Research Announcement

Cyber Fast Track (CFT)
DARPA-RA-11-52
August 3, 2011



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Part I: Overview

- Federal Agency Name: Defense Advanced Research Projects Agency (DARPA), Information Innovation Office (I2O)
- Funding Opportunity Title: Cyber Fast Track (CFT)
- Announcement Type: Initial Announcement
- Funding Opportunity Number: DARPA-RA-11-52
- Catalog of Federal Domestic Assistance Numbers (CFDA): Not Applicable
- Dates
- o Posting Date: see announcement at www.fbo.gov
- Closing Date: Proposals will be accepted at any time until 12:00 noon (EST), August 3, 2012
- Town Hall Meetings: No dates have been scheduled at this time. This RA will be updated periodically on the Federal Business Opportunities website at http://www.fedbizopps.gov/ to reflect meeting dates.
- Anticipated Individual Awards: Multiple awards are anticipated.
- Types of Instruments that May be Awarded: Firm Fixed Price contracts only (see Part II, Section I, "Additional Information" for award process details).
- Technical POC: Mr. Peiter "Mudge" Zatko, Program Manager, DARPA/I2O
- RA EMail: DARPA-RA-11-52@darpa.mil
- RA Mailing Address:
 - DARPA/I20
 ATTN: DARPA-RA-11-52
 3701 North Fairfax Drive
 Arlington, VA 22203-1714
- I2O Solicitation Website:

http://www.darpa.mil/Opportunities/Solicitations/I2O Solicitations.aspx

Part II: Full Text of Announcement

I. FUNDING OPPORTUNITY DESCRIPTION

Introduction

This Research Announcement (RA) seeks to revolutionize cyber technologies by promoting non-traditional technical opportunities. The Cyber Fast Track (CFT) program will engage numerous cyber related efforts across the spectrum of computer and network operations (CNO) to demonstrate that cyber efforts can be accomplished rapidly and cost effectively. This effort intends to extend the existing performer base to include non-standard, cutting edge organizations and individuals throughout the cyber community, thereby strengthening the Department of Defense's (DoD) Cyber Security capabilities. One goal of this program is to demonstrate the ability for cyber projects to be performed at an asymmetric advantage in time, cost, and contribution of the efforts in comparison to more traditional applied research areas. This will apply to both performance of individual efforts and to the contracting required to engage performers in said efforts.

This RA is being issued, and any resultant selection will be made, using procedures under FAR Part 35.016. Proposals received as a result of this RA shall be evaluated in accordance with evaluation criteria specified herein through a scientific review process. The RA will appear on the Federal Business Opportunities website, http://www.fedbizopps.gov/. The following information is for those wishing to respond to the RA.

Program Scope

The CFT Program objective is to capture multiple small cyber projects with a focus on shorter time frames, low cost, and with the expectation of results demonstrated in less than 12 month periods. The program will accept proposals for any/all technologies related in the area of cyber. Specifically excluded in this effort is research that primarily results in evolutionary improvements to the existing state of practice.

Program Description and Structure

The CFT Program is encouraging community interest and participation and allowing for an open submission of proposals in the field of Cyber. For the time and money currently invested for one program, the Government is striving to engage in dozens of programs. The Government needs agile cyber projects that are smaller in effort, have a potential for large payoff, and result in a rapid turnaround, creating a greater cost to the adversary to counter. This program seeks to engage many and different eyes on similar and diverse challenges.

This effort will consider all types of cyber security research and development. Of particular interest are efforts with the potential to reduce attack surface areas, reverse current asymmetries, or that are strategic, rather than tactical in nature. Proposed technologies may

be hardware, software, or any combination thereof. Efforts developing proofs of concept or finished products are also of particular interest.

This RA is soliciting proposals for programs, projects, and other efforts emphasizing low cost and quick turnaround. Efforts should be less than 12 months in duration, with preference given to shorter periods of performance (i.e., 4 months, 3 months, 2 months, etc.). Creativity and agility are encouraged, both in the technology itself, and in the structure of proposed efforts. This program is uniquely designed to attract organizations/companies that have limited existing experience working with the Government.

Proposals should strive to be concise and detailed (see Section II for specific information on proposal content and format). The proposal must include a detailed timeline including milestones, each with a deliverable (briefing, report, code, etc.). Payments will be made when those deliverables are actualized, and at no other time. As such, if a proposer is expecting to be paid bi-weekly then the proposal must include a timeline detailing bi-weekly deliverables (e.g., incremental code drops, sections of reports and status, etc.). The proposer should take this into account when planning their schedule. Rationale for the cost should provide a detailed breakout of how the money will be spent and how prices and rates were determined. Hourly rates must be justified based on past commercial or Government rates, or by providing examples of equivalent rates for equivalent talent.

Metrics

Toward the end of the period of performance, performers will need to demonstrate and deliver their work. The work will be evaluated against the metrics in the proposal. Performers should plan on assisting an independent Test Team in developing an evaluation plan and executing the evaluation. It is expected that performers will make themselves available to answer questions and provide guidance should the Test Team need additional clarification from performers on their capability/technology. The goal of the evaluation is to demonstrate successful completion of the proposed research and identify any shortcomings or future directions. The intent is that performers will provide what they consider to be a complete deliverable to the Test Team. The Test Team will then evaluate that deliverable and document what it is supposed to do, what it actually does and how well it performs. This documentation will be similar to a specification sheet. All performers are expected to do self-testing as they are performing their ongoing work. The Test Team is not a substitute for such internal performer functions.

