CONFLICT ARMAMENT RESEARCH

Systems and Analytics Division

Document Name:	Evaluation Criteria
Tender Name:	Data Management Solution (DMS)
Project Title:	Provision of a secure data management solution to host geospatial information on conventional and unconventional weapons, ammunition and related materiel.
Tender Code:	CAR_iTrace III_2018_001_DMS
Tender Dossier:	http://www.conflictarm.com/vacancies/

Evaluation Criteria

Overview:

This document outlines: 1) CAR's weighting and scoring system, 2) the evaluation criteria for the tendering process with their assigned weight, and 3) additional guiding questions for each criterion. Each criterion includes an "example" which aims to provide clarification on CAR's intention. These examples should be seen as guidance, not as the full extent of CAR's expectations. Additionally, tenderers are not required to answer the guiding questions. These guiding questions are only intended as a support to tenderers in responding to the criteria. Tenderers are encouraged to review document '1.5_Data_Management_Overview_DMS' of this package as well as CAR's website (www.conflictarm.com), publications, and its public portal iTrace (www.itrace.com) to better respond to the criteria.

Weighting System:

1 = Mandatory: Functional requirement. (Value 0.5)
2 = Priority: Great value-add but could be done without if need be. (Value 0.35)
3 = Beneficial: Value-add but not priority. (Value 0.15)
Total weight value = 1.0

Definitions:

As is = Considered to be “off the shelf”. Addition of native (in-house) plug-ins that are included in the budget, if appropriate, also included in “as is”.
Configurations = Features and/or functionality identified in the proposal requiring development to implement and is not currently available. Examples include: adding to the product, tailoring existing features, and/or features under development.

Additional Instructions:

The technical criteria scoring system allows for tenderers to outline configurations to the solution and/or introduce a third-party plug-in that would further meet a specific criterion. If this option is used in responding to a criterion, then the vendor must be sure to include the following additional information:

- Resources associated (type/unit/quantity) with the configuration, customization and/or plug-in.
- How many days after signing the contract the feature/functionality will be available.
- If/how the configuration and/or third-party plug-in affects the solution’s support/maintenance agreements.
- Describe the ability of the solution to carry forward, to new releases, the configurations made to the solution.
- Capability of all the functional components of the plug-in to exist within an integrated product suite sharing a unified user interface.

Written Proposal Scoring System:

POINTS	RATING NAME	DESCRIPTION
0	*Does not meet*	Proposal did not meet expectations. Deficiencies resulted in evaluator experiencing prohibitive difficulty assessing vendor’s solution.
1	*Slightly meets*	Proposal only slightly meets expectations. Deficiencies resulted in evaluator experiencing significant difficulty assessing vendor’s solution.
2	*Partly meets*	Proposal only partly meets expectations. Deficiencies resulted in evaluator having trouble assessing vendor’s solution.
3	*Mostly meets*	Proposal mostly meets expectations. Deficiencies resulted in evaluators experiencing only minimal difficulty assessing the vendor’s solution.
4	*Fully meets*	Proposal meets expectations. Evaluators experienced no difficulty assessing vendor’s solution.
5	*Exceeds*	Proposal exceeds expectations. Evaluators were able to gain more insights into the vendor’s solution than expected.
NA	*Unclear*	Need to request additional information from the vendor.

Technical Criteria Scoring System:

