

**UNITED STATES DEPARTMENT OF AGRICULTURE- UNITED STATES FOREST SERVICE –
REQUEST FOR INFORMATION – COMPUTER AIDED DISPATCH STANDARDIZATION**

The United States Forest Service (USFS), Incident Support Branch is issuing this Request for Information (RFI) as part of their market research and information gathering for the potential purchase of one (1) Standardized Computer Aided Dispatch (CAD) System for interagency use in Wildland Fire and All Hazard Incident Response.

The USFS is seeking specific cost and capability performance information for the purchase of this system. Information sought includes capability to develop and provide a system that meets the minimum requirements stated herein and approximate cost and timeline for providing said CADS system, including site licenses and non-proprietary COTS (customized per customer requirements), at approximately 135 federal government dispatch offices located nationwide.

Interested parties shall provide a response statement addressing each of the 12 categories of requirements identified in the requirements section of this RFI. In addition to information provided as to technical capabilities, interested parties shall provide their Points of Contact, Dun and Bradstreet (DUNS) Number, and their Business Classification. Large businesses should identify that you are classified as a large business. The NAICS code for this is 541512.

This synopsis is for market research purposes only and IS NOT a request for proposal (RFP) nor does it restrict the government as to the ultimate acquisition approach. This RFI is for planning purposes and shall not be construed as an RFP or as a decision or obligation on the part of the government to acquire any products or services. The government will not reimburse respondents for any costs incurred in preparation of a response to this notice.

Scope of Work

The USFS is conducting Market Research as to the practicality of purchasing a CAD system, and to estimate initial development, installation and annual operations and maintenance costs, for a system meeting the minimum requirements cited herein. The CAD system will operate on dispatch consoles in support of interagency wildland fire and all hazard incident response.

CAD Standardization Requirements

Initial Report

1. Initial report function with customizable text fields for information gathering
2. Multiple ways to create an initial report (e.g. from map, from menu, hotkey)
3. Ability to promote an Initial report into an incident
4. Ability to associate multiple initial reports with a single incident

Incident

1. Multiple ways to create an incident (e.g. from initial report, from map, from incident menu, from within an incident).
2. Automatic system check for duplicate incident(s), to include those administered by neighboring dispatch centers. System notifies both dispatch offices of any duplication and provides solutions for conflict resolution.
3. Include the following minimum data elements as required by National Wildfire Coordinating Group (NWCG) to create a record in data exchange environment:¹
 - a. DiscoveryAcres
 - b. DispatchCenterID
 - c. FireCause
 - d. FireCodeRequested
 - e. FireDiscoveryDateTime
 - f. IncidentName
 - g. IncidentTypeCategory
 - h. IncidentTypeKind
 - i. InitialLatitude
 - j. InitialLongitude
 - k. LocalIncidentIdentifier
 - l. POOLatitude
 - m. POOLongitude
 - n. POOProtectingUnit.
4. Additional elements of an incident that require tracking include, but are not limited to:
 - a. Incident command post (ICP), aircraft information, frequencies, incident commander (IC), incident status, financial codes, notifications, resource response, run card information, weather information, incident checklists and log of [IRWIN](#) events;
 - b. Trackable history of acreage throughout incident lifecycle;

¹ References to NWCG data standards and terminology contained in this pre-solicitation document must be adhered to during product development. These are available at www.nwcg.gov/committees/data-management-committees.