Additional Information

DARPA will use a Federal Supply Schedule (FSS) contractor to expedite awards under this RA. The subcontracts awarded will be executed within approximately 10 working days of receipt of the Government's selection notification for capabilities/technologies funded by the CFT program. The FSS contractor will base the format of these subcontracts similar to a commercial content development agreement. Selectees that take major exceptions to the agreement's terms and conditions may experience a longer timeframe before the subcontract is awarded or may not receive an award. Entities who have received awards under HR0011-11-Q-0002/GSA RFQ562710 are not eligible to propose to this solicitation.

Performers should be prepared, at the end of the program, to present their programs to a forum that may include undergraduate, collegiate students (e.g., at U.S. Military Academies). Such Academies may host a website where performers could, at the end of their effort, have the opportunity to self-report the status of their DARPA-funded effort on a continual basis. This could include: conference presentations, commercialization, transition to government entities, awards, etc.

Terminology

The following terms as they are used in this document are defined as follows:

Performer: the lead organization selected under the RA.

Sub-performer: organization or individual teamed with a performer (as defined above).

FSS Contractor: entity that DARPA has contracted to execute sub award instruments (i.e., firm fixed price contracts) for all proposals selected under this RA. This entity will act as the prime contractor for the CFT program and each performer will be considered a subcontractor to this entity. As such, the entity will manage all aspects of any awards made as result of this RA. This includes acting as the mediary between the performers and DARPA (e.g., receiving deliverables, reports, etc.).

Proposer: lead organization submitting a proposal to this RA.

Sub-proposer: organization or individual teamed with a proposer (as defined above).

Fundamental research: basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production, and product utilization, the results of which ordinarily are restricted for proprietary or national security reasons.

Basic research: systematic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and of observable facts without specific applications toward processes or products in mind.

Applied research: systematic study to understand the means to meet a recognized and specific national security requirement. It is a systematic application of knowledge to develop useful materials, devices, and systems or methods. Applied research translates promising basic research into solutions for broadly defined military needs, and includes studies, investigations, and non-system specific technology efforts.

Government Purpose Rights (GPR) – Technical Data in Noncommercial Items: GPR gives the Government the rights to: 1) use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction; and 2) release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States Government purposes.

II. APPLICATION

A. Announcement

This announcement contains all information required to respond to this solicitation and constitutes the total RA. No additional forms, kits, or other materials are needed. No request for proposal (RFP) or additional solicitation regarding this opportunity will be issued, nor is additional information available except as provided at the FedBizOpps website (http://www.fbo.gov) or referenced in this document.

B. Proposals

Proposal Format: Proposals must be one volume, concise and detailed. The maximum page count for proposals is **16 pages**. This does not include figures, tables, charts, cover sheet, table of contents or appendices. A submission letter is optional and is not included in the page count. Appendix A does not count against the page limit and it is mandatory. Appendix B does not count against the page limit and it is optional. Additional information not explicitly called for here must not be submitted with the proposal, but may be included as links in the bibliography in Appendix B. Such materials will be considered for the reviewers' convenience only and not evaluated as part of the proposal.

All pages shall be formatted for printing on 8-1/2- by 11-inch paper with a font size not smaller than 12 point. Smaller font sizes may be used for figures, tables and charts. Document files must be in .rtf, .txt, Portable Document Format (.pdf, ISO 32000-1), OpenDocument (.odx, ISO/IEC 26300:2006), .doc, .docx, .xls, .or .xlsx formats. Submissions must be written in English.

Proposals not meeting the format prescribed herein may not be reviewed.

Proposals must include the following components:

1. Cover Sheet:

- RA number
- Lead proposer organization name
- Type of business, selected from among the following categories: "LARGE BUSINESS",
 "SMALL DISADVANTAGED BUSINESS," "OTHER SMALL BUSINESS," "HBCU," "MI,"
 "OTHER EDUCATIONAL," OR "OTHER NONPROFIT"
- Other team members (if applicable) and type of business for each
- Proposal title
- Technical point of contact including name, mailing address, telephone, email, and fax
- Administrative point of contact including name, mailing address, telephone, email, and fax
- Place(s) and period(s) of performance
- Sub-proposer information
- Proposal validity period (minimum 120 days)

2. Table of Contents

- **3. Executive Summary:** Provide a synopsis of the proposed project, describe what is novel/revolutionary, and include answers to the following questions:
 - o What are you trying to do?
 - o How is it done today? And, what are the limitations?
 - o Who will care and what will the impact be if you are successful?
 - o How much will it cost, and how long will it take?
- **4. Technical Description:** Outline and address technical challenges inherent in the approach and possible solutions for overcoming potential problems. Discuss mitigation of technical risk. This section should demonstrate a deep understanding of the technical challenges and present a credible (even if risky) plan to achieve the effort's goal. As applicable, this section should answer the following combination of Heilmeier and cyber questions for each proposed capability/technology:
 - What are you trying to do? Articulate your objectives technically and succinctly.
 - Explain what is new in the approach and why will it succeed?
 - Describe how the proposed effort increases or shrinks existing cyber attack surfaces and what new surface areas are created?
 - o Is the solution buying tactical breathing space for existing problems or driving toward convergence by changing the playing field?
 - If the solution buys tactical breathing space, explain in a substantive way how the maximal amount of breathing space is gained for the minimal cost.
 - If the solution drives toward convergence describe how the solution radically alters the landscape in ways to negate traditional adversary approaches/efforts.
 - How does this solution incentivize the adversary? If the solution were deployed, how might the adversary use the solution to further *their own* goals? What are potential unintended consequences of the proposed solution?
 - What is the asymmetry for this solution? Given an attacker and defender of the proposal, explain which role is more advantageous (effort, cost, time, etc.) and why? Explain briefly for short, medium and long-term strategies for both the attacker and defender point of view.
 - If you were to have to defeat your own effort, how would you go about it?
 (Note: it is perfectly acceptable to identify deficiencies in the effort. It is not acceptable to believe that there are none.)
 - Who could benefit from this technology? Be specific and cite an actual use case.
- **5. Capability/Technology Information:** State whether this is the first solicitation to which this capability/technology has been proposed. Proposers may not propose work they have already completed or for which they have already received funding.

