

**Frequently Asked Questions  
for  
GUARD DOG  
DARPA-BAA-10-50  
(as of 10 May 2010)**

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**Q 65. Are you assuming hardware acquisition should be included in the cost (for Technical Area 2, Systems Engineering and Integration)?**

A 65. Proposing the purchase of all hardware necessary to support integration and Field Test activities is a reasonable approach; otherwise, provide a description of the Government Furnished Property and/or Government Furnished Facilities that will be required for the proposed effort.

**Q 64. How will social background and/or event information be included in the GUARD DOG system?**

A 64. See the answer to Q45.

**Q 63. We are interested in offering to assist in the “transition” of technology from those university TD performers to a classified environment. Should we cost this as a pre-priced option?**

A 63. Proposing “transition” assistance as a priced option is a reasonable approach.

**Q 62. Is proposing [an “XYZ”] computing environment an advantage or disadvantage?**

A 62. Neither. Each offeror should clearly define the proposed technical approach, its advantages and disadvantages, and how it addresses the GUARD DOG goals and challenges such that the Scientific Review can assess the value of the approach in the context of deployed operations and insertion into DCGS-A. DARPA is not directing the specific approach.

**Q 61. How much of the network is likely to come from the S2 vice just the patroller reports?**

A 61. The network information is likely to come from multiple sources, predominantly patroller reports and any other intelligence systems that GUARD DOG is connected to (e.g., DCGS-A). The S2 may enter specific information or assessments. The exact quantities from each source are not known.

**Q 60. What constitutes a GUARD DOG alert? Who would issue an alert? What should GUARD DOG’s role be after the alert is issued?**

A 60. GUARD DOG could generate a variety of alerts, including (but not limited to) the following:

- Detecting a connection to a node (person or group) that is already of interest
- Detecting a subnetwork that may be of interest (hostile, friendly, or neutral)
- Detecting a trend or pattern in the evolution of a network
- Detecting an instance of a trend or pattern in the evolution of a specific (sub)network (e.g., in response to an event)
- Detecting conflicting information – especially when that information significantly influences situation awareness/understanding (e.g., would the classification of the nodes change if the ground truth was one or the other of the pieces of information?)

Notionally, GUARD DOG would highlight the information in the alert and a human analyst or patroller would act on that information. Regarding GUARD DOG's role after the alert: GUARD DOG will continue to function, archiving information and analysis results.

**Q 59. What dynamics should GUARD DOG address?**

- **Contextual: changing environment, political views, cooperativeness**
- **Intrinsic: changes in the way the family or business structures appear in the network**
- **Are the dynamics themselves of interest (i.e., shifts in connection density over a period of time)**

A 59. Any and all of the above are potentially of interest. Offerors should indicate which of these (or others) they feel their approach addresses, how well their approach will address it, and the potential benefits of capturing these types of dynamics.

**Q 58. What is the desired result of the GUARD DOG program? Is the emphasis on long-term, high-risk technology development? Is the emphasis on closing the gap between state-of-the-art and state-of-the practice in HUMINT management?**

A 58. The desired result of GUARD DOG is to achieve the program goals of improving HUMINT collection and analysis. DARPA believe that requires bringing the current state-of-the-art in the research domain into the practical, operational domain. In the process, DARPA expects to conduct high-risk, high-payoff technology research and development.

**Q 57. What is the top priority for GUARD DOG?**

- **Metrics suggest classification of Friend-Foe-Neutral drive the analysis**

- **Text discusses identification of subnetworks**
- **Text emphasizes need for HUMINT management system more generally**

A 57. The purpose of the metrics is to have a means for measuring progress in the program. All elements in the above question relate to the metrics. For instance, it is possible that by identifying subnetworks, one may be better able to correctly classify nodes in the network. One of the hypotheses of the program is that better HUMINT collection and management will lead to improved analysis of the data and, ultimately, improved situation awareness and understanding. One of the goals of the program is to determine if these hypotheses are true and to what degree.

