current geographical location (latitude/longitude) and vehicle speed of the patrol unit in CAD and to other Mobile users.



5. The CHP maintains several external and internal traffic xml data feeds for public information referencing current calls for service - <http://cad.chp.ca.gov/>
6. Twenty-four (24) E9-1-1 ANI/ALI (Automatic Number Identifier / Automatic Location Identifier) Interfaces (CHP currently uses the Motorola Vesta E9-1-1 workstations).
7. CLETS/NCIC interface. CHP has a direct connection to the California Department of Justice via a single statewide Message Switch provided by Level II Inc.
8. Interface to the In-house SQL based CRS database maintained and supported by CHP.
9. The current interface to the Mark43 cloud-based Records Management System (RMS) system is via the CRS and not from the CAD system.

3.7 Mobile Users

The CHP has more than six thousand (6,000) users currently utilizing the Mobile software, using both patrol vehicles and motorcycles (using tablets).

- A. The CHP currently has thirty-two hundred (3,200) concurrent use Mobile licenses for the Department's approximately twenty-five (2,500) Mobile computers and five hundred (500) Mobile tablets.
 - i. Although several different brands are used for Mobile laptops and tablets, all computers utilize the Microsoft Operating System (OS) and are currently on a version of Windows 10.
 - ii. The CHP relies heavily on AVL to track the location of all mobile users, and all AVL updates are transmitted to CAD via a cellular network.

3.8 Non-CAD CLETS Users

The CHP has approximately seventy-one hundred (7,100) users in more than a hundred (100) CHP facilities located throughout the state who utilize vendor supplied "fill-in-the-blank" type entry forms for CLETS/NCIC queries, entries, and updates using "administrative workstations". These users currently use a standalone application called "WebWS" provided by Level II for this functionality; however, a similar feature that is included as part of a new CAD and Mobile system may be of interest to the CHP.

3.9 CLETS Usage

The CHP uses internal mnemonics, unique for each device, and external or CLETS Mnemonics, pooled by device type and location, as well as associated Originating Agency Identifiers (ORIs) to build CLETS queries sent to the Department of Justice. For "unsolicited" messages the CHP receives from other agencies, the message switch tracks which device will serve as the default to route the unsolicited message. The CHP centrally manages approximately:

- 10,000 internal mnemonics
- Seven hundred external (pooled) CLETS mnemonics



- Three hundred ORIs

3.10 Geodata

The Geographic Information System (GIS) data supporting the CHP CAD system is voluminous, and includes approximately 4.5 million street segments, plus a 50-mile buffer area in Arizona, Nevada, and Oregon. The CHP maintains statewide layers of GIS data that are currently accompanied by a Tom-Tom provided base layer centerline street map. The CHP, DPR, and DFW maintain the following custom GIS CAD layers:

1. Allied Agency Lines - Line
2. Allied Agency Zones - Polygon
3. Beat Lines - Line
4. Caltrans post-mile markers - Line
5. CCTV - Point
6. CHP Areas (Beats) - Polygon
7. CHP Locations - Point
8. CHP Tow Zones (throughout the entire state) - Polygon
9. CHP, DPR, and DFW address points (common places) - Point.
10. Cities - Polygon
11. Counties - Polygon
12. DFW areas - Polygon
13. DPR parks - Polygon
14. EMS - Polygon
15. EMS lines - Line
16. Fire - Polygon
17. Fire lines - Line
18. FSP Beats - Line
19. FSP Response Area - Polygon
20. Railroads - Line
21. Road Maintenance Lines - Line
22. Road Maintenance Zones - Polygon
23. Streets - Line
24. Tow lines - Line
25. Water bodies - Polygon
26. Water - Lines
27. Zip codes – Polygon
28. Land Use – Polygon

With the CHP CAD system divided across four (4) Hubs, the GIS data is also divided to create custom maps for each Hub. The overlapping maps for each Hub cover portions of the adjoining Hubs; additionally, for each Hub, unique mobile maps are created and maintained including light/dark (day/night) versions being loaded on each mobile device for offline use (the offline maps offer geocoding and user configuration functionality).