POINTS	RATING NAME	DESCRIPTION
0	*Does not meet*	Does not meet expectations at all.
1	*Slightly meets*	Very limited ability to satisfy this requirement as is. Serious deficiencies exist that cannot be easily worked around.
1.5	*Partly meets (conditional)*	Limited ability to satisfy this requirement with configurations to proposed solution. The limitations can be worked around with effort, but there are real compromises.
		Limited ability to satisfy this requirement with third-party software plug-in. The limitations can be worked around with effort, but there are real compromises.
2	*Partly meets*	Limited ability to satisfy this requirement as is. The limitations can be worked around with effort, but there are real compromises.
2.5	*Mostly meets (conditional)*	Would meet most expectations with configurations to proposed solution. Deficiencies can be worked around with minimal effort and few compromises.
		Would meet most expectations with third-party software plug-in. Deficiencies can be worked around with minimal effort and few compromises.
3	*Mostly meets*	Meets most expectations as is. Deficiencies can be worked around with minimal effort and few compromises.
3.5	*Fully meets (conditional)*	Would fully meet expectations with configurations to proposed solution.
		Would fully meet expectations with third-party software plug-in.
4	*Fully meets*	Fully meets expectations as is.
5	*Exceeds*	Fully meets expectations as is and provides extra features that add value.
NA	*Unclear*	Need to request additional information from the vendor.

Data Management Solution Criteria

Written Proposal

CRITERIA	EXPLANATION	EXAMPLE	WEIGHT
CLARITY	Language was understandable to a non-technical audience.	*Following the word "uptime" with "the measure of time the solution is working and available".*	1
LAYOUT	Layout enabled reader to easily find relevant information.	*Evaluators can easily assess the tenderers qualifications with minimal cross-referencing between sections.*	2
RESPONSIVE	Proposal reflects that the vendor reviewed the RFP and its supporting documents.	*Evaluators can easily identify through responses to evaluation criteria that the vendor reviewed and understands CAR's data and approach.*	1
VISUAL	Proposal includes visual demonstrations of its capacity	*Presentation aids such as screenshots, videos, and GitHub demonstrations are included in the proposal alongside the narrative.*	2

Technical Criteria - General

CRITERIA	EXPLANATION	EXAMPLE	WEIGHT
STABILITY	Vendor ensures that solution has thorough quality assurance procedures in place to prevent customer experiencing bugs and technical issues.	*Vendor has staff and procedures to thoroughly test solution performance on a rolling basis. Follows one or more ISO, or related, quality assurance standards.*	1
UPTIME	Solution maintains an uptime of no less than 99%.	*Users can access the solution no less than 361.35 days out of the year.*	1
UPDATES	Vendor is currently releasing updates and patches for the proposed solution; End of Service not scheduled for at least four years.	*Vendor releases an update to their solution quarterly with additional features and patches as needed to fix identified bugs.*	1
HOSTING	Vendor hosts solution in a manner that ensures customers can navigate it with minimal loading time.	*Loading times do not exceed 5 seconds per selection while navigating within the solution (does not apply to running queries).*	1
SCALEABLE	Vendor hosts solution in a manner that user licenses can be increased significantly without compromising loading time.	*As CAR grows, the solution can accommodate the additional bandwidth needed by added staff user licenses without causing lag in solution performance.*	1
DATA SECURITY	Vendor utilizes strict, internationally recognized security standards for both the transmission and storage of data.	*Solution follows international data security standards, such as the ISO/IEC 27000 family of standards.*	1
TECHNICAL SUPPORT	Vendor has transparent technical support channels/procedures.	*Customer can submit support tickets as well as review the status of and follow up on that ticket.*	1

		Ability to provide technical support by: *• Categorization/Type* *• Status* *• Severity, SLA and/or Priority* *• Date and Time* *• Agent/Analyst Skills*	*Ability to support automatic escalation of a record by:* *• Categorization/Type* *• Status* *• Severity, SLA and/or Priority* *• Date and Time (Calendar Routing)* *• Agent/Analyst Skills*	
TRAINING	Vendor can provide live training and training materials for their solution.	*Instructors can provide technical training to non-technical users that will enable them to use the solution without significant assistance.*		1
USER-FRIENDLY	Solution interface is intuitive and easy to use.	*New users can quickly understand how to use the solution and its tools with minimal direct instruction.*		1
DATA EXPORT	Solution can export data selections into common formats.	*For example, tabular/network data as CSV, geospatial data as KML, visualizations as PNG, etc.*		1
COMPATIBILITY	Solution is widely compatible with common operating systems and browsers.	*Example 1. Users can utilize solution on Mac OS, Windows and Linux operating system.* *Example 2. Users can use Safari, Firefox and Chrome browsers to access the solution, if web-based.*		1
USER MANAGEMENT	Solution allows CAR's designated system administrator to create users, modify their content permissions, and audit their activity in the solution.	*Administrator can access audit logs for a particular user, provide basic user support such as resetting passwords, restrict viewing permissions at a user and group level, configure account expiration and session timeouts, etc.*		1
INTEGRATION	Solution can easily integrate with other technology solutions.	*The solution can integrate with other enterprise systems, such as customer relationship management (CRM) systems, visualisation systems, analytics systems, etc.*		1