**Q 56. What is your tolerance for risk/novelty on the TD area?**

A 56. DARPA encourages novel solutions that advance the state of the art to achieve the program goals.

**Q 55. Will other HUMINT data be available (not from the PDAs)?**

A 55. See the answer to Q9.

**Q 54. How is data from multiple squads typically integrated in a central location?**

A 54. As presented in DARPA-BAA-10-50, the notional system concept is the data from the individual Patrol-based PDAs will be uploaded to the Company- and/or Battalion-level laptop/desktop segment. The internal workings of the database to manage multiple, possibly conflicting inputs, is TBD and will be developed during the execution of the program.

**Q 53. When on a lead, how does the squad leader try to not “tip their hand”?**

A 53. Squad leaders/interviewers may want to obfuscate the specific goal of their questioning. The UI should assist patrollers in not “tipping their hand”.

**Q 52. Are you interested in detecting small, local cells (how realistic is that)?**

A 52. Yes, this is an area of exploration, which will be tested primarily in the Full Simulation evaluation and, perhaps, with classified data when/if it becomes available.

**Q 51. What attributes besides Friendly/Hostile are of high priority?**

A 51. The classification of nodes as Friendly/Hostile/Neutral is one of the primary metrics that will be used for measuring progress in the GUARD DOG program. There are many other attributes that could be inferred, any number of which may be used to help classify the nodes as Friendly/Hostile/Neutral or provide other benefits. Offerors are encouraged to suggest additional attributes they believe would of use. Ultimately, the system should be flexible so that it can be adapted to incorporate additional attributes. The specific

attributes of interest are TBD; one of the goals of the GUARD DOG effort is to determine which attributes may be useful.

**Q 50. Do you envision fusion of dBase structures across TD teams?**

A 50. Ultimately, the primary GUARD DOG database will have well-defined and mutually shared data structures and representations. The development of the database structure/representation will be led by the SEI performer with inputs from the TDs. It may be the case that one or more TD performers will require specialized data structures; in that case, such TDs will need to work with the SEI to develop an interface to support efficient transformation of the common data structures to the specialized structure and back.

**Q 49. Will code be delivered to SE & I team in research-grade form, defined APIs etc?**

A 49. Technical Area One (Technology Development or TD) performers are expected to deliver both source and object code to the SEI performer where that code is sufficiently mature to be integrated via the program-wide software/hardware architecture, including APIs.

**Q 48. Will there be a need for an IRB review/approval for human subject testing?**

A 48. Efforts involving participants testing a computer program and providing suggestions/recommendations to improve the program are not Human Subjects Research (HSR) because the participant is considered an indirect object of the research. Since the subject of the Human-in-the-Loop evaluation and Field Test is the GUARD DOG system, DARPA does not expect that there will be a need for an IRB review/approval for human subject testing.

**Q 47. Can you recommend publically available data sets that would be relevant to demonstrate GUARD DOG objectives?**

A 47. No. Offerors are welcome to suggest publically available data sets for use in the program. And, as stated on page 11 of DARPA-BAA-10-50, "TD performers may use their own data for the mid-term self-assessment, so long as that data can be freely shared throughout the GUARD DOG program. (Note: formal evaluation will be conducted by the PE and may be done using unclassified and/or classified, simulated and/or real data.) Similarly, any TD performer may use their own data for on-going self-assessments performed under contract, so long as that data can be freely shared throughout the GUARD DOG program."

**Q 46. When will classified data be available?**

A 46. This is TBD.

**Q 45. How are "events" typically represented? (date, location, description)**

A 45. This is TBD and will be worked out via Technical Exchange Meetings (TEMs)

between the GUARD DOG performers.

**Q 44. How is 80% data “lost”?**

A 44. This refers to the social network information that patrols actually hear when interacting with the local population vice what makes it to the S2 and into the analysis tools, and is subsequently available to other patrols. The estimate of 80% information loss is based on observations conducted at the National Training Center (NTC). These observations have been vetted with operational forces who have recently returned from deployment.