3.11 Tow Rotation

The CHP has two thousand one hundred seventy-four (2,174) towing companies engaged as service providers across the entire state. Each CHP area command has established one or more tow districts (zones) within each area of command. Towing zones may have the same geographical boundaries as police beats, but a tow zone may also include more than one beat within its boundary. There are one thousand two hundred eighty-six (1,286) tow zones, and the CAD system contains a roster of towing companies allowed to provide rotational tow services in each tow zone per tow category. A tow company may provide service in more than one tow zone. The average daily rotational tow volume is nine hundred twenty (920) tows across the entire state.

Within the current CHP CAD system, there are lists of distinct rotational tow vehicle categories for various classifications incorporated into each tow zone's roster of rotational towing companies. There are twelve (12) categories of vehicles included in the CHP CAD rotation tow company rosters as follows:

- i. AAA Tow
- ii. CHP Tow (CHP Rotation Towing System)
- iii. Evidence Tow
- iv. Heavy Tow
- v. Junk
- vi. Light Tow
- vii. Medium Tow
- viii. Off-Road – 4x4
- ix. Off-Road Tow
- x. Other
- xi. Super Heavy Tow
- xii. Salvage

3.12 Disaster Recovery (DR)

Each CHP Hub has a warm-stand-by system running in another CHP Hub for DR purposes. The CHP CAD data is replicated to its DR Hub, so no data is lost transitioning to DR and back to Production.



Worksheet A - Vendor Profile

Company/Firm Legal Name:

1. List all alternative business names used by this vendor, including but not limited to fictitious business names. If not applicable, write "N/A".
-

2. Business address (Street, City, State, Zip) for number 1 above.
-

3. Name and title/position of the individual submitting the response for number 1 above.
-

4. Is number 3 an owner or employee of number 1? Check one:

- YES** If you checked "Yes", continue to number 6 below.
- NO** If you checked "No", stop. Do not continue and do not submit a response for the entity in number 1 above.
-

5. Contact information including a telephone number(s) and email address for number 4 above.
-

6. In bullet format, very briefly describe company's products and/or services focus.

- A. Products
 - B. Services
-

7. In bullet format, list and briefly describe the projects and/or activities the company was engaged within the last ten (10) years that are like the project description and CHP size identified in the RFI, Section II, Project Description.
-



Worksheet B- Questionnaire

Respondents shall provide detailed information on the following sections. Each section and sub-section must have a separate response, and responders are encouraged to provide a level of thoroughness that will enable the CHP to achieve the RFI objectives.

I. System Description

- a. **CAD System Overview-** Include a brief description of the following features of your standard system:
 - i. General description of the CAD system
 - ii. Standard CAD/Mobile/GIS/CLETS interface options
 - iii. Data retention options (include automated purging options)
 - iv. Hardware/software requirements
 - v. Cloud integration (if available)
 - vi. Standard implementation plan for CAD and Mobile applications
 - vii. Resilience (e.g., average uptime)
 - viii. System Status/Monitoring/Alarm Reporting

- b. **Mobile Functionality-**Include a brief description of the following features of your standard system:
 - i. Event based notifications, including for “Hot” hits and high priority CLETS returns
 - ii. Viewing of Incidents
 - iii. Interactions with active incidents, including status changes, adding comments, self-dispatching, etc.
 - iv. Multimedia upload options
 - v. Search Options
 - vi. Mobile Mapping features
 - vii. “11-99” Functionality - button activated emergency notification to all CAD and Mobile users from an officer’s Mobile computer/tablet or hand-held radio.