Technical Criteria – Data Management Solution

CRITERIA	EXPLANATION	EXAMPLE	WEIGHT
RELATIONAL & SPATIAL DATABASE ARCHITECTURE	Solution that can manage relational and spatial data.	*The solution has the capacity to manage a wide variety of data types, relationships to data in other entities, and data with geospatial attributes.* *Example 1. Object-relational model for representing geometries. This model stores an entire geometry for vector data.* *Example 2. Shapefiles: geospatial vector data for geographic information systems (GIS), can be used to describe vector features - lines, points, polygons to represent water wells, rivers, and lakes* *Example 3. Indexing of Spatial Data: Provides a mechanism limit searches. With spatial indexing, it is based on criteria such as intersection and containment.* *a. R-Tree Indexing - Can index spatial data of up to 4 dimensions. Approximates each geometry with a Minimum Bounding Rectangle (MBR)* *b. Non-uniform B-spline (NURBS) a model used in computer graphics for generating and representing curves and surfaces.* *c. GeoJSON - an open standard format designed for representing simple geographical features, and their non-spatial attributes. (JavaScript Object Notation)* *d. Bounding Volume Hierarchy (BVH) - a tree structure on a set of geometric objects. The most common is an Axis-aligned bounding box (AABB)*	1
TEMPORAL DATA	Solution can accommodate temporal data.	*Date and time data can be entered, stored, retrieved and calculated.* *Example 1. A weapon was documented on DATE at TIME.* *Example 2: A shirt was at the retail store between DATE and DATE, then it was sold to a customer on DATE.*	1

ADAPTABLE	Solution has mechanisms for facilitating adjustments to the data structure without interrupting the ability to retrieve the data consistently.	*An adaptable relational database system has a database schema having relational integrity, wherein the database schema includes a plurality of entities associated with a plurality of attributes.* *Example 1. Database administrator can add, edit or remove attributes from an entity over time to meet the changing needs of the users.* *Example 2. Database administrator can add new entities to accommodate new types of information without causing disruptions for other users of the solution.*	2
ASSOCIATION TYPES	Solution can accommodate more than one association/relationship type.	*This concept is in reference to social network analysis (SNA) - Processing social structures using networks and graph theory. These are characterized in terms of associations between nodes (Ex. individuals, people, or things in that network).* *Example 1. Ammunition is associated to a weapon when it is loaded in its magazine (direct association).* *Example 2. An explosive device's switch is associated with its power source (hierarchical association).* *Example 3. A weapon is associated to the waypoint where it was manufactured (chain of custody association).*	1
PARTITIONS	Solution can partition its stored data. A database partition is a very large table into multiple smaller parts (sub-tables). This process optimizes the database and allows queries to run faster because there is less data to scan.	*Data can be identified as "Public", "Internal" or other forms of restricted access so that the front-end system that will display that information only displays data under that label/permission level.* *Example 1. Analyst needs to restrict access to a certain record. That analyst can set a certain classification or permission level to that record. As a result, only users with that specific permission level can access this record.* *Example 2. Creating a table using hash partitioning to restricting access to user defined tables.*	1
LANGUAGES	Solution can store, query, and display text from multiple languages.	*A user can enter numbers and letters from multiple languages, such English, French, Arabic, Chinese, and Russian, during the data entry process. The user can query the database using various languages and receive an accurate result. Additionally, the solution should be able to display numbers and letters from these languages accurately.*	1