**Q 43. Regarding DARPA BAA 10-50 (GUARD DOG), can FOUO material be included as part of an unclassified response? If so, then how should that material be marked?**

A 43. FOUO material may be included along with unclassified material in a GUARD DOG proposal.

Regarding marking, a proposal containing FOUO along with unclassified material should be marked as follows:

- The bottom of the title page must be marked "FOR OFFICIAL USE ONLY";
- The bottom of all page(s) containing FOUO information must be marked “FOR OFFICIAL USE ONLY”;
- Each paragraph, subparagraph, etc., containing FOUO information must be preceded by “(FOUO)”
- Non-FOUO paragraphs and pages do NOT need to be marked.

Offerors who include FOUO material in their unclassified responses may use the online submission process, which requires the submission to be zipped and encrypted.

Offerors who include FOUO material in an otherwise classified (SECRET or TOP SECRET) proposal should follow the instructions contained in DARPA-BAA-10-50, Part Two, Section VI.B.1 “Security Classification and Proprietary Issues”.

**Q 42. Received via fax: “Could you please inform us how we can get questions to you for this BAA effort (GUARD DOG)”**

A 42. As indicated in DARPA-BAA-10-50, interested parties may submit questions via fax or email; email is preferable. The email address for GUARD DOG is DARPA-BAA-10-50@darpa.mil.

Instructions for submitting questions can be found in DARPA-BAA-10-50:

- Part One: Overview Information (page 3) provides the fax number and email address; and
- Part Two, Section VII, Agency Contacts (page 45) provides instructions on submitting questions.

**Q 41. Can you clarify the use of the term “subnet”? The solicitation discusses detecting and classifying subnets (cf. PIP page 10 last paragraph) and then refers to subgraphs separately, implying that those are different. Later the solicitation refers to group detection and subnet search separately (cf. PIP page 11 first bulleted item), implying that those are different. Would you define subnets as the results of a group detection algorithm, a subgraph isomorphism algorithm, both, or neither? More generally, can you please define GUARD DOG’s usage of “subnet” and distinguish it (if appropriate) from “subgraph”?**

A 41. The solicitation uses “subnet” and “subgraph” interchangeably. Offerors who wish to distinguish between these two terms (i.e., offerors who mean something specific and different with each term) are encouraged to clearly define how they are using these and any other social network analysis or graph-theoretic terms.

**Q 40. The solicitation states that the SEI (Technical Area 2) performer will define the software and hardware architectures for GUARD DOG integration and deployment. Not all languages are supported (or supported well) on all PDA platforms. Does this preclude TD (Technical Area 1) proposers from proposing a particular language for algorithm development or implementation? Does it preclude TD proposers from leveraging existing capabilities in a particular language? Specifically, we believe we can leverage existing capabilities implemented in Java. Can we assume this is acceptable? If that can’t be answered, can you please comment on the more general issues of TD development language choices given that the SEI performer is defining software and hardware architecture?**

A 40. The Technical Area Two (Systems Engineering and Integration or SEI) performer is responsible for developing an open architecture software and hardware platform. DARPA expects the SEI performer to take the lead in defining the software and hardware architecture, but do so *in conjunction with* the Technical Area One (Technology Development or TD) performers. The ability to make use of different software development environments should be one consideration among many. It may be the case that initial SW development can take place in one programming language and then transitioned to another. These details will be worked out via Technical Exchange Meetings (TEMs) involving all GUARD DOG performers.

Offerors responding to Technical Area One are free to propose on the assumption of using a specific SW development environment; offerors are encouraged to clearly identify their assumptions, reasons for their technical approach, and possible limitations of their technical approach.