- 6. Interactions with the Ad-Hoc Cyber Research Community: Identify current and/or future involvement and interactions with the boutique cyber security research community. This includes cyber security research efforts, products, reports, tools, etc. that have been contributed to or presented publicly at cyber research conferences or that have been adopted to widespread use in the cyber security community. Provide brief descriptions and the dates of release or disclosure.
- **7. Metrics:** Cite quantitative and qualitative program success criteria. These metrics allow the Government to evaluate the effectiveness of a proposed solution and serve as the basis for determining whether satisfactory progress has been made to warrant continued funding of the program.
- **8. Statement of Work (SOW):** The SOW should provide a detailed task breakdown, citing specific tasks and their connection to the interim milestones and effort metrics, as applicable. Each phase of the effort should be separately defined.

For each defined task/subtask/activity, provide:

- o General description of the objective.
- Detailed description of the approach to be taken to accomplish each defined task/subtask/activity.
- o Identification of the primary organization responsible for task execution (proposer, sub-proposer, team member, by name).
- Measurable milestone; i.e., a deliverable, demonstration, or other event that marks completion.
- Definition of all deliverables (e.g., reporting, data, reports, and software) to be provided to the Government in support of the proposed research tasks/activities.
- Identify any tasks/subtasks/activities (by the proposer or sub-proposer) that will be accomplished on campus at a university.

The SOW must not include proprietary information. See sample SOW worksheet in Section III.A.

9. Schedule/Milestones/Deliverables: Provide a detailed schedule showing tasks (task name, duration, performing organization), milestones which identify major decision points and major accomplishments, the interrelationships among tasks and identify the deliverables (briefing, report, code, etc.) for each task. The task structure must be consistent with that in the SOW. Measurable milestones should be clearly articulated and defined in time relative to start of effort.

Payments will be made when deliverables are actualized, and at no other time. As such, if a performer is expecting to be paid bi-weekly then they will need to provide a timeline detailing bi-weekly deliverables (e.g., incremental code drops, sections of reports and status, etc). The proposer should take this into account when planning their schedule.

- **10. Cost:** Rationale for the cost should provide a detailed breakout of how the money will be spent and how prices and rates were determined. See sample cost worksheets in Section III.A.
 - Labor and Miscellaneous Expenses: Hourly rates must be justified by providing examples of equivalent rates for equivalent talent, past commercial or government rates, or Defense Contract Audit Agency approved rates.
 - Materials, Hardware, and Software Cost: List all materials, supplies, equipment, and software. Include as an attachment at least one quote from a vendor for any equipment and software requested in the proposal.
 - Travel: List number of trips, number of days per trip, departure and arrival destinations, number of people, etc. Include estimates from vendors for travel. Performers will be expected to travel to DARPA and/or third party locations for meetings and program reviews. Proposers should consider this in their funding requirements and plan for travel expenses appropriately in the proposal.

Break the travel down by categories such as: lodging (hotel), airfare, per diem (daily allowance for meals), and any other miscellaneous costs such as tolls, airport parking, etc., that may be incurred. These miscellaneous costs may be combined however the proposers must specify what categories are included in the total miscellaneous cost amount.

The Joint Travel Regulations Per Diem rates page at http://www.defensetravel.dod.mil/site/perdiem.cfm may be used to determine Per Diem and Lodging rates. If using travel websites to research airfare, use the "fully refundable ticket" option since that is what the Government uses.

- Sub-proposer: The proposer is responsible for the compilation and submission of all sub-proposer cost proposals. Proposal submissions will not be considered complete until the Government has received all sub-proposer cost proposals.
 - Proprietary sub-proposer cost proposals may be included in the proposal or submitted separately to DARPA-RA-11-52@darpa.mil (not uploaded to the submission site). Email messages should include "Sub-proposer Cost Proposal" in the subject line and identify the lead proposer (principal investigator name and organization) in the message.
- **11.** Appendix A: This section is mandatory and must include all the following components.
 - Team Member Identification: Provide a list of all team members (proposer and any sub-proposer). Identify specifically whether any are a non-US organization or individual, Federally Funded Research and Development Center (FFRDC) and/or Government entity as applicable.

O Government or FFRDC Team Member: Provide documentation (per Section V.A.2) citing the specific authority that establishes the applicable team member as eligible to propose to Government solicitations to include: 1) statutory authority; 2) contractual authority; 3) supporting regulatory guidance; and 4) evidence of agency approval for applicable team member participation. In addition, provide a statement that demonstrates the work being provided by the Government or Government-funded entity team member is not otherwise available from the private sector.

State "NONE" if none of the team member organizations (proposer or sub-proposer) belong to a Government entity or FFRDC.

 Organizational Conflict of Interest Affirmations and Disclosure: State "NONE" if neither the proposer nor any proposed sub-proposer is currently providing scientific, engineering and technical assistance (SETA) support as described in Section V.B.