UNIQUE CODES	Solution can assign each record a unique code/number across all entities.	*Each record across all entities (item, waypoint, route segment, etc.) has its own unique code.*	1
ATTACHMENTS	Solution can accommodate attaching large files such as documents, PDFs, photos, and videos to existing records and during data entry.	*High resolution photos, 5-10 MB each, with up to 10 images per record. Could be added during initial data entry or after data entry process.*	1
ACCESSIBLE	Solution's system uses a common structured query language (SQL).	*Data from the solution can be easily accessed by another solution geared towards visualization and analytics.*	1
UNIX TIME	Solution can store data using Unix time.	*When data is entered, a hidden field records the Unix time it was entered. Unix time is a system for describing a point in time, defined as the number of seconds that have elapsed since 00.00.00. Also described as Coordinated Universal Time (UTC) which is the primary standard time by which the world regulates clocks and time.*	1
STORAGE	Solution can scale its storage capacity.	*Currently need a terabyte of data storage but needs to scale as the data volume grows and videos integrate into data collection process.*	1
REDUNDANCY	Solution utilizes a high standard data redundancy process.	*CAR can be assured its data will never be lost.*	1
ARCHIVING	Solution can archive CAR's data and allows administrators to search and set purge schedules.	*CAR can archive its dataset in case of system failures and reload that data if needed. Additionally, CAR administrators can search that archived data and set schedules for purging older archived versions.*	1
DATA ENTRY CUSTOMISATION	Solution can accommodate the customisation of the data entry process, layout, and interface.	*Database administrator can arrange fields for data entry purposes. They can Insert guidance material (text and images). They can also set up a data entry layout that includes multiple entities.*	2
EASY ENTRY	Solution has a smooth, fast, and intuitive data entry process.	*Data entry process is tailored to enable the easiest data entry experience for the user.*	1
CALCULATIONS	Solution can add fields that produce calculations based on other fields.	*If a user enters the date when CAR issued a notice to a country, we would like a field to calculate the number of days between today and that date (Ex. 17 days) and display that information.*	2
LEXICON (LEXICAL DATABASE)	Solution can use pre-defined hierarchical lexicon structures during data entry.	*When entering data, the user selects Rifles as the first classification category, which then restricts the second classification level choices to classifications of Rifles only.* *Example: Boolean Statements. "IF THEN Statements". Different Boolean expressions are used in a database to run or skip a sequence of one or more statements. [IF] > [Rifles] > [THEN] > [Rifle Classifications]*	1

LOOKUP (LOOKUP TABLES)	Solution can look up existing records across entities during data entry.	*Fields can be drop-down lists which point to a field in another entity, such as the Manufacturer Name attribute within the Manufacturer entity.* *Example: Manufacturer Name* *ManufacturerLookup* *[Key] ManufacturerID [Key]>* *[Key] AddressID* *-Address1* *-Address2* *-Address3* *-City* *-StateID* *-Country* *-ZipCode*	1
VALIDATION	Solution can impose validation and business rules during data entry.	*Validation is a process that ensures that the information in a database is complete, accurate, secure, and consistent. Example 1. Year of manufacture must be four numbers starting with 19 or 20. [This may apply to user defined queries as they apply to rules.]* *Example 2. Extract, Transform, Load (ETL). ETL Tools perform validation for a database. The function essentially pulls data from one database and places it in another for cleansing.*	1
DUPLICATION	Solution can use look up functions to prevent the same data being entered twice.	*If user enters a serial number that is identical to another record in the system, the user is notified and pointed to that record.*	1
ITEM LIBRARIES	Solution can produce an entity populated with unique instances based on pre-defined business rules.	*All unique instances of weapon models in the Weapon entity [dataset] are cataloged in another entity [dataset], Weapon Library, and variations in each model's serial number format is added as a new field within that record.* *Example: An entity is populated with one record for each unique weapon model present in the Weapons entity. This is a system generated function.*	3