**Q 39. We do not see the Industry Day Q&A or an FAQ on [http://www.darpa.mil/ipto/solicit\\_open.asp](http://www.darpa.mil/ipto/solicit_open.asp). Do you still plan to create these, and is that still the correct location to look?**

A 39. The first release of the FAQ was posted on 27 April 2010 and is available at [http://www.darpa.mil/ipto/solicit/solicit\\_open.asp](http://www.darpa.mil/ipto/solicit/solicit_open.asp).

**Q 38. Will field data be made available for tuning model parameters before the deployment of the GUARD-DOG system?**

A 38. TBD. In general, performers should not assume that the model parameters will need expert (i.e., personnel with algorithmic expertise) tuning for field use. It is intended that the GUARD DOG system will be used in a variety of settings and that end users will be able to scope questions and parameters within some bounds. One of the goals of the GUARD DOG program is to determine the general applicability of the resulting techniques and system.

**Q 37. Are there any reports, presentations or papers that were an outcome of the seedling? If yes, are they available for review?**

A 37. The seedling performers did generate PowerPoint presentations/reports. The results are all contained in DARPA-BAA-10-50 materials (the BAA itself and the Briefing to Industry). The seedling was completed over two years ago and all the relevant material was updated over the last six months and is reflected in the BAA materials available on DARPA/IPTO's solicitation web page ([http://www.darpa.mil/ipto/solicit/solicit\\_open.asp](http://www.darpa.mil/ipto/solicit/solicit_open.asp)). The original materials are not available.

**Q 36. Regarding Technical Area 3, Performance Evaluation, I have two questions related to the National Training Center's role.**

- 1. There are indirect references to prior testing done at the NTC in both the BAA and industry day slides. Can you provide any more information on this, or a point of contact? Is this an important reference point for performance evaluators to understand?**
- 2. Also related to the NTC, do you want bidders to discuss logistics, staffing, etc. with NTC in the proposal stage, or would you prefer that they only be contacted after a performer has been selected?**

A 36. In response to the first question, no "testing" was done at the NTC. During the seedling effort, we embedded personnel in one of the NTC "villages". These DARPA-sponsored personnel were in the village 24 x 7 for the entire rotation and observed the interactions between all of the patrols who visited the village and the villagers, and documented (by hand) the information that was exchanged (e.g., names, relationships, positions, attitude toward the U.S.). We also embedded personnel at the Company and Battalion and observed what was reported (briefed out) at each level and what ended up in the Battalion-level analysis tools. We then compared the difference between what patrols heard during their interactions with villagers against what made it into the reporting chain. While this was a useful approach for the seedling effort; offerors responding to Technical Area 3 should propose their own method for collecting data and assessing system performance during the Field Tests.

In response to the second question, bidders should NOT discuss logistics, staffing, etc., with the NTC or JRTC during the proposal stage. All offerors expecting to directly participate in the Field Tests should identify their expectations regarding logistics and staffing and relate that to how they will support the goals of the program under those assumptions.

**Q 35. Is there an existing database system or technology the GUARD DOG system is to interface to, or are you expecting a new database system to be proposed? If so are there any technology requirements(Operating systems, database vendors) for a database system?**

A 35. No to both questions. Offerors should propose an approach and/or make clear what their assumptions are regarding database capabilities and the implications (if any) for their proposed approach.

**Q 34. If the research is fundamental research (done at a University), can foreign nationals participate?**

A 34. As stated in DARPA-BAA-10-50, Part 2, Section III.A.3, "Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non-Disclosure Agreements, Security Regulations, Export Control Laws, and other governing statutes applicable under the circumstances."

**Q 33. Will the performers be able to observe the NTC evaluations?**

A 33. DARPA expects that performers will be able to observe the field test that are planned to be conducted at the National Training Center (NTC) and/or Joint Readiness Training Center (JRTC), subject to the following caveats:

- In all likelihood, only US citizens will be able to directly observe the field tests;
- In accordance with security procedures, some areas may be off-limits to uncleared personnel;
- Any limitations on number of outside participants imposed by NTC or JRTC personnel (generally to minimize the disruption to training); and/or
- Any other limitations imposed by NTC or JRTC personnel.