Otherwise, provide the following information for the proposer and each subproposer, as applicable:

| Prime Contract Number | DARPA Office supported | A description of the action the proposer has taken or proposes to take to avoid, neutralize, or mitigate the conflict |
|-----------------------------|------------------------------|---|
| | | |
| | | |

Intellectual Property: Under this effort, performers shall retain all intellectual property rights to capabilities/technologies resulting from their proposed approach. It is the Government's intent to retain Government Purpose Rights (GPR) for all noncommercial software (including source code), software documentation, hardware designs and documentation, and technical data generated and delivered under the program. If proposers desire to use proprietary software or technical data or both as the basis of their proposed approach, in whole or in part, they should: 1) clearly identify such software/data and its proposed particular use(s); 2) explain how the Government will be able to reach its program goals (including transition) within the proprietary model offered; and 3) provide possible nonproprietary alternatives in any area that might present transition difficulties or increased risk or cost to the Government under the proposed proprietary solution. Proposers expecting to use, but not to deliver, commercial open source tools or other materials in implementing their approach may be required to indemnify the Government against legal liability arising from such use.

Provide a list of all technical data or computer software that will be furnished to the Government with other than Government Purpose Rights. Include all

proprietary claims to results, prototypes, deliverables or systems supporting and/or necessary for the use of the research, results, prototypes and/or deliverables. Provide documentation proving ownership or possession of appropriate licensing rights to all patented inventions (or inventions for which a patent application has been filed) to be used for the proposed project. Note, the award document for each proposal selected for funding will contain a requirement for submitting patent reports and notifications. In the event proposers do not submit the list, the Government will assume there are no restrictions on the Government's use of such commercial items. See sample list format in Section III.A.

State "NONE" if no restrictions are intended.

 Human Use: DARPA does not anticipate efforts involving Human Use under this program; however, if the proposed research will involve human subjects in the first year or phase of the effort, provide evidence of or a plan for review by an institutional review board (IRB). For further information on this subject, see Section VII.B.3.

State "NONE" if human use is not a factor in a proposal.

12. Appendix B - Additional Information (Optional): Include, if desired, a brief bibliography with links to relevant papers, reports, videos, or resumes. Do not include technical papers in the submission. This section is optional, and the linked materials will not be evaluated as part of the review.

C. Proprietary and Classified Information

1. Proprietary Information: DARPA policy is to treat all proposals as source selection information (see FAR 2.101 and 3.104) and to disclose the contents only for the purpose of evaluation.

Proposers are responsible for identifying proprietary information to DARPA. Proposals containing proprietary information must have the cover page and each page containing such information clearly marked. Proprietary information must not be included in the schedule, milestones, or SOW.

During the evaluation process, proposals may be handled by one or more Government support contractors for administrative purposes and/or to assist with technical evaluation. All DARPA support contractors performing this role are expressly prohibited from performing DARPA-sponsored technical research and are bound by appropriate nondisclosure agreements.

2. Classified Information: Proposers submitting classified proposals or requiring access to classified information during the lifecycle of the effort shall ensure all industrial,

personnel, and information system processing security requirements (e.g., facility clearance (FCL), personnel security clearance (PCL), certification and accreditation (C&A)) are in place and at the appropriate level, and any foreign ownership control and influence (FOCI) issues are mitigated prior to submission or access. Proposers must have existing, approved capabilities (personnel and facilities) prior to award to perform research and development at the classification level proposed. Additional information on these subjects is at http://www.dss.mil.

If a proposal is submitted as "Classified National Security Information" as defined by Executive Order 13526 the information must be marked and protected as though classified at the appropriate classification level and submitted to DARPA for a final classification determination.

Classified submissions must indicate the classification level of not only the proposal materials, but also the anticipated classification level of the award document.

After an incoming proposal is reviewed and a determination has been made that the award instrument may result in access to classified information, a DD Form 254, "DoD Contract Security Classification Specification," will be issued and attached as part of the award. A DD Form 254 will not be provided at the time of submission. The DD Form 254 template is available at http://www.dtic.mil/dtic/pdf/formsNguides/dd0254.pdf.

Proposers choosing to submit a classified proposal from other classified sources must first receive permission from the respective original classification authority (OCA) to use this information in replying to this RA. Applicable classification guide(s) must be submitted to ensure the proposal is protected at the appropriate classification level.

Classified submissions shall be appropriately and conspicuously marked with the proposed classification level and declassification date. Submissions requiring DARPA to make a final classification determination shall be marked as follows:

CLASSIFICATION DETERMINATION PENDING. Protect as though classified (insert the recommended classification level: Confidential, Secret, or Top Secret)

Classified proposals will not be returned. The original of each classified proposal received will be retained at DARPA, and all other copies destroyed. A destruction certificate will be provided if a formal request is received by DARPA within 5 days of notification of non-selection.

D. Submission Instructions

1. Due Dates: The proposal package--full proposal (including Appendix A), encryption password and, as applicable, proprietary sub-proposer cost proposals, classified appendices to unclassified proposals--must be must be submitted per the instructions outlined in this document and received by DARPA on or before 12:00 PM., ET, August 3, 2012. Submissions received after this time will not be

reviewed. Proposers are warned that the submission deadline as outlined herein is strictly enforced.

DARPA will receive and review proposals on a rolling basis through the submission due date. DARPA will acknowledge receipt of complete submissions via email and assign control numbers that should be used in all further correspondence regarding proposals.

Failure to comply with the submission procedures may result in the submission not being evaluated.

2. Unclassified Submission: DARPA will employ an electronic upload submission system for unclassified proposal responses to this RA. Responding to this announcement requires completion of an online cover sheet for each proposal prior to submission. To do so, the proposer must go to https://www.csc-ballston.com/baa/index.asp?BAAid=11-52 and follow the instructions provided at this site. Upon completion of the online cover sheet, a Confirmation Sheet will appear along with instructions on uploading the proposal. If a proposer intends to submit more than one proposal, a unique UserId and password MUST be used in creating each cover sheet. Otherwise, subsequent uploads will overwrite previous ones. Once each upload is complete, a confirmation message will appear and this message should be printed for the proposer's records.