- c. **GIS Functionality-** Include a brief description of the following features of your standard system:
 - i. In-map search options
 - ii. Map for CAD and Mobile with Routing/Navigation
 - iii. Spatial geo-rules integrated into the CAD system.
 - iv. Map speed for navigation functionality
 - v. Data maintenance process and frequency
 - vi. Map functionality in the offline mode for both CAD and Mobile

- d. **CLETS/NCIC-** Include a brief description of the following features of your standard system:
 - i. User Interface (UI) for CLETS transactions
 - ii. User configurable functionalities (e.g., creating CHP specific CJIS inquiries, creating custom command lines, creating new CLETS forms for users).
 - iii. CLETS Auditing capabilities.



- e. **CAD Functionality-** Include a brief description of the following features of your standard system:
- i. Incident creation
 - ii. Incident linking and appending (such as for related incidents). How is the data from the multiple incidents retained within the primary/working incident?
 - iii. Alerts (including task assignments to other users)
 - iv. Search features (e.g., comment searches)
 - v. Reporting
 - vi. Custodian of Records functions (compilation of all data related to an incident to respond to subpoenas and PRA requests).
 - vii. Command Line Functionality
 - viii. Instant Messaging (Chat)
 - ix. Messaging (Mail)
 - x. Role Based Permissions
 - xi. Rolodex Functionality
 - xii. Change History Logging for Incidents
 - xiii. User Activity Logging
 - xiv. User's ability to access specific CAD data on a CAD UI for their specific area of responsibility for their assigned CC. This is particularly important for a CAD system that will cover an exceptionally large geographical area (entire State of CA) with users working in different CCs throughout the state.
 - xv. Options for searching for persons of interest, such as for persons that have been hospitalized or incarcerated
- f. **Tow Provider Rotation:** Include a brief description of the following features of your standard system:
- i. Management of tow rotations; By Tow Zones, Tow Company, Tow Category.
 - ii. Tracking 'Skipped' tow company: 'Fault' and 'No Fault' impact on the rotation list
 - iii. Tow Reporting: Include all standard Tow rotation reports such as 'skipped' tows.

II. General Questions

- a. Please describe if the proposed solution is a COTS, MOTS or an integrated project set that would best address the required functions described in this RFI.
- b. Given the number of dispatchers and mobile users, the high number of incidents entered per day and the size of the map data required for a single statewide CAD and Mobile solution, can your CAD and Mobile system be a "One CAD, One Hot Standby" system solution for the CHP?
- c. Can your CAD solution avoid the issues CHP experiences with CCs not co-located in the same facility as the CAD server environment? How would your CAD solution handle geographically dispersed CCs across the entire State of California in a single system?
- d. The current CHP CAD solution uses premise-based servers and storage. In the time between the last competitive CAD procurement and the next competitive CAD procurement, cloud computing has risen in prominence and has proven to avoid operational complexities like server upgrades. However, cloud-based solutions are also a concern for systems that require levels of security that



meet the Federal Bureau of Investigation's CJIS standards. If your CAD solution includes a cloud component, how would you address the myriad of CJIS, and other security requirements associated with CAD data and the CLETS /NCIC access?

- e. Please describe how your solution would avoid system downtime for CHP (both scheduled, such as for software upgrades and non-scheduled).
- f. Are CLETS/NCIC masks included as standard software? If so, how many? The CHP currently uses 52 pre-formatted masks and 81 command line based CLETS queries provided by the CAD vendor.
- g. Please provide a copy of your optional and standard Service Level Agreement (SLA), or equivalent as well as your current End User License Agreement (EULA).
- h. Please highlight any unique strategies or capabilities that you would provide to make your proposal responses successful.
- i. Please describe the system architecture of your CAD system which includes Mobile, Cloud (if applicable), and Data Center components.
- j. Please provide the future product roadmap for your proposed CAD and Mobile system.