**Q 32. Will the contract awards in Technology Area 2 and Technology Area 3 provide billets for SCI?**

A 32. Yes. DARPA will issue DD254s for Technology Area 2 and Technology Area 3 contracts. Performers will be required to submit the necessary paperwork to obtain SCI status on GUARD DOG.

**Q 31. Will DARPA sponsor performers in Technical Area 1 to obtain clearances if they do not already have them in place?**

A 31. This will be dealt with on a case-by-case basis. In principle, so long as the organization and personnel are eligible, DARPA has no objections to supporting this.

**Q 30. Does the offeror need to have a SCIF or just personnel with SCI at the time of submission?**

A 30. As stated in DARPA-BAA-10-50, Part Two, Section III.C.2, "All offerors wishing to submit proposals against Technical Area 2 (System Engineering and Integration) and/or Technical Area 3 (Performance Evaluation) of this BAA must have personnel with a TOP SECRET clearance that are eligible for SCI and access to facilities that can store, process and discuss SCI at the time of proposal submission. Technical Area 2 and 3 offerors must provide their CAGE code and security point(s) of contact in their proposals." Technical Area 2 and 3 offerors should discuss their security processes and plans for handling classified data in section 2.11 of Volume 1 – Technical Proposal (see Part Two, Section IV.B of DARPA-BAA-10-50).

Hence, offerors submitting proposals against Technical Area 2 and/or Technical Area 3, must have:

- personnel with current TOP SECRET clearances who are eligible for obtaining SCI compartments, AND
- access to a SCIF.

The SCIF could be provided by the prime or a subcontractor.

**Q 29. Can you explain the security requirements for Technical Area 1 (Technology Development)?**

A 29. As stated in Part Two, Section III.C.2 of DARPA-BAA-10-50, "Those offerors submitting proposals to Technical Area 1 (Technology Development) are not expected to hold or obtain security clearances; however, they must have a strategy in place for getting unclassified feedback on the PE classified test results so they can perform any adjustments. For those who wish to have access to classified data and evaluation results, they must have personnel and access to facilities with a minimum classification level of SECRET at the time of proposal submission and must provide their CAGE code and security point(s) of contact in their proposals."

DARPA is looking for broad participation in Technical Area 1. Hence, there are no requirements that offerors submitting proposals to Technical Area 1 hold or obtain clearances; further, it is not expected that Technical Area 1 performers will be required to perform classified work. That said, DARPA recognizes that the ultimate aim of GUARD DOG is to transition the technology to operational use, which may involve applying the technology to classified data. Further, it is possible that classified data will be used for technology assessment purposes during the course of GUARD DOG. Hence, any offeror submitting a proposal to Technical Area 1 needs to have a strategy in place that allows their technology to be assessed in a classified

environment and for getting unclassified feedback regarding the performance and needed adjustments to the algorithms. Those Technical Area 1 offerors who have cleared personnel and processing facilities, may elect to offer those capabilities in their proposal. Those Technical Area 1 offerors who do NOT have cleared personnel and facilities will need to propose a strategy as noted above. Potential strategies may include, but are not limited to, subcontracting any classified work to an appropriately cleared performer, or providing source and object code to another GUARD DOG performer. (Likewise, appropriately cleared offerors responding to Technical Area 1 or Technical Area 2 may offer to support such efforts. These offers may be priced as separate options in the technical and cost proposals.)

Participation strategy should be addressed by all offerors, as described in section 2.11 of Volume 1 – Technical Proposal, see Part Two, Section IV.B of DARPA-BAA-10-50.