Since proposers may encounter heavy traffic on the web server, they should not wait until the day the proposal is due to fill out a coversheet and upload the submission. Technical support for the web server/submission issues may be reached at BAATechHelp@darpa.mil and is typically available during regular business hours (9:00 – 5:00 ET, Monday-Friday).

All uploaded proposals must be zipped and encrypted using Winzip or PKZip with 256-bit AES encryption. Only one zipped/encrypted file will be accepted per submission. Submissions that are not zipped and encrypted will be rejected by DARPA. An encryption password form must be completed and emailed to the RA mailbox at the time of submission. See https://www.CSC-Ballston.com/baa/Encryption Instructions.htm for the encryption password form and additional encryption information. Note: the word "PASSWORD" must appear in the subject line of the above email. Failure to provide the encryption password will result in the submission not being evaluated.

3. Classified Submission: DARPA anticipates that submissions under this RA will be unclassified; however, classified submissions will be accepted. Classified proposals must be appropriately marked and must not be submitted electronically by any means, including the electronic upload system as described above.

Classified materials must be submitted in accordance with the following guidelines:

 Confidential and Secret Collateral Information: Use classification and marking guidance provided by previously issued security classification guides, DoD 5200.1-R "Information Security Regulation" and DoD 5220.22-M "National Industrial Security Program Operating Manual," when marking and transmitting information previously classified by another OCA. All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee. Classified information at the Confidential or Secret level may be submitted via one of the following methods:

- Hand carried by an appropriately cleared and authorized courier to DARPA. Prior to traveling, the courier shall contact the DARPA Classified Document Registry (CDR) at 703-526-4052 to coordinate arrival and delivery or
- Mailed via appropriate U.S. Postal Service methods (e.g., Registered Mail or Express Mail). All classified information will be enclosed in opaque inner and outer covers and double wrapped. The inner envelope shall be sealed and plainly marked with the assigned classification and addresses of both sender and addressee.

The inner envelope shall be addressed to:

Defense Advanced Research Projects Agency

ATTN: I2O

Reference: DARPA-RA-11-52 3701 North Fairfax Drive Arlington, VA 22203-1714

The outer envelope shall be sealed without identification as to the classification of its contents and addressed to:

Defense Advanced Research Projects Agency Security & Intelligence Directorate, Attn: CDR 3701 North Fairfax Drive Arlington, VA 22203-1714

- Top Secret Information: Top Secret information must be hand carried by an appropriately cleared and authorized courier to DARPA. Prior to traveling, the courier must contact DARPA CDR at 703-526-4052 for instructions.
- Special Access Program (SAP) Information: SAP information must be transmitted via approved methods. Prior to submission, the courier must contact DARPA SAPCO at 703-526-4052 for instructions.
- Sensitive Compartmented Information (SCI): SCI must be transmitted via approved methods. Prior to submission, contact DARPA CDR at 703-526-4052 for instructions.

III. OTHER INFORMATION

A. Sample Worksheets

The following examples and worksheets are provided as guides. Proposers may use a different figure, table, chart, etc., in place of the provided examples and worksheets.

SOW Worksheet

| | STATEMENT OF WORK (SOW) | | | | | | | | | | |
|-----------------------|--|------------------------|--|--|--|--|--|--|--|--|--|
| Overall | (Define the overall objective) | | | | | | | | | | |
| Objective | | | | | | | | | | | |
| Primary | (List the primary organization responsible for task execution (proposer, sub- | proposer, team | | | | | | | | | |
| Organization | member, by name, etc.) | | | | | | | | | | |
| Specific Project Plan | | | | | | | | | | | |
| Task 1 | (Task Title) | (# of Days) | | | | | | | | | |
| Description & | (A general description of the objective. Clearly identify any tasks/subtasks that will b | e accomplished (by the | | | | | | | | | |
| Objective | proposer or sub-proposer) on-campus at a university.) | | | | | | | | | | |
| Approach | (A detailed description of the approach to be taken to accomplish the task) | | | | | | | | | | |
| -Subtask 1 | (Subtask Title & Description) | | | | | | | | | | |
| -Subtask 2 | (Subtask Title & Description) | | | | | | | | | | |
| Exit Criteria | (A product, event or milestone that defines its completion) | | | | | | | | | | |
| | | | | | | | | | | | |
| Task 2 | (Task Title) | (# of Days) | | | | | | | | | |
| Description & | (A general description of the objective. Clearly identify any tasks/subtasks t | | | | | | | | | | |
| Objective | accomplished (by the proposer or sub-proposer) on-campus at a university.) | | | | | | | | | | |
| Approach | (A detailed description of the approach to be taken to accomplish the task) | | | | | | | | | | |
| -Subtask 1 | (Subtask Title & Description) | | | | | | | | | | |
| -Subtask 2 | (Subtask Title & Description) | | | | | | | | | | |
| Exit Criteria | (A product, event or milestone that defines its completion) | | | | | | | | | | |
| | , | | | | | | | | | | |
| | Deliverables | | | | | | | | | | |
| (A definition of all | deliverables (reporting, data, reports, software, etc.) to be provided to the Go | vernment in support of | | | | | | | | | |
| | the proposed research tasks/activities.) | | | | | | | | | | |
| (Deliverable 1) | | | | | | | | | | | |
| (Deliverable 2) | | | | | | | | | | | |