- c. Trackable history of coordinates (latitude/longitude) throughout incident lifecycle;
 - d. Incident sizeup: standard and customizable fields in sizeup;
 - e. Incident log: ability to accept manual documentation; ability to accept automatically generated documentation related to resource, timer and notification activities; and
 - f. Contracted/external resources: feature within incident to account for utilization of these resources (e.g. documents the use of dispatch priority lists, turn-down of assignment, reasons for turn-down).
5. Ability to assign multiple incident types in compliance with NWCG event/kind category standards
 - a. Including wildland fire, vehicle fire, prescribed fire, smoke check, law enforcement, medical, aircraft, resource order, search & rescue, HAZMAT, Misc.; and
 - b. Customizable Incident Sub-types.
 6. Multiple methods to determine closest resource response to incident
 - a. Including Automatic Vehicle Location (AVL) with road layer, from dispatch locations with road layer, from dispatch locations with air miles; and
 - b. Ability to view available list of resources with response times.
 7. Multiple ways to assign resources to incident (e.g. drag and drop, from pre-planned response, from map).
 8. Manage resources throughout the lifecycle of an incident
 - a. Resource actions such as committed, responding, on scene, available on scene, returning, released, standby, and cancelled;
 - b. Resource actions are automatically documented, stored, searchable and viewable; and
 - c. Ability to sort incident resources by fields such as status, resource name and resource type.
 9. Ability to divert and reassign resources between incidents
 10. Assign priority to incidents
 11. Ability to create an incident complex record
 - a. Ability to associate/disassociate incidents within the incident complex; and
 - b. CAD system keeps record of associations and disassociations.
 12. Ability to indicate a merged wildfire
 - a. Assign merge date;
 - b. Create relationship between the separate incidents; and
 - c. CAD system keeps record of associations and disassociations.
 13. Ability to associate subsets of the same incident
 14. Ability to manage an incident within an incident (e.g., HAZMAT, medical emergency)
 - a. Associates with the initial incident and has the ability to share resources/information between the incidents;
 - b. Incorporates the [Medical Incident Report \(MIR\)](#) form (fillable within the system);

- c. Sub-types for incident within an incident (e.g., aircraft down, medical, search and rescue) in compliance with NWCG event/kind standards; and
 - d. Closest resource determination of Hospital, Burn Center, Short Haul, Air/Ground ambulances with contact information and locations.
15. Customizable notification lists based on incident location, jurisdictional unit and protecting unit.
 16. Ability to generate, import and manage incident financial codes. This includes generating a financial code, obtaining code through FireCode (IRWIN interface) or manual entry of a code.
 17. Ability to sort and display incidents by various criteria
 - a. Including Priority, Jurisdictional Unit, type, dispatcher, status.
 18. Ability to:
 - a. sort and search incidents (query);
 - b. de-activate incidents;
 - c. re-activate incidents;
 - d. archive incidents (store for historical record); and
 - e. restore incidents from archive.

Mapping

1. System capable of integrating GIS layers provided by the central interagency repository sponsored by NWCG.
2. Ability to override and log derived values into a national system when data is in error.
3. Map has rapid refresh rate, is highly responsive to changes in zoom levels and layer adjustment.
4. Ability to cache web-based maps to operate in off-line mode.
5. Map needs to have high-quality resolution base maps at local, regional and national zoom levels.
 - a. Base maps include but not limited to USGS national map, agency maps, road maps, topography, imagery, and terrain;
 - b. System provides tools to find a location on the map;
 - c. Tools include but not limited to bearing/distance, triangulation, mile markers, latitude/longitude coordinates (all formats), Universal Transverse Mercators (UTMs), legal description, cross-streets, street address, place names database; and
 - d. Ability to import and customize locations (e.g. local place names, lookout towers, airtanker bases, helibases).
6. Capability to display various layers on the map including but not limited to:
 - a. Intelligence (incident status summary at local, geographic and national levels);
 - b. Weather (e.g., weather stations, lightning detection, current weather, forecasted weather, radar, critical weather events, severe weather alerts);
 - c. Predictive Services (e.g., outlooks, fuel moisture, fire danger);
 - d. Incident information at the local, state, geographic and national levels;
 - e. Communications (e.g., repeater locations, coverage);