SHAPEFILES	Solution can utilize shapefiles to automate administrative districts from entered GPS coordinates.	*Example 1. If user enters GPS coordinates 34.1373578, -118.3462047, it will automatically enter Country: United States of America; State: California; County: Los Angeles; City: Universal City.* *Example 2. Homeland Infrastructure Foundation-Level Data (HIFLD) provides foundation level geospatial data that is classified as open public domain. (GPS Coordinates) <https://hifld-geoplatform.opendata.arcgis.com/>* *Example 3. City of Portland. Portland Maps provides an open data resource that provides datasets that cane downloaded as Spreadsheets, KML Files, Shapefiles, GeoJSON, and GeoService. (GPS Coordinates) <http://gis-pdx.opendata.arcgis.com/>*	1
OBJECT RECOGNITION	Solution can accommodate the addition of an object recognition software for data entry and/or data validation purposes.	*CAR would be able to use machine learning and object recognition tools to assist with quality assurance during data entry.* *Example 1. CAR could use object recognition software to assist in identifying ammunition headstamps based on uploaded photographs.* *Example 2. CAR could use object recognition software to recognize logos*	3
QUERY	Solution includes a set of intuitive query tools, including Boolean statements and special characters.	*IF THEN statements in Boolean and wildcard characters such as %(percentage), _(underscore), and *(asterisk).* *Example 1. Analyst can search for all serial numbers starting with 560 by using * at the end: 560*.* *Example 2. Analyst can search for shirts made in Germany AND distributed by ACME Shirt Distributors OR World's Best Shirt Emporium.*	1
ATTACHMENT SEARCH	Solution can search text within an attachment, such as a PDF.	*User can search the database for a phrase only present in an attached PDF and receive a positive result.*	2
SHARING QUERIES	Solution allows analysts to save queries and share them with other users.	*Analyst can save a specific query and make it available to other users.*	3

NETWORK QUERY	Solution can search based on degrees of separation and types of relationships.	*Analysts will need to search for items with a pre-defined relationship type and degree of separation. Degree of separation is used here to refer to items not linked directly but are both linked to the same record.* *Example: Analyst can search for all ammunition were seized alongside Model X weapon. In this instance, both items would be linked to the same Waypoint but not to each other.*	1
ALERTS	Solution can accommodate setting what triggers an alert, who it is sent to, and how it is sent.	*Analyst can program an alert to their email address whenever Model X weapon with serial number 560* is entered in the database. These alerts should be available at least via email.*	1
COMPARISON VIEW	Solution can offer a workspace to compare media between records.	*User can look at two records with photos and attributes side-by-side [preferred] or can open contiguous tabs [workable].*	1
GEOSPATIAL VIEW	Solution can display an item record's linked waypoints and associated route segments (chain of custody).	*While viewing a record's attributes, an analyst can display the item's relationships and/or its chain of custody on a simple map.*	1
VISUALISATION	Solution can produce basic visualisations. Solution offers a robust set of common visualisation tools commonly associated with descriptive statistics.	*Users can choose from basic visualisations for their login page to see how their specific dataset is evolving.* *Examples: Bar graphs, pie graphs, scatter/bubble graphs, mosaic graphs, surface graphs, pyramid graphs.*	2
IN-PLATFORM COMMUNICATION	Solution has spaces to discuss, tag and otherwise communicate within the solution.	*Example 1. Chat bubble attached to each record where analysts can tag users and discuss that record without altering the record's data.* *Example 2. Channels where users can discuss specific topics and reference records directly.*	2
REPORT GENERATION	Solution can populate template documents with content from pre-defined entity fields.	*Generating official communications to governments with draft legal language with information from specific records and specific attributes entered in the document from the database.*	1
MOBILE APPLICATION – DATA ENTRY	Solution can develop and/or tailor existing products to provide a field data collection/entry solution tied to the solution.	*User can use a smartphone to enter an item record based on the data entry process designed in the solution.*	2
MOBILE APPLICATION - NAVIGATION	Solution can develop and/or tailor existing products to provide a mobile app that could display records and their attachments.	*User can retrieve data from the solution and view on a smartphone or tablet.*	2