Schedule Example

| PROGRAM SCHEDULE | | | | | | | | | | | | | | | JUL | Y 2 | 011 | L | | | | | | | | | | | | |
|------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 3 |
| MILESTONE 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 1A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 1B/Deliverable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MILSTONE 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | \vdash |
| Task 2A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 2B/Deliverable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | П |
| (Task 3A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | ΑI | JGI | JST | 20 | 11 | | | | | | | | | | | | |
| MILSTONE 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 3A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 3B/Deliverable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 3C/Deliverable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (Task 4A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | SEP | TEN | ЛВΕ | R 2 | 01 | 1 | | | | | | | | | | | |
| MILESTONE 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 4A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 4B/Deliverable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Ш |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MILESTONE 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 5A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 5B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Task 5C/Deliverable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Testing/Final | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deliverable (as appropriate) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Milestones, Cost & Deliverables Worksheet

| Activity | Description | Duration (Calendar Days) | Hours | Cost (\$) | Deliverables/Notes |
|----------|-------------|--------------------------------|------------|---------------|--------------------|
| 1 | Milestone 1 | | | | |
| 1.a | Task A | | | | |
| 1.b | Task B | | | | |
| 1.c | Task C | | | | |
| | Program F | Review require | d before p | proceeding to | next milestone |
| 2 | Milestone 2 | | | | |
| 2.a | Task A | | | | |
| 2.b | Task B | | | | |
| | TOTALS | | | | |

Materials, Hardware, Software Cost Worksheet

| ITEM | Quantity | Unit Cost | Total Cost |
|-------|----------|-----------|------------|
| | | | |
| | | | |
| TOTAL | | | |

Travel Cost Worksheet

| From | То | Airfare | Lodging | Per Diem | Rental Car | Days | Travelers | Trips | Total per Person per Trip | Total Travel |
|---------|---------|---------|---------|-------------|---------------|------|-----------|-------|---------------------------------|-----------------|
| | | | | | | | | | | |
| Point A | Point B | \$\$ | \$\$ | \$\$ | \$\$ | 2 | 3 | 3 | \$\$\$ | \$\$\$\$ |

Intellectual Property Assertion Worksheet

| NONCOMMERCIAL | | | | | | | | | |
|--|--|------------------------|--------------------------|--|--|--|--|--|--|
| Technical Data Computer Software To be Furnished With Restrictions | Summary of Intended Use in the Conduct of the Research | Basis for Assertion | Asserted Rights Category | Name of Person Asserting Restrictions | | | | | |
| (LIST) | (Narrative) | (LIST) | (LIST) | (LIST) | | | | | |
| | COMMERCI | AL | | | | | | | |
| Technical Data Computer Software To be Furnished With Restrictions | Summary of Intended Use in the Conduct of the Research | Basis for Assertion | Asserted Rights Category | Name of Person Asserting Restrictions | | | | | |
| (LIST) | (Narrative) | (LIST) | (LIST) | (LIST) | | | | | |

B. Frequently Asked Questions (FAQs)

Administrative and technical questions should be sent via email to DARPA-RA-11-52@darpa.mil. All requests must include the name, email address, and the phone number of a point of contact.

DARPA will attempt to answer questions in a timely manner; however, questions submitted within 7 days of the RA closing date may not be answered. If applicable, DARPA will post FAQs to http://www.darpa.mil/Opportunities/Solicitations/120 Solicitations.aspx.

C. Town Hall Meetings

DARPA will hold town hall meetings throughout the year to discuss the program objectives and goals in more detail. No dates have been scheduled at this time. DARPA-RA-11-52 will be updated periodically on the Federal Business Opportunities website at http://www.fedbizopps.gov/, to reflect the dates and location of the meetings as they are determined.

IV. AWARD INFORMATION

Multiple awards are anticipated under this announcement. Awards to proposers under this RA will be made by the FSS contractor. The level of funding for individual proposal selections made under this RA has not been predetermined and will depend on the quality of the proposals received and the availability of funds. The Government will select proposals it determines to be the most advantageous and provide the best value to the Government, all factors considered, including the potential contributions of the proposed work, overall funding strategy, and availability of funding for the effort. See Section VI.B for further information.

Proposals selected for award negotiation may only result in a firm-fixed-price contract.

As of the date of publication of this RA, DARPA expects that most awards under this RA will not be for fundamental research. Therefore, DARPA anticipates restrictions on the resultant research. Notwithstanding this statement of expectation, DARPA recognizes that proposed research solutions could be of a fundamental or restricted nature and is not prohibited from considering and selecting research proposals that qualify as 'fundamental research' (as defined in the Terminology section), as long as they meet the RA criteria for submissions. Proposers should indicate in their proposal whether they believe the nature of the research included in their proposal is fundamental or restricted. See Section VII.B.2 for further information on fundamental, non-fundamental and restricted research.

The Government reserves the right to:

- Select for negotiation all, some, one, or none of the proposals received in response to this announcement.
- Segregate portions of resulting awards into pre-priced options.
- Accept proposals in their entirety or to select only portions of proposals for award.
- Fund proposals in phases with options for continued work at the end of one or more phases.

V. ELIGIBILITY

A. Applicants

All responsible sources capable of satisfying the Government's needs may submit a proposal that shall be considered by DARPA.

1. Historically Black Colleges and Universities, Small Businesses, Small Disadvantaged Businesses and Minority Institutions: Historically black colleges and universities (HBCUs), small businesses, small disadvantaged businesses and minority institutions (MIs) are encouraged to submit proposals and team with others to submit proposals; however, no portion of this announcement will be set aside for these organizations due to the impracticality of reserving discrete or severable areas of this research for exclusive competition among these entities.