- f. Air Quality (e.g., air-sheds, smoke plume forecast);
 - g. Aviation (e.g., resources, airspace, Temporary Flight Restrictions, retardant avoidance, aeronautical charts, Military Airspace, Military Training Routes, Special Use Air Space); and
 - h. Map capable of accepting layers in multiple formats (e.g., shape file, geotif, kml).
7. Ability to accurately and automatically convert and display location in a variety of coordinate systems/formats including latitude/longitude, UTM, legal description (principal meridian, township, range, quarter/quarter section);
 8. Ability to plot a location and have the system display hazards/considerations (customizable) based on a user-defined radius from the location; and
 9. Ability to identify and track ground resources (e.g., automated vehicle locator, personal locator beacon, spot device) with spatial display on the map (real time).
 10. [Automated Flight Following](#) functionality within the map.
 11. Ability to determine automatically the Jurisdictional Unit, Protecting Unit and responsible dispatch center based on any location.
 12. Given incident perimeter information, interface with geospatial repository to derive total acreage breakdown by Jurisdictional Unit, Protecting Unit and fuel type of an incident.
 13. Distinguishable icons (symbols) display initial reports on the map.
 14. Incidents displayed on the map and viewable by multiple criteria (e.g., type, status)
 15. Apply GSTOP (GIS Standard Operating Procedures) and other relevant mapping standards.
 16. Resources and Incidents are interactive on the map (e.g., commit resources, reassign resources, get resource details, get incident details, and update incidents).
 17. Map displays history of incidents that occur at address/place name (i.e., spatial reporting) pulling from internal and external systems.
 18. Ability to send maps by multiple means (e.g., text, email) in multiple formats (e.g., image, document, shape file, hard-copy).

Resource Management

1. Ability to create resources using a system administration function using established types and standards.
2. Ability to add resources through an integration with national resource database such as the Resource Ordering and Status System (ROSS) or a future resource system.
3. Resource management screen with the ability to sort resources by multiple criteria (e.g., type, status, Jurisdictional Unit).
4. Ability to utilize resource Groups
 - a. E.g., two or more resources working together, Task Force configuration, Strike Team configuration; and
 - b. Actions include but are not limited to creation of groups, assigning groups to incidents, reassigning groups between incidents, splitting groups, cancelling groups.
5. Ability to add a roster to resources - identify and edit individual components of a resource (e.g., Engine xx consists of firefighters a, b, c / Helicopter yy consists of crew members d, e, f / Strike Team zz consists of engines u, v, w, x and y).

6. Ability to create and edit resource rotations (track the rotation of assignments for a particular resource type) including resources such as Type 6 Engines, Type 2 Crews, Strike Teams.
7. Ability to request resources from other dispatch centers through CAD.
8. Ability to associate cost with specific resources for estimated cost reporting purposes.
9. Ability for multiple resource status options (e.g., in service, available, out of service, day off, unavailable)
 - a. Resource status options are easily identifiable (e.g., color coded, highlighted).
10. Ability to select and status multiple resources simultaneously. Resources viewable and selectable by multiple criteria (e.g., by location, unit, station, type).
11. Ability to establish preplanned resource reallocation
 - a. For example, resources at Station X are committed to an incident so resources from Station Y are now responsible to cover Station X.
12. Ability to assign a station dispatch sequence (e.g., first out, second out)
 - a. For example, there are multiple engines located at the same station and this sequence determines the order in which they respond; and
13. Ability to add, remove and track temporary resources (e.g., administrative, volunteers, severity, preposition) .
14. Ability to track all resources (including international) spatially on the map and in tabular summary format at local, state, geographic and national levels.
15. Ability to track all resources on the map from mobile GPS devices.

System Administration

1. System Administration is password protected and allows for database setup and maintenance. Also allows for the setup and maintenance of the features within CAD.
2. System is role-based (e.g supervisor, dispatcher, law enforcement, expanded, read-only, fire manager)
 - a. Ability to assign CAD roles to permanent and temporary dispatchers.
3. System-generated unique number (sequential) for every incident remains attached with the incident from creation through closure, archival, and retrieval. Numbered per NWCG data standard²
 - a. Allow manual incident number entry when more than one incident number identifier is needed;
 - b. System able to track and cross-reference more than one incident number associated with same incident. For example, the same incident may have a federal number and a state incident number; and
 - c. If more than one incident number is generated, system will allow the local unit to identify the primary number.
4. Ability to pre-plan an incident response for each Protecting Unit

² NWCG incident identifier data standard is available at <http://www.nwcg.gov>.

