



Computer Network Defense

INTRODUCTION:

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2). A formal Request for Proposals (RFP), other solicitation, or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

I. GENERAL INFORMATION:

1. Agency Name - Office of Naval Research

2. Research Opportunity Title - Computer Network Defense

3. Program Name - Proactive Computer Network Defense and Information Assurance (CND/IA)

4. Research Opportunity Number - 10-004

5. Response Date –

White Papers: 3/15/2010

Full Proposals for Phase I: 5/21/2010

6. Research Opportunity Description –

The Office of Naval Research seeks innovative proposals for technologies that support "pro-active cyber network defense and information assurance" which can be adapted and integrated into an advanced prototype offering leading edge capabilities. This advanced prototype will ensure maximum continuity of cyber operations and availability of national assets and data during cyber conflict. The prototype will lead to new concepts for protecting data traversing the Department of the Navy (DON) networks and will provide decision management, intelligent decision aids, data fusion and correlation, and visualization capabilities.

6.1 Background

With the explosive growth of new adversarial capabilities, there is a major need for computer network and information assurance technologies to identify and mitigate real-time threats while at the same time ensuring continuity of essential operations and access to assured data during attacks. This need is due to the increasing complexity and quantity of malware and the emergence of new technology risks with continued risks from users. Unfortunately, the current network defense tools and capabilities that address these threats are reactive and inflexible, focus on configuration management, and do not allow for a real-

time response capability. Further, these tools do not provide intelligent decision aids essential to combating the threat.

To enable the warfighter posture to change from a reactive and forensics-based approach to a predictive and pro-active approach to addressing the cyberspace threat, new innovative research and concepts must be developed that integrate with Naval integrated warfighting systems and focus on the following objectives:

- Aggregate, correlate, fuse and visualize network security posture information in the context of the warfighter in order to support mission execution.
- Adapt network and security services during cyber attacks to guarantee performance and operational functionality (may impact network and security protocols).
- Support dynamic and secure management of security critical network-based security assets at the lowest level necessary for successful mission execution.

The architecture being sought is intended to provide a comprehensive, holistic approach to computer network defense and to move away from traditional concepts of patch management and computer resource management. This new concept is predicated on providing capability at multiple levels the lowest level (e.g., protocols through the network that are robust in a cyber-strained environment) up through the data processing level, and will include functions such as correlation and fusion, that are required to provide decision support and near-real time network-based asset control with an "on-the-fly" engagement capability. The approach focuses on providing automated pro-active capabilities that are based on near real-time decision support (as opposed to traditional operator-based "cyber slow" reactions and/or forensics based actions) to address cyber activities as they occur/unfold in the network. The three main components of this new architecture include the following:

- Decision Support - aggregates, correlates, fuses, and visualizes the network security posture information into a holistic view to support integrated warfighting decision making for network warfare. This "cyber awareness" is supplemented using information provided by the sensors and gateways, and network-based security components as well as other critical security data sources. The decision support system provides the real-time management and control of the sensors and gateways to support emergent requirements and to address near real-time network attacks. The decision support system also provides to the user automated response capability up to a user specified threshold, and beyond that limit, provides recommended actions to the user. This includes, but is not limited to, actions that directly affect the configuration and operations of the sensors and gateways, as well as other active response mechanisms.
- Sensors and Gateways - dynamically reconfigurable over the network, provide enhanced anomaly detection capabilities (e.g., beaconing activities, exfiltration, etc.), protect services/communication on network infrastructure to ensure essential network capabilities are provided, and provide robust security features for isolation and local mitigation actions. In addition, sensors and gateways located throughout the network ensure network awareness by providing information regarding network traffic back to the decision support system.
- Security-Enabled Protocols - hardened, dynamic and security-enabled network communications, data and control protocols to ensure data delivery, reliability and provenance as well as to provide configuration and control of network-based security components essential to mission operations. These security-enabled protocols provide the underlying connection among the various mission-critical network components (including the sensors, gateways and decision support system components) to support communications and security services that include data movement as well as asset management for functions such as enabling security features, blocking and filtering traffic, and collecting data for local analysis.

6.2 Technologies of Interest

- Algorithms for the detection of malware embedded in binary data files that extend beyond conventional anti-virus detection algorithms. Techniques that discover malware entry points,

encryption techniques, and self-obfuscation in order to remain undetected are essential properties in primary (local) analysis as well as subsequent secondary (remote) analysis. Algorithms must be sufficiently robust and expandable as growth in malware techniques evolve and must be capable of evolving to support the detection of malware at line rates over high speed backbone links (e.g., OC12 - OC48).

- Algorithms for incorporation in sensors and gateways that can distinguish between legitimate network traffic communications and malicious network traffic communications. Malicious network-based communications include, but are not limited to, unwanted beaconing and data exfiltration through the network from a computation platform as well as unauthorized in-bound data flows. Algorithms for detecting low and slow intrusion sets whose actions that span weeks to months, and which can be included in sensors and gateways are also important.
- Methods and algorithms to mine data that support the correlation and fusion of large-scale complex data sets. The ability to integrate intelligent decision aides necessary to support automated resource management is integral to the data analysis. Automated decision aides must provide flexible thresholds to support automated network-based responses without requiring operator intervention. Other decision aids of interest include those that will require operator action/intervention and are based on exceeding critical thresholds. These decision aids should provide recommended courses of action that include at a minimum, the ability to identify and isolate compromised assets from the network.
- Security-enabled protocols that ensure proper network functionality during cyber attacks. Achieving this goal requires that critical network protocols used to deliver data to the warfighter in a timely manner are sufficiently robust enough to achieve user-specified quality-of-security-service and quality-of-performance-service parameters. These security-enabled protocols must be able to function efficiently in a bandwidth-limited environment. The services that these protocols protect include data, management and control services.
- Protocols that provide network-based configuration and control of security components essential to mission operations. The protocols must ensure that certain properties, when invoked, such as data confidentiality and ensured data delivery, are available through the network. At a minimum these protocols must provide protection against network-based attacks, such as replay attacks and data insertion attacks that are used to disrupt configuration and control activities, and must support the movement of network-based situational awareness data to remote locations for analysis.
- Technologies to support attribution of network activity to the source. The ability to geo-locate the originator of the network activity and to thwart network-based anonymization technology are critical to the algorithms developed.
- Methods and techniques to determine the topology and activity of networks and, to the extent possible, use the information provided by the attribution data to geo-locate the sources and targets of suspicious and potentially unauthorized network activity.
- Methods and techniques for real-time visualization of large sets of network data that are obtained from disparate sources, and that include as a minimum, network assets, attribution data, location data and identification of suspicious activities.