- 2. Federally Funded Research and Development Centers (FFRDCs) and Government Entities: FFRDCs and Government entities (e.g., Government/national laboratories and military educational institutions) are subject to applicable direct competition limitations and cannot propose to this RA in any capacity unless the following conditions are met.
 - FFRDCs must clearly demonstrate that the proposed work is not otherwise available
 from the private sector and must provide a letter on letterhead from their sponsoring
 organization citing the specific authority establishing eligibility to propose to
 Government solicitations and compete with industry and compliance with the
 associated FFRDC sponsor agreement and terms and conditions. This information is
 required for FFRDCs proposing as either proposers or sub-proposers.
 - Government entities must clearly demonstrate that the proposed work is not
 otherwise available from the private sector and provide written documentation citing
 the specific statutory authority (and contractual authority, if relevant) establishing the
 ability to propose to Government solicitations.

At the present time, DARPA does not consider 15 U.S.C. § 3710a to be sufficient legal authority to show eligibility. While 10 U.S.C. § 2539b may be the appropriate statutory starting point for some entities, specific supporting regulatory guidance, together with evidence of agency approval, will still be required to fully establish eligibility.

DARPA will consider eligibility submissions on a case-by-case basis; however, the burden to prove eligibility for all team members rests solely with the proposer.

3. Foreign Participation: Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

B. Procurement Integrity

Active Federal employees are prohibited from participating in particular matters involving conflicting financial, employment, and representational interests (18 U.S.C. §§ 203, 205, and 208). Prior to the start of proposal evaluation, the Government will assess potential conflicts of interest and will promptly notify the proposer if any appear to exist. The Government assessment does not affect, offset, or mitigate the proposer's responsibility to give full notice and planned mitigation for all potential organizational conflicts, as discussed below.

Without the prior approval or a waiver from the DARPA Director, a contractor cannot simultaneously be a scientific, engineering, and technical assistance (SETA) contractor and a performer. (See Federal Acquisition Regulation (FAR) 9.503 at https://www.acquisition.gov/FAR/.) As part of the proposal submission, proposers, subproposers and consultants must affirm whether they (individuals and organizations) are providing SETA or similar support to any DARPA technical office(s) through an active contract or subcontract. Affirmations must state which office(s) the proposer and/or subproposer/consultant supports and must provide prime contract numbers. All facts relevant to

the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the proposer has taken or proposes to take to avoid, neutralize, or mitigate such conflict. Proposals that fail to fully disclose potential conflicts of interest and/or do not have plans to mitigate this conflict may be rejected without technical evaluation and withdrawn from further consideration for award. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively mitigated, a proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this RA.

If a prospective proposer believes a conflict of interest exists or may exist (whether organizational or otherwise) or has a question as to what constitutes a conflict, a summary of the potential conflict should be sent to DARPA-RA-11-52@darpa.mil before preparing a proposal and mitigation plan.

C. Cost Sharing/Matching

Cost sharing/matching is not required but will be carefully considered, if proposed.

D. Other Eligibility Requirements

Entities who have received awards under HR0011-11-Q-0002/GSA RFQ562710 are not eligible to propose to this solicitation.

VI. EVALUATION

A. Evaluation Criteria

Evaluation of proposals will be accomplished through a scientific/technical review of each proposal using the following criteria listed in descending order of importance: Overall Scientific and Technical Merit; Potential Contribution and Relevance to the DARPA Mission; and Cost Realism.

- Overall Scientific and Technical Merit: The proposed technical approach is feasible, achievable, complete and supported by a proposed technical team that has the expertise and experience to accomplish the proposed tasks. Task descriptions and associated technical elements are complete and in a logical sequence, with all proposed deliverables clearly defined such that a viable attempt to achieve program goals is likely as a result of award. The proposal identifies major technical risks, and mitigation efforts are clearly well-defined and feasible.
- Potential Contribution and Relevance to the DARPA Mission: The potential contributions of the proposed effort with relevance to the national technology base will be evaluated. Specifically, DARPA's mission is to maintain the technological superiority of the U.S. military and prevent technological surprise from harming our national security by sponsoring revolutionary, high-payoff research that bridges the gap between fundamental discoveries and their application. In addition, the evaluation will take into consideration the extent to which the proposed intellectual property (IP) rights will potentially impact the Government's ability to transition the technology.
- Cost Realism: The objective of this criterion is to establish that the proposed costs are
 realistic for the technical and management approach offered and to determine the
 proposer's practical understanding of the effort. The proposal will be reviewed to
 determine if the costs proposed are based on realistic assumptions, reflect a sufficient
 understanding of the technical goals and objectives of the RA, and are consistent with
 the proposer's technical approach (to include the proposed SOW). At a minimum, this
 review will include, at the proposer and sub-proposer level, the type and number of
 labor hours proposed per task, the types and quantity of materials, equipment and
 fabrication costs, travel and other various elements proposed.

B. Review and Selection Process

DARPA policy is to ensure impartial, equitable, comprehensive proposal evaluations and to select sources whose offers meet the DARPA technical, policy, and programmatic goals.

In order to provide the desired evaluation, qualified Government personnel will conduct reviews and (if necessary) convene panels of experts in the appropriate areas. Subject to the restrictions set forth in FAR 37.203(d), input on technical aspects of the proposals may be solicited by DARPA from non-Government consultants/experts who are strictly bound by appropriate nondisclosure requirements.

The review process identifies proposals that meet the established criteria and are, therefore, selectable for funding awards by the Government. Selections under this RA will be made to proposers on the basis of the evaluation criteria listed in Section VI.A. Proposals that are determined to be selectable will not necessarily receive awards. Selections may be made at any time during the period of solicitation.

Proposals are evaluated individually, not rated competitively against other proposals because they are not submitted in accordance with a common work statement. For purposes of evaluation, a proposal is defined to be the document and supporting materials (except Appendix B) as described in Section II.