- a. Ability to plan a response for unique incident types (e.g., wildfire, law enforcement);
 - b. Ability to choose method of determining the closest resource response;
 - c. Incorporate Fire Danger Rating Areas;
 - d. Establish response areas as defined by a fire management plan;
 - e. Ability to associate each response area with a Fire Danger Rating Area
 - f. Establish response levels (e.g., low, moderate, high, 2nd Alarm, 3rd Alarm);
 - g. Ability to associate a response level with each response area
 - h. Configure an appropriate response to each response area based on each response level; and
 - i. Ability to create multiple types of associations with each response area (e.g., comments, considerations, hazards, stations, weather stations).
5. Select Agencies/Protecting Units from pick list (established NWCG Unit ID list).
 6. Ability to control automatic system backups (e.g., frequency, storage location).
 7. Ability to archive CAD database and ability to retrieve archived data.
 8. Provide administrative function to enable or disable the ability to edit entries (e.g., Logs, Incidents, Actions).
 9. Ability to switch CAD operations to an offline mode, running with cached database (in the event of network outage or slowness).

Mobile CAD Functions

1. Mobile technology capability (i.e., units in the field connected to CAD)
 - a. Mobile connections include but are not limited to tablets, smartphones, and laptops.
2. Mobile CAD capable of send/receive functions with field units.
3. Resources working remotely are able to input updates for daily resource status (e.g., in service, out of service, delay).
4. Ability for resources to change incident resource status (e.g., responding, committed, on scene) and update incident information.
5. Field units able to receive information from the CAD (e.g., driving directions, incident updates, weather updates).
6. Dispatchers able to conduct CAD operations while away from the office (e.g., on-call, working remotely).
7. Mobile mapping capabilities show selectable layers for field units (e.g., land status, optimal routing, hazards).
8. Provide tools for upload to CAD from a mobile device using multiple file types (e.g., pdf, shape, kml, gpx, photos, videos, forms) and include the ability for files to be geo-referenced.
9. Ability for field units or on-call dispatchers to initiate an incident with basic information that will feed the CAD system.

Reporting

1. Standard list of commonly used reports:

- a. Incident summary, incident statistics, workload, resource information, resource response history, timers, logs, database queries.
2. Cost accounting report function.
3. Ability to separate and report on active data and historical data.
4. Reporting function for each incident (create/send function for incident report).
5. Custom user-created reports.
6. Report function that would pull data from CAD system to generate a situation report for local, state, geographic and national levels.
 - a. Primary dispatch forms available, fillable and shareable within the CAD system (e.g., Aircraft Dispatch, Passenger/Cargo Manifest, Temporary Flight Restriction Request, Detail Request, Flight Strip, Shower/Caterer Request and Administrative Flight Request).
7. Phone list report function with the ability to generate a hard copy or electronic version.

System Integration

1. System must interface with Integrated Reporting of Wildland-Fire Information ([IRWIN](#)) to include production and training environments
 - a. System provides notification to user when fields are editable (edits may occur in another program); and
 - b. System conveys error/validation messages from IRWIN to the user.
2. Fair Cost Analysis Tool (FCAT) for workload analysis.
3. Fire reporting systems (e.g., FIRESTAT, WFMI, State systems).
4. Weather Information Management System (WIMS) import – fire danger/weather data.
5. National interagency resource system (ROSS or future system: IROC).
6. System interoperability with mass notifications systems.
7. Optional interface with social media systems (e.g., Twitter, Facebook).
8. Ability to import vendor/contracted resources (local, state, federal, national level contracts) using import/interface with VIPR, ISSP or from a standard data exchange format.
9. CAD to CAD integration
 - a. Ability to provide CAD to CAD interoperability between locations or dispatch centers with the same CAD - in support of Continuity of Operations Plans (COOP), when requested.
10. Scalable, enterprise and comprehensive solutions to integrate CAD with:
 - a. 911;
 - b. Law Enforcement & Investigation databases LEIMARS and IMARS;
 - c. National Crime Information Center (NCIC); and
 - d. Others
11. Radio system interface with radio consoles, push-to-talk, and mobile
 - a. Ability to integrate with impending radio upgrades (i.e., P25 radio system digital radio systems).

12. Ability to import data from legacy CAD systems currently in use for transition to new CAD system using standard data exchange formats.
13. Ability to export data from incumbent CAD system to other CAD systems using standard data exchange formats.