**Q 28. Was there a seedling behind this [the GUARD DOG BAA], and, if so, who were the performers?**

A 28. The seedling was conducted in 2007. The performers were BAE-Advanced Information Technology, located in Burlington, MA; and Metron, Inc., located in Reston, VA. Parietal Systems, Inc., in North Andover, MA, was a subcontractor to BAE during the seedling. All seedling results were updated by the DARPA Program Manager and DARPA SETA staff in the last six months and are reflected in DARPA-BAA-10-50.

**Q 27. What is expected for Certification and Accreditation?**

A 27. The Technical Area 2 performer will be responsible for supporting Certification and Accreditation (C&A) activities in Phase 3 of GUARD DOG. This will likely include preparing the necessary documentation and performing security scans. Technical Area 1 performers will support the documentation activities as necessary. The actual C&A approval will be performed by the service transitioning GUARD DOG.

**Q 26. Will the Technical Area 2 performer be able to support Technical Area 3 in training and user feedback for spiral improvement?**

A 26. The Technical Area 2 and 3 performers will need to work closely together to ensure that the training materials and user feedback are sufficient to support the goals of both the Human-in-the-Loop and Field Test evaluations.

**Q 25. The BAA states that Technical Area Two will be responsible to “develop the user interfaces for both GUARD DOG segments to support the Collect phase of the Collect-Update-Analyze-Prioritize HUMINT process”. Under the assertion that “Collect” is integrally, continuously, and seamlessly associated with the “Update-Analyze-Prioritize” phases, would you favor development of a UI that supports all phases, to the extent selectable and relevant/appropriate to the user?**

A 25. The Technical Area 2 performer will be responsible for developing the GUARD DOG user interface (UI) for both the PDA and laptop/desktop segments. Obviously, the UI will incorporate features to support the patrol and human analyst in interacting with the system throughout the entire HUMINT process (i.e., the Collect-Update-Analyze-Prioritize cycle). Technical Area 1 performers are responsible for developing the algorithms/technology that performs the "Update-Analyze-Prioritize" activities "under the hood". Technical Area 1 performers will need to work closely with the Technical Area 2 performer to ensure an integrated, operationally relevant, and usable system.

**Q 24. Is the integration framework responsible for providing a common look and feel across all GUARD DOG development models?**

A 24. The Technical Area 2 performer, System Engineering and Integration, is responsible for ensuring a common look and feel across the GUARD DOG system, and ensuring that the GUARD DOG user interface (UI) supports both Patrol- and Company-/Battalion-level activities. Note, this does not mean that the UI on the PDA segment is identical to the UI on the laptop/desktop segment; in fact, they are likely to have different functionality. That said, the system should have a common and intuitive look-and-feel.

**Q 23. Will the functions of Technical Area 1 be deployed as relevant, on PDAs, as well as the laptop/desktop segment?**

A 23. Yes.

**Q 22. Is it reasonable or useful to conceptualize GUARD dog as an extension of TIGR or MAP HT Toolkit?**

A 22. There is no advantage or disadvantage to doing so. There is no intent to use the specific platforms in use by TIGR or MAP HT; the hardware solution should be platform independent. It will be up to the Army to determine exactly where GUARD DOG will be inserted; however, we are conceiving of inserting GUARD DOG into DCGS-A.

**Q 21. Do you have a specific PDA in mind?**

A 21. No. The software components and system framework should be platform-independent.

**Q 20. Can we incorporate COTS solutions into our response?**

A 20. Yes; however, you must: (a) clearly identify any COTS solutions you propose to include; (b) describe how you propose to build on top of the COTS product; and (c) identify any constraints on the government's future use of the solution.

**Q 19. If we bid on more than one "Tech Area", must there be separate full proposals for each "Tech Area", or can we combine them in a single proposal?**

A 19. As discussed in DARPA-BAA-10-50, Part Two, Section 1, “Areas of Interest”, DARPA is interested in three “Technical Areas”:

- Technical Area 1 – Technology Development
- Technical Area 2 – System Engineering and Integration
- Technical Area 3 – Performance Evaluation

If by “Tech Area” you are referring to these three ‘Technical Areas’, and you are interested in responding to more than one, you should submit separate and distinct proposals for each Technical Area. (Note the discussion of “Cross-Technical Area Considerations” in Part Two of DARPA-BAA-10-50.)