III. Geographic Information Systems (GIS)

- a. How does the CAD system manage location searches within California plus the 50-mile buffer around the state, including providing accurate incident locations to calls for service without addresses?
- b. The CHP utilizes 'line beats' which are stretches of freeways the CHP officers patrol in association with the Area beat. How does your system handle line beats vs. Area beats?
- c. Can line segments, such as on-ramps and off-ramps and mile markers, be used for searches?
- d. Are map directional indicators like N, S, E, W, which are part of a street name or intersection, available in the location search?
- e. How does the geo-verification and address look-up queries limit search returns to prevent bloated results, to allow users to quickly select the accurate location?
- f. Does your CAD system allow users to filter by community boundaries, CCs, beats or other options to limit and filter the search results?
- g. What web map-like (e.g., Google Map) capabilities does your CAD system provide to the user to find a location? For example, a Google location search helps you in the following ways:
 - I. It allows a user to enter the name of a business and helps you spell it correctly.
 - II. It allows a user to enter the intersection of two streets, helps you spell both streets correctly, and prompts with possible city names.
 - III. It allows a user to type an address and helps the user spell the street correctly and offers city names corresponding to the address.
 - IV. When a location is selected the following is displayed:
 - Streets
 - Building outline
 - Satellite view of the area (that rotates perspective)
 - Street view of the location
 - Nearby business
 - Offers directions to the location.



- h. Explain how your CAD system maintains sub-second response time when panning and zooming in and out within a map that includes approximately 4.5 million street segments and other datasets required by the CHP.
- i. At any one time, over 800 patrol vehicles' AVL data will be updating the CAD and Mobile systems continuously. How does your CAD and Mobile solution prevent resolution and refresh rate issues with the maps to continuously show the correct location of all patrol vehicles throughout the state?
- j. What are your GIS data and map requirements? What formats, schema, server, desktop, and mobile hardware are required vs preferred?
- k. The CHP currently utilizes TomTom for centerline street data. Is there a preferred/required source of GIS base data for your CAD system and why?
- l. Can the CAD maps use map services like ESRI Street Premium, live datasets like the Modis hot spots, earthquakes, areas requiring tire chain controls, or other open GIS data?
- m. What is the size limit on the GIS data or maps? Does your CAD software require CHP to purchase/maintain other software licenses or hardware to support the necessary GIS functionality? If yes, what are the version, hardware, and software requirements (e.g., ESRI Enterprise with Navigation etc.).
- n. Are integrated spatial geo-rules like "Point in Polygon" used to auto-fill necessary GIS related information such as response boundaries, Fire, EMS boundaries, Tow-Zones, etc.?
- o. Can current incident data be created or retrieved from the map? Can map based queries of historical incidents and information be displayed on the CAD map solution?
- p. How does your CAD solution facilitate simple GIS data maintenance (i.e., is real-time data editing available)?
- q. How are GIS issues reported or documented to your organization?
- r. Will incident-linked GIS data be archived for historical reference?
- s. How does your CAD solution maintain/access the mobile maps?
- t. Can users save their user specific map settings for both CAD and Mobile?
- u. How does your CAD system handle elevation, such as Z-level and vertical location data for overpasses and floor levels?
- v. How does your CAD system handle the geo-verification of intersections?
- w. Does your CAD system allow dispatchers to manage or edit the custom layers (e.g., Street Name Aliases, Common Place Names, Premise Records)?

IV. Customer Service/Support/Maintenance

Please discuss your organization's model for providing customer support including multi-tiered maintenance charges for contacting Customer Support.

- a. Describe your incident/problem reporting and tracking systems, including the ability for authorized customer staff to access those systems directly.
- b. What level of automatic alerting can you provide to CHP's staff in the event of software or hardware failure, degraded service, or exceeded planned utilization?
- c. What is your standard maintenance agreement for providing customer support both on weekdays and after hours (nights, weekends, and holidays)?
- d. What is your standard maintenance agreement for providing administrator training to customers, such as when new CAD and Mobile functionality is released?



- e. Describe your standard process for providing software and hot fix upgrades to customers.
- f. Describe your standard process to resolve critical CAD and Mobile system outages.
- g. Describe your extended maintenance model for support and warranty coverage.