Additional guiding questions

Technical Criteria – General

CRITERIA	Guiding Questions
STABILITY	- What are the quality assurance procedures the solution has in place to prevent customer experiencing bugs and technical issues? - Describe how software maintenance is applied (full product upgrade, partial product replacement, or patches)? - How does your solution notify users of major events? Scrolling banner on main page? - Explain your notification protocol for system outages and major system development involving downtime or reduced performance.
UPTIME	- Does your solution maintain an uptime of more than 99%? - Describe how local processing can continue if network connectivity to the vendor site fails.
UPDATES	- Describe how the customer is notified of an upgrade/update? - Describe the delivery mechanism of an upgrade/update (CD, FTP)? - Describe any issues with support agreements if an upgrade/update not performed? - Describe how customers input is incorporated into your next release upgrade? - Describe your recommendations standard schedule for new software/hardware version releases?
HOSTING	- Describe the different hosting options [SAAS (dedicated hosting, Virtual Hosting), On Site Hosting], for your solution. - Describe the server platforms supported — for example, database management systems, server operating systems, Web servers and application servers (as well as versions). - Please provide any document and diagram describing logical architecture of application proposed. Please name all components such as workflow, transaction and reporting and interfaces between components.
SCALEABLE	- Explain how your solution's hosting is managed so that user licenses can be increased significantly without compromising loading time.
DATA SECURITY	- Does your solution utilize internationally recognized security standards for both the transmission and storage of data (ISO/IEC/OGC)? - Describe how content security is implemented. - SaaS: Describe measures taken to ensure the confidentiality of data stored at vendor sites, including any audit certifications achieved by vendor. - SaaS: Please describe your security practices regarding security incident management and data compromise/breach notification procedures. - SaaS: Please describe your security practices regarding confidential or sensitive material, and data access, usage, and ownership.

TECHNICAL SUPPORT	- What is your standard technical support offer to clients for this solution? - Describe the different ways a support ticket can be created. - Can a technician update the status of a request via mobile device(s)? Can they add comments? - Can your solution automatically create an incident via an inbound email? If so, what are the requirements? - If the email contains images (e.g., bmp, jpg or gif screen shots), can it be saved within the incident? If yes, provide details including where it's saved and how to open it, etc. - Will your solution auto-populate user detail into request based on sender's email address? - Can a technician acknowledge a service request assignment via email?
TRAINING	- Describe different kinds of trainings you provide regarding your solution? - What kind of training materials for your solution, such as user guides and instructional videos?
USER-FRIENDLY	- Describe the user configurable parts of your solution, such as the user's home page? - Describe how system administrators can customize the user experience, such as data entry, home screens, and other components of work flow.
DATA EXPORT	- What formats can your solution export data selections into?
COMPATIBILITY	- Describe any software dependencies the solution requires to operate. - Describe the client platforms are supported. - Describe the operating systems are supported. - List minimum hardware requirements of both computer and any peripherals. - Describe the system requirements for your application, database and other required server components. - SaaS: Describe connectivity options to vendor site.
USER MANAGEMENT	- Explain how security rights are assigned and modified. - Describe the capabilities for group creation and rights assignment, if any, for user groups, individual roles. - Describe how the tool manages and stores authentication for users. - Describe how audit records are maintained, secured and archived within the system. - Describe how your solution supports role-based access control (RBAC) for application functions.
INTEGRATION	- Describe the application development tools, programming languages and application programming interfaces (APIs) that enable users to develop and customize their applications. - Describe any Web Service interfaces you offer from your tools. - Identify which functionalities are accessible via your API is also available via the Web Services interface? - Describe the use of web services to interface with the solution. - Describe the solution's ability to support enterprise application integration.