If by “Tech Area” you are referring to individual solutions or components within Technical Area 1, an offeror can submit a single, more comprehensive proposal or multiple, more narrowly focused proposals. In any case, as discussed in part Two, Section 1, “Technical Area one: Technology Development (TD)”, offerors “may address individual aspects of the problem space or they may provide a more comprehensive approach; in any case, offerors should be clear on which of [the three] technical challenges they are addressing and how. If not addressing all three challenges, offerors should indicate how their proposed work can be integrated with other techniques to result in a complete solution.”

Note, in accordance with the Scientific Review Process employed in evaluating BAA proposals, each proposal will be evaluated independently of all other proposals.

**Q 18. Can Universities participate as primes or should they subcontract to a defense contractor?**

A 18. This is entirely at the discretion of the offeror.

**Q 17. Can the PDAs communicate with each other and possibly to the command station while in the field?**

A 17. Connectivity in the field can be challenging, but is not out of the question. The PDA segment should be able to operate in standalone mode when deployed with a patrol; but be designed to take advantage of connectivity if that becomes part of the CONOPS in Phase 3.

**Q 16. Is there already a transition partner/proponent? Do we need to bring one to the table?**

A 16. The planned transition partner is DCGS-A; however, DARPA is open to additional suggestions to maximize both military utility and transition success.

**Q 15. Are we assuming that the patrol agent in the field has access to a classified device? If so, what level(s) of classification?**

A 15. At this time, we are making no assumptions about what level of classification the PDA segment will operate at. We will need to work with the service to

determine classification and any necessary encryption or other safeguarding mechanisms.

**Q 14. Is cross-domain information sharing an issue?**

A 14. Not at this time.

**Q 13. Who are the expected “inputters” to the system?**

A 13. At the patrol level, we are assuming that the current Tactics, Techniques, and Procedures (TTPs) remain in place, in which an interaction involves a patrol leader engaging a local via an interpreter, a patrol member taking notes, and the remainder of the patrol securing the area. The patroller taking notes would use GUARD DOG instead of a pad of paper. At the Company- and Battalion-levels, data will be input from the PDA segment, external databases, and intel analysts interacting with the laptop/desktop segment.

**Q 12. Will a specific unit(s) be identified for fielding and if so, will it be available for the length of the program to develop interfaces and usable data sets?**

A 12. No. Field tests will be conducted in conjunction with units rotating through training at the National Training Center (NTC) and/or Joint Readiness Training Center (JRTC).

**Q 11. Is there an upper echelon (Division) where information aggregation is targeted to stop?**

A 11. In general, GUARD DOG information will flow up from Patrols, to the Company- and Battalion-levels. Since GUARD DOG is targeted to be inserted into DCGS-A, GUARD DOG information could flow up through the Division and beyond. There is no set stopping point for high-valued information. Offerors are free to make assumptions about the information flows; however, offerors should clearly identify their assumptions and the implications of those assumptions on their approach.

**Q 10. “Responding to real-time events” – Where do these events come from and how do they get into the PDA collection device? Are they downloaded with other social network data prior to a patrol going out to the field or are they entered in the field?**

A 10. Available data relevant to a patrol's mission will be downloaded to the patrol's GUARD DOG PDA prior to a patrol. Real-time event information may come from a Significant Activities (SIGACTS) database, from polling information collected by other organizations, entered by an analyst at the Company-/Battalion-level, or entered by a patrol while in the field.

**Q 9. How “deep” will the relationship need to go for reporting to patrol agents? In other words, how many degrees of separation do you want to show?**

A 9. There is no specific answer; whatever makes sense, but it must be reasonable. Please feel free to make suggestions; this is likely to be an area of exploration during the GUARD DOG program and it may well be that it is controlled via a user-configurable parameter.