V. Cost and Timeframe

The CHP needs to understand approximately how much your CAD and Mobile solution would cost given the size of the current CHP system (described above), the complexities of multi-facility rollout, and the thousands of CAD and Mobile users that need to be trained. Please estimate the cost of hardware, software, services, and maintenance separately in Attachment B and include the prospective cost to design or put in place a system according to Attachment B. This includes:

- a. Anticipated costs for a complete CAD and Mobile solution and implementation.
- b. Anticipated costs for ongoing maintenance and operations of the system.
 - i. Include any key assumptions used to craft the potential costs.
- c. Expected timeframe needed to deploy the outlined CAD and Mobile system to not exceed the designated costs as defined in the ROM.

VI. Approach and Work Plan

- a. Describe your project implementation approach for providing the installation and configuration of the CAD and Mobile hardware and software, all necessary testing, administrator training, and supporting of all Go-Live events at all locations.
- b. Describe your approach to transition to your CAD and Mobile systems. Include all required deliverables, such as for training over 10,000 users at facilities located across the entire state.
- c. What are the types of issues experienced by your organization in past large-scale CAD and Mobile implementations and how were they overcome?
- d. Describe the CHP's responsibilities, requirements, and supporting efforts needed for meeting your effort and delivery of services.
- e. Describe in detail your company's Disaster Recovery plan, including requirements for as close to zero-downtime as possible.

VII. Event and Administrative Reports

- a. Describe how your CAD solution produces standard reports of individual hardware and network issues, collection of calls, summary of activity logs, GIS concerns and other pertinent information gathered by the system. Additionally, please provide examples of event and administrative reports.

VIII. Security/Cybersecurity

- a. Provide input on the requirements or areas in the attachments. Specifically, CHP is looking for:
 - i) Does your solution allow for Two-Factor/Multi-Factor Authentication for login (both for CAD/Mobile and a Self-Service Portal if utilized)?
 - ii) Describe your security procedures and policies for deploying and updating virus prevention, patch management, antivirus, worm, spyware, malware, other malicious software, and any additional PSAP or system threats.

IX. Compliance

- a. Is your system compliant with current State of California CJIS requirements?



- b. Are your CAD and Mobile systems both FIPS 140-2 and FedRAMP (High) compliant?
- c. Is your system compliant with current NENA i3 standards?

X. System Administration

- a. Provide input on the requirements or areas in the attachments. Specifically, CHP is looking for:
 - i) The security measures in place for your solution to include an Administration Portal, Self-Service Portal, and End-To-End security.
 - ii) Does the proposed solution support integration with the CHP Active Directory (AD)?
 - iii) Does the annual maintenance include supplemental System Administration training?

XI. Reference Checks Criteria Recommendation

The CHP CAD and Mobile solutions are large and complex. The CHP is concerned that smaller scale CAD solutions that have not been used by hundreds of simultaneous users, across multiple statewide/geographically diverse locations, and many agencies, may not perform well enough to meet CHP's need for sub-second response time. Therefore, in the last CHP CAD Request for Proposal (RFP) and in the next CHP CAD RFP, the bidder project references must have at least one reference of a certain size and multiple locations. In the last bid, the CHP set the limit at a minimum of 150 total CAD workstations across multiple sites. Do you think the reference minimum should be more, or less, stringent (i.e., number of workstations and non-co-located sites)?

XII. Solution Procurement Approach and Vehicle

- a. Are there any requirements that would preclude you from competing should an RFP be released? If yes, what suggested changes would allow you to compete?
- b. Are the goods, products, or services you have identified in your RFI response available on a Federal General Services Administration (GSA) or State of CA Leveraged Procurement Agreement (LPA)? If yes, please identify the contract type, name, and number.
 - o If additional hardware (e.g., servers), software or other third-party requirements must be procured by the CHP separately from your proposed CAD solution, please identify the requirements in this response.
- c. What is the model/approach for the license fees for the Vendor Software?

XIII. Vendor Assumptions

What assumptions were made in preparing a response to this RFI?