Technical Criteria – Data Management Solution

CRITERIA	EXAMPLE
RELATIONAL & SPATIAL DATABASE ARCHITECTURE	- Explain the indexing and querying process. - Explain the Application Programming Interface (API) options your solution has. - Does the relational/spatial database offer location tracking? Identify and define regions of interest and track the movement of objects into or out of those regions, and receive notifications when certain movements occur? - Explain the relational and spatial concepts utilized to integrate data types (Waypoints, Shapefiles, KML Data and Lexicon Libraries). - What are the functions, procedures and data models that will support spatial and graph analytics? - Explain the object-relational model that is used to support geometries, vector data, and geolocations. - What programming language does the solution utilize to process the object the object relational model? - Explain the query model, spatial indexing, spatial indexing, and filters that used to determine the spatial relationship between entities in the database. - How does the solution use geocoding process and convert tables of address data into standardized address, location and other data related to Geographical Information Systems (GIS)? - Explain the location data enrichment process, and configurations that would enable name data sets to be augmented with other location data such as addresses, partial addresses and longitude and latitude information. - What are the performance and tuning protocols and procedures in place to maintain the query execution? - Does the relational/spatial database conform to the Open Geospatial Consortium (OGC) and current ISO Standards? ISO 13249-3: SQL Multimedia and Application Packages ISO 19101: Geographic Information - Reference Model ISO 19019: Geographic Information - Rules for application schema (General Feature Model) ISO 19111: Geographic Information - Spatial referencing by coordinates (OGC Abstract specifications for coordinate reference systems) ISO 19118: Geographic Information - Encoding (GML 2.1 and GML 3.1.1) ISO 19107: Geographic Information - Spatial Schema
TEMPORAL DATA	- What are the limitations and restrictions with In-database archiving and temporal validity? - Explain the in-database archiving applications as they relate to optimization and compression. - Explain how your solution uses temporal validity to track time periods in the real world. - How is the temporal validity function configured? If it is user-defined, what steps are necessary to ensure that correct dates and time-stamps are implemented?
ADAPTABLE	- What are the mechanisms for facilitating adjustments to the data structure without interrupting the ability to query data. - Describe the solution's tools used to modify database structures and relationships.
ASSOCIATION TYPES	- Describe how the solution allows users to create association types. - Explain how these association types can be selected when entering and modifying data.

PARTITIONS	- Explain how the solution can utilize different partition strategies, such as: Range Partitioning: data is partitioned based on a range of values Hash Partitioning: a hash key is used to distribute values evenly across different partitions. List Partitioning: Partitions are mapped by specifying a list of values. Composite Partitions: Partitions that incorporate ranges and lists. Round-Robin Partitions: ROWS inserted will be distributed to the number of partitions evenly and in a ring fashion - Explain how the proposed solution will augment Information Lifecycle Management(ILM) in relationship to the partitioning of data in the database.
LANGUAGES	- What languages can your solution store, query, and display? - If applicable, what limitations does your solution have using multiple languages, particularly those that are not Latin based?
UNIQUE CODES	- Explain the proposed solution's process for creating unique codes for each record entered into the solution. - What tools or techniques does your solution provide to enable Conflict Armament Research to store, retrieve, encode, decode, and translate between various product or identity codes?
ATTACHMENTS	- Explain how the UI enables users to attach large files, such as high-resolution photographs (5-10 MB each) during or after data entry. - Describe the technical requirements for importing and exporting content. Describe any challenges due to size, type of format, limited functionality, etc.
ACCESSIBLE	- What language does your system use? - Describe the compatibility of the language with other systems.
UNIX TIME	- Describe how your solution utilizes Unix time.
STORAGE	- Can the solution scale storage capacity? - Explain your solution's storage strategy. Can data be archived in a separate database or portion of a database?
REDUNDANCY	- What is your solution's procedure regarding data storage redundancy? - Describe your solution's methods and tools for data backup and restore. - Describe ability to meet backup, restore, high-availability and disaster recovery requirements. - Can the proposed solution be integrated with other Disaster Recovery applications? Please specify examples.
ARCHIVING	- Describe the capabilities surrounding archived content. - Can the user search, report, retrieve, etc. archived content directly? - Explain the solution's archiving strategy. Can data be archived in a separate database or portion of a database. - Explain the solution's historical/archived information purging procedures.
DATA ENTRY CUSTOMISATION	- Explain how the solution accommodates the customisation of the data entry process, layout, and interface.
EASY ENTRY	- Explain what processes, tools, and/or strategies your solution utilizes to make data entry intuitive and streamlined.
CALCULATIONS	- Describe tools available to user to use calculation fields without using programming code. - Example how calculations are performed in a relational database from the User Interface (UI). Are there diagrams that offer detail into these operations? - Does your solution use SQL to perform calculations? - What security considerations does the solution offer to limit named users from being able to perform calculations?