Failure to comply with the submission procedures may result in the submission not being evaluated. No proposals, classified or unclassified, will be returned. After proposals have been evaluated and selections made, the original of each proposal will be retained at DARPA. Hard copies will be destroyed.

VII. AWARD ADMINISTRATION

A. Selection Notices

After proposal evaluation is complete, proposers will be notified whether their proposals are selectable as determined by the review process. Notification will be sent by email to the technical and administrative POCs identified on the proposal coversheet.

B. Administrative and National Policy Requirements

1. Human Use: All research involving human subjects, to include use of human biological specimens and human data, selected for funding must comply with Federal regulations for human subject protection. Further, research involving human subjects that is conducted or supported by the DoD must comply with 32 CFR 219, "Protection of Human Subjects" http://www.access.gpo.gov/nara/cfr/waisidx 07/32cfr219 07.html, and DoD Directive 3216.02, "Protection of Human Subjects and Adherence to Ethical Standards in DoD-Supported Research" (http://www.dtic.mil/whs/directives/corres/pdf/321602p.pdf).

Institutions awarded funding for research involving human subjects must provide documentation of a current Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office of Human Research Protection Federal Wide Assurance (http://www.hhs.gov/ohrp). All institutions engaged in human subject research, to include sub-proposers, must have a valid assurance. In addition, personnel involved in human subject research must document the completion of appropriate training for the protection of human subjects.

For all research that will involve human subjects in the first year or phase of the project, the institution must submit evidence of a plan for review by an institutional review board (IRB) as part of the proposal. The IRB conducting the review must be the IRB identified on the institution's Assurance of Compliance. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection, and data analysis. The designated IRB should be consulted for guidance on writing the protocol. The informed consent document must comply with Federal regulations (32 CFR 219.116). A valid Assurance of Compliance and evidence of appropriate training by all investigators should all accompany the protocol for review by the IRB.

In addition to a local IRB approval, a headquarters-level human subjects regulatory review and approval is required for all research conducted or supported by DoD. The Army, Navy, or Air Force office responsible for managing the award can provide guidance and information about their component's headquarters-level review process. Confirmation of a current Assurance of Compliance and appropriate human subjects protection training is required before headquarters-level approval can be issued.

The time required to complete the IRB review/approval process will vary depending on the complexity of the research and/or the level of risk to study participants; ample time should be allotted to complete the approval process. The IRB approval process can last between 1 to 3 months, followed by a DoD review that could last 3 to 6 months. No

DoD/DARPA funding may be used toward human subject research until all approvals are granted.

2. Publication Approval: Pursuant to DoD policy, contracted fundamental research includes research performed under contracts that are funded by budget category 6.2 (Applied Research) and performed on-campus at a university. However, the research shall not be considered fundamental in those rare and exceptional circumstances where the applied research effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract. Such research is referred to by DARPA as "Restricted Research." Research performed under contracts that are funded by budget category 6.2 (Applied Research) and not performed on-campus at a university is considered non-fundamental research. Approval for publication or dissemination of information regarding non-fundamental and restricted research will require the approval of DARPA.

It is anticipated that all awards resultant from this RA will be for Non-fundamental and Restricted Research. Appropriate clauses will be included in resultant awards for Non-fundamental and Restricted Research to prescribe publication requirements and other restrictions, as appropriate. These restrictions will apply to all performers and subperformers.

The following statements or similar provisions will be incorporated into any resultant restricted research or non-fundamental research contract:

"There shall be no dissemination or publication, except within and between the performer and any sub-performers, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of the DARPA Public Release Center (PRC). All technical reports will be given proper review by appropriate authority to determine which distribution statement is to be applied prior to the initial distribution of these reports by the performer."

The performer must submit a request for public release to the DARPA FSS contractor, who will in turn forward the request to the DARPA PRC. Requests must include the following information: 1) Document Information: title, author, short plain-language description of technology discussed in the material (approximately 30 words), number of pages (or minutes of video) and document type (briefing, report, abstract, article, or paper); 2) Event Information: type (conference, principal investigator meeting, article or paper), date, and desired date for DARPA's approval; 3) DARPA Sponsor: DARPA program manager, DARPA office, and contract number; and 4) Performer's information: POC name, email and telephone.

3. Export Control: Per DFARS 204.7304, all awards, as deemed appropriate, resultant from this solicitation will include the DFARS Export Control clause (252.204-7008).

4. Electronic and Information Technology: All electronic and information technology acquired through this solicitation must satisfy the accessibility requirements of Section 508 of the Rehabilitation Act (29 U.S.C. § 794d) and FAR Subpart 39.2. Each project team involving the creation or inclusion of electronic and information technology must ensure that Federal employees with disabilities will have access to and use of information that is comparable to the access and use by Federal employees who are not individuals with disabilities, and members of the public with disabilities seeking information or services from DARPA will have access to and use of information and data that is comparable to the access and use of information and data by members of the public who are not individuals with disabilities.

C. Reporting

The number and types of technical and financial reports required under the contracted effort will be specified in the award document, but will include as a minimum, monthly financial status reports and an end of program status summary. The reports shall be prepared and submitted in accordance with the procedures contained in the award document. A final report that summarizes the project and tasks will be required at the conclusion of the performance period for the award.

VIII. AGENCY CONTACTS

DARPA will use email for all technical and administrative correspondence regarding this RA.

- Technical POC: Peiter "Mudge" Zatko, Program Manager, DARPA I2O
- Email: DARPA-RA-11-52@darpa.mil
- Mailing address:
 - o DARPA I2O
 - ATTN: DARPA-RA-11-52
 3701 North Fairfax Drive
 Arlington, VA 22203-1714
- Website: http://www.darpa.mil/Opportunities/Solicitations/120 Solicitations.aspx