**Q 8. What do you anticipate will be the approximate size of the database?**

A 8. This is not yet determined. It will be a function of the number of nodes, links, attributes, and additional supporting data.

**Q 7. The BAA refers to “nodes” are these equivalent to vertices in the graph? Is the term “nodes” synonymous with “person”?**

A 7. A node is synonymous with a vertex in a graph (and, a link is synonymous with an edge in a graph). A node can represent any entity of interest, including (but not limited to) a person, group, organization, location, or event. (Note, while not common, some researchers treat vertices as the links and edges as the nodes in a social network.) In any case, offerors should clearly define the terms they use regarding networks/graphs.

**Q 6. Will the program provide a graph/data ontology, or are the performers free to suggest an ontology?**

A 6. Offerors are free to make suggestions in their proposals. Once the program is underway, the GUARD DOG program team (all performers) will work together to define the graph/data ontology to be used in the program.

**Q 5. How structured is the data likely to be?**

A 5. Patrol interactions with locals will be unstructured. One of the challenges facing the GUARD DOG program is developing a user interface to support the easy capture of structured data from unstructured interactions via a human “note-taker”, without forcing the user to follow a highly structured script. A large amount of data contained in the GUARD DOG database is likely to be structured; however, it may also be unstructured data (e.g., text-based HUMINT and Significant Activities – SIGACTS – reports). The main effort in GUARD DOG will be focused on structured data.

**Q 4. You are asking for structured data collection. Will the government or systems integrator define what information will be collected and what information will be represented in the social network database?**

A 4. The GUARD DOG program team (all performers) will work together to define the types of data that may be included. It is desirable that the specific types of data to be included be adaptable in the field to support changing situations and/or different socio-cultural contexts.

**Q 3. Will socio-cultural data be provided to the teams working on Technical Area 1 (Technology Development).**

A 3. The Technical Area 3 (Performance Evaluation) performer is responsible for identifying and collecting/generating relevant socio-cultural data. DARPA will also provide some Subject Matter Expert (SME) support in identifying relevant socio-cultural data and likely scenarios.

**Q 2. Is there unclassified data to be used for design, testing, use cases, etc.? What are the available data sources to support development and evaluation?**

**Will the program provide common data sets to all performers for development use or for evaluation sessions? If so, will the SEI or PE be expected to develop them?**

A 2. The Technical Area 3 (Performance Evaluation) performer is responsible for identifying and generating/collecting relevant data to support GUARD DOG development and evaluation. Technical Area 1 (Technology Development) performers are expected to conduct mid-term self-assessments with GUARD DOG program-generated data (from the Technical Area 3 performer). It is expected that the Technical Area 3 performer will provide unclassified data for mid-term self-assessments and evaluations; however, if it becomes impractical or ineffective for the GUARD DOG program to use unclassified data, classified data may be used. In situations where a TD performer is unable to perform classified processing the TD performer will need to have a strategy in place for getting unclassified feedback from the classified test results so they can perform any adjustments. TD performers may use their own data for the mid-term self-assessment, so long as that data can be freely shared throughout the GUARD DOG program.

During the first few months of the program, there may be a limited amount of data available to support design, testing, use cases, etc. Technical Area 1 performers may wish to bring data to the program to support efforts leading up to the mid-term self assessments.

See the last paragraph in DARPA-BAA-10-50, part Two, Section 1, "Technical Area One: Technology Development (TD)".

**Q 1. How will you facilitate teaming?**

A 1. A teaming page has been created; it is available at <https://www.csc-ballston.com/baa/GUARDDOGteaming.htm>. We have also published the list of GUARD DOG Industry Day attendees who approved release of their contact information; the list is available at [http://www.darpa.mil/jpto/solicit/baa/BAA-10-50\\_Attendee.pdf](http://www.darpa.mil/jpto/solicit/baa/BAA-10-50_Attendee.pdf).