System Features / Functions

1. CAD must be scalable/flexible in order to accommodate area/unit needs
 - a. Account for various levels of connectivity/bandwidth; and
 - b. Have the ability to turn system features on or off based on dispatch center needs/complexity.
2. System must be capable of offline operations
 - a. Dispatch center continues to operate with local, cached database (user-defined frequency).
3. System must be fast and highly responsive, whether operated online or offline.
4. System contains a data/transaction log
 - a. All changes made by a user or the system are recorded.
5. Ability to generate a daily/station log
 - a. Will accept manually entered documentation;
 - b. Will accept automatically generated documentation (e.g., resource, incident, timer activity);
 - c. System provides the means to differentiate between manual and automatically generated documentation (e.g., check boxes, color coding); and
 - d. Capability to highlight certain entries and flag action items within the log.
6. Resource, incident and log screens have capability to create an entry or notification for a future date/time (e.g., alarm, flag, email, text).
7. System has a running notes feature
 - a. A window that continuously streams current incident and resource activity (e.g. new incident created, resources assigned to an incident).
8. Ability for automatic/manual database backup options.
9. Ability to have multi-screen capability with auto screen refresh. Each workstation always has the latest, real-time information.
10. Ability to project CAD information on other screens or large monitors connected to the network infrastructure and/or live meeting type application
 - a. Ability to compartmentalize views and information selected by the operator to different monitor projection.
11. System must incorporate/utilize standard wildland fire terminology (NWCG Glossary of Wildland Fire Terminology).
12. System able to recognize and alert at user defined trigger points (e.g., ICS-209, shower, caterer)
13. System allows for and stores user preference settings (e.g., screen layout, timers, colors, printers, fonts, function keys and initial startup display content).

14. System must allow for multiple dispatchers to be working on the same incident simultaneously.
15. System contains a function to input, store, search and retrieve all information related to Law Enforcement and Investigation contacts (attach to state DMV records, NCIC and state equivalents)
 - a. E.g., name, date of birth, license plate, license number, criminal history.
16. System allows for incident attachments (multiple sources and file formats)
 - a. E.g., image, audio, documents.
17. System provides a training environment/database.
18. Timer functionality
 - a. Visual and audible notification that requires action/documentation;
 - b. Track resource and incident activity (e.g., aircraft, equipment, overhead, incident actions, initial reports);
 - c. Timers can stand alone or be associated with an incident;
 - d. Documentation for timers associated with an incident will be automatically logged to the incident;
 - e. Ability to define default timer durations for individual resource types (e.g., aircraft, law enforcement, overhead, equipment);
 - f. Ability to set timer for future date / time; and
 - g. Ability to open, close, re-open, pause, stop and search timers.
19. System available at all times: 24/7/365 capability.
20. Ability to export, save and print incident information to meet records retention requirements.
21. Function keys, command line, mouse driven, Graphical user interface (GUI).
22. Navigation keys within the program (tab capability/mouse clicks/short keys/hot keys/function).
23. Flexible search functionality within the system (e.g., search by date range, dispatcher, incident number, incident type, incident name, Jurisdictional/Protecting Unit, resource ID, resource types, locations, map components, current and archived data).
24. System contains a directory for contact information
 - a. Elements include but not limited to email, personal phone, fax, address, emergency contact information, work phone, cell phone;
 - b. Ability to categorize contacts; and
 - c. Directory is easily searchable.
25. Functionality for links to commonly used information (e.g., files, folders, favorites)
 - a. System admin function to create and manage these links.
26. System includes a feature for notepad capability
 - a. User-entered information that is stored and displayed until it is user-archived;
 - b. This information has the ability to be categorized (e.g., duty officers, fire danger, line officers, lookout towers); and
 - c. Dispatchers can associate expiration timeframes with the information.

27. System generated shift briefing
 - a. System admin function that allows administrator to select CAD data elements that are included in the shift briefing and the order in which they are presented (pre-determined structure); and
 - b. CAD data elements include but are not limited to resource activity, incident activity, pending action items.
28. Ability to lock or unlock single or multiple fields of an incident either simultaneously or on an individual basis (e.g., incident name, incident type, date/time started, unit ID).
29. System needs to have the ability to hide unused fields of an incident.
30. Auto-complete functionality within logs for commonly used words and terminology or acronyms for frequently used actions (e.g., Enroute = EN, Back in Quarters = BIQ)
 - a. Dispatchers should be able to accept or reject auto-complete suggestions; and
 - b. Customizable by dispatch center.
31. Date/Time stamp capability for incident creation, resource actions and all log entries.
32. CAD system and supporting webpage and information/training/reporting resources must meet Section 508 Compliance standards as specified in the Rehabilitation Act of 1973 (29 U.S.C 794d) as amended by the Workforce Investment Act of 1998 (P.L.105-220).
33. Ability to operate in various environments (training, production, testing, development).