Note: The Contractor(s) selected for the award(s) will not be restricted from participation in the competition of additional Phases under any resultant follow-on BAA or RFP.

Offerors shall propose innovative component technologies that will enhance network defense. Offerors must clearly indicate where their proposed component technology will fit within the system architecture and how the proposed effort improves upon current state of the art, or provides a pathway toward meeting goals defined above. Offerors are not to propose an entire solution, but should propose the critically needed components and articulate how the components would contribute to future system capabilities.

6.3 Other Considerations

Although the primary consideration in this effort is the development of algorithms, techniques and software, low cost of acquisition and ownership are also critically important. Where possible and when

available, developers should consider use of any modified Commercial Off The Shelf (COTS) or Government Off The Shelf (GOTS) in their developments as well as any design decisions that may allow reduction of lifecycle costs.

Algorithms developed under this BAA must operate on commercial computational platforms and commercial microprocessors and must be capable of executing within an embedded environment. If not directly developed for an embedded environment, the design/architecture of the algorithms must support reasonable integration into an embedded environment.

Consistent with the desire to reduce overall lifecycle costs while improving flexibility, development efforts undertaken as part of this BAA shall be open for use within the government. As such, the Navy will generally require "Unlimited Rights" or "Government Purpose Rights" as defined by DFARS on all technical data and designs resulting from these development efforts. Items covered will include technical descriptions of architectures, designs, software programming guides and toolkits, algorithms, simulations, interfaces and interface descriptions. Software-based solutions, such as mining and correlation algorithms, complete documentation will be provided to the government describing how the software functions in order to support system integration. If necessary, software development kits will need to be provided to permit the government to program additional functions and to understand the expected performance and operation. Delivery of source code is mandatory for all software developments.

Submission of proprietary designs of selected system level components is not encouraged. However, such designs may be accepted at the government's discretion, provided that functionality, performance and interfaces are adequately defined to permit integration with other system level components, and that the acceptance of the designs is in the best interests of the government.

Work funded under a BAA may include basic research, applied research and some advanced technology development (ATD). With regard to any restrictions on the conduct or outcome of work funded under this BAA, ONR will follow the guidance on and definition of "contracted fundamental research" as provided in the Under Secretary of Defense (Acquisition, Technology and Logistics) Memorandum of 26 June 2008. As defined therein, the definition of "contracted fundamental research", in a DoD contractual context, includes grants and contracts that are (a) funded by Research, Development, Test, and Evaluation Budget Activity 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Activity 2 (Applied Research) and performed on campus at a university or by industry. ATD is funded through Budget Activity 3. In conformance with the USD (AT&L) guidance and National Security Decision Directive 189, ONR will place no restriction on the conduct or reporting of unclassified fundamental research, except as otherwise required by statute, regulation or Executive Order. Normally, fundamental research is awarded under grants with universities and under contracts with industry. ATD is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of research results due to subject matter sensitivity. Under this BAA most, if not all, of the research is NOT considered "contracted fundamental research" and therefore may have restrictions regarding conduct of the research and prepublication review.

6.4 Program Plan

It is the government's intention that those contracted under this BAA will participate in a system engineering team for the overall capability being sought. This team will be led by the government which will provide technical direction to contractors during the course of development, and direct the integration of individual technologies being developed under contract. Contractors developing technologies will have frequent interaction with the government and other contractors during the development process as the final system design is being formed. Collaboration among the awardees is considered critical to achieve the technical objectives of this Proactive Computer Network Defense and Information Assurance program.

The program will consist of two phases, a study phase (detailed design)(Phase I), and an implementation phase (Phase II). Potential Offerors shall provide the basis for identification of those technologies that will be designed during Phase I and then implemented during Phase II.

Phase I efforts will consist of a complete development of a detailed design of the technologies initially proposed consistent with guidance provided by the government on the overall system design. This detailed design effort will include addressing critical issues such as functionality, performance, complexity, limitations, and integration with the proposed system design. During Phase I the contractor will prepare and conduct preliminary and final reviews of the technology being designed with the system engineering team. The primary deliverable resulting from Phase I efforts will be well developed designs of the proposed technologies, along with both revised technical and cost proposals for the implementation of those designs in Phase II.

If the Government accepts the detailed design (Phase I) and revised technical and cost proposals, contractors will proceed with Phase II. During this phase, the contractor will implement the technology presented to the government and system engineering team, integrate that technology with other components into the system with government direction and assistance, and then test/evaluate and demonstrate the technology. The contractor will provide all documentations needed by the government for interfacing and integrating the technology into the overall system.

7. Point(s) of Contact –

Questions of a technical nature should be submitted to:

Primary:

Stanley Chinchek
Office of Naval Research
875 North Randolph Street – Suite W1170
Code: ONR 311
Arlington, VA 22203-1995
Email Address: stanley.chinchek@navy.mil

Secondary:

Kim McCormick