LEXICON (LEXICAL DATABASE)	- What tools does your solution have available to support the use of lexical structures? - Provide Example of Boolean Statements as they have been applied to specifically meet the Lexicon (Lexical database) needs and requirements for existing clients.
LOOKUP (LOOKUP TABLES)	- What is the process of configuring lookups in your solution? - Explain the full functionality of the lookup features your solution has available, particularly as they related to data entry.
VALIDATION	- Describe the business rules tools your solution has available. - Explain your solutions tools (such as ETL) as they apply to data validation. What are processes and techniques that were involved?
DUPLICATION	- What validation options does the solution utilize to alert the user entering data in the database that a field entry already exists? - Explain the process by which the solution will notify the administrator when there are serial numbers that are identical to other records. - What tools and techniques are available with your solution to prevent redundancies in the database?
ITEM LIBRARIES	- Explain how the solution defines datasets as they relate to item libraries. - Describe how your solution can automatically generate entities such as item libraries.
SHAPEFILES	- Explain how your solution uses shapefiles to uses GPS coordinates and the shapefile format to store geometric attribute information of geometric features. - Identify which countries and levels of administrative districts are available within the shapefiles your solution does/can utilize.
OBJECT RECOGNITION	- Can the solution accommodate the addition of an object recognition software for data entry and/or data validation purposes? - How compatible is your solution with machine learning tools? - If applicable, describe your solution's machine learning tools.
QUERY	- Describe the query tools available to users of your solution. - What configurations will be necessary to enable queries performed by Boolean statements and wildcard operators? - Explain the process from the perspective of the end-user and UI. Provide example and screenshots of these extractions if applicable.
ATTACHMENT SEARCH	- Explain the process by which the database will index the data from attachments (ftp server, sftp server, or directly in the database).
SHARING QUERIES	- Describe how a user shares or saves the queries.
NETWORK QUERY	- How will you configure your solution to enable networking queries based on waypoints or intermediary points or places? - Explain how a query will enable CAR to identify where degrees of separation can be linked by different datasets.
ALERTS	- Explain the email alert system that your solution offers to notify its users of specific data entries. Example: Data sets that include weapon type/model and serial number. - Can the "Reply To" and "Sent From" email address of system generated emails be configured?
COMPARISON VIEW	- Explain the UI to access the media records within the database.

GEOSPATIAL VIEW	- Describe how your solution would display an item record's linked waypoints and associated route segments (chain of custody).
VISUALISATION	- Describe the data visualisation features of your solution.
IN-PLATFORM COMMUNICATION	- Describe tools your solution has for users to discuss, tag, and otherwise communicate within the solution?
REPORT GENERATION	- Can the solution populate template documents with content from pre-defined entity fields?
MOBILE APPLICATION – DATA ENTRY	- Describe your solution's ability to use a mobile application to leverage application assisted field data entry.
MOBILE APPLICATION – NAVIGATION	- Describe how records within the solution can be retrieved and displayed within a mobile application.