Information Security

1. Vendors must comply with all security and reporting mandated under the Federal Information Security Management Act of 2002 (FISMA) (Title III, Pub. L. No. 107-347).
2. Comply with USDA and DOI identity and credential issuance requirements to include successful completion of mandated background investigation adjudication actions for all assigned staff.
3. Possess and maintain professional information security training and expertise, such as that demonstrated through professional certification with ongoing education requirements.
4. Meet USDA and DOI requirements for asset and secure configuration management.
5. Provide support to meet USDA and DOI continuous monitoring requirements for security of all information technology systems.
6. Quickly respond to security alerts or other concerns raised by the government, to include mitigation of issues and ability to report results from these efforts or system status, as necessary.
7. Ensure the CAD software product developed meets and remains in compliance with USDA and DOI IT Security protocols and required vulnerability management.
8. Perform regular and ongoing vulnerability scanning and security testing.
9. Perform secure code reviews and follow accepted software life cycle development activities for any software and application development in support of proposed CAD system.
10. Actively support government incident response activities and investigations, and comply with mandated training and awareness program initiatives.
11. Potential need to log on and link with LDAP/Authentication (Access Authentication). Be open to multi-factor authentication.
12. Mobile/CAD "lite" (e.g., mobile iron); must be platform agnostic.

Communications

1. System provides a means for public viewing of select data from the CAD system consistent with Section 508 and Security Compliance (e.g., vendor-hosted website).
2. System provides a tool for distribution of mass notifications or provides seamless system interoperability between CAD and mass notification systems
 - a. Notifications are automatically documented in either an incident or daily/station log.
3. Ability to notify key personnel in the event of an emergency situation beyond normal operations. (e.g., officer needing backup, firefighter in distress, overdue aircraft).
4. Ability to receive distress signals from field personnel on existing agency communications infrastructure.
5. Resource alerts (mobile technology connection to CAD).
6. Ability to generate and print/text/email/fax pre-identified CAD data elements for responding resource use
 - a. System admin function to establish CAD data elements used.
7. Instant messaging capability within the CAD network (chat feature)
 - a. Communication tool for use within and between dispatch centers.

Vendor Services

1. Dispatch centers afforded opportunity to submit requests for changes/enhancements.
2. Timely and adequate technical support.
3. Multiple training options provided (e.g., online, self-led, train-the-trainer, on-site). Type of training will include initial start-up, administrator, dispatcher, refresher and version updates.
4. Vendor provides Dispatcher Guide, System Administrator Guide, Glossary of Terms.

System Architecture

1. Describe recommended hosting options; either on premise, in the cloud or a combination.
2. Describe the types and suite(s) of dispatch software you are most familiar with and include examples of the:
 - a. Supporting database platform; the supporting GIS platform; any administrative or interconnection software; and the environment and physical specifications within which it operates; and
 - b. Describe whether a particular development environment is required for these solutions.
3. Provide the ability to store the data centrally and manipulate a local cache but port to other office to support disaster recovery or dispatch center COOP
 - a. The ability to have one centralized copy of the data accessed by all dispatch centers; and
 - b. System must be able to operate independently and automatically synchronize when restored.
4. Enterprise-wide licensing scheme based on number of centers is preferred. Licenses in bands with the first band being 130-150 centers with approximately 5-25 seats per center all with simultaneous access. Provide second banding for additional seats. Desire licenses identified by computer, not user.

5. Seamless data sharing across technical platforms such as desktop, server, web and mobile.
6. Data should be synchronized / refreshed across different technical platforms (as above) with no user interaction required.
7. Capability for local administrator to create additional profiles on demand.
8. Ability for user account or profiles to be stored centrally so any user can log on to any dispatch center if granted access. User access is defined once with local administrator able to grant specific access by user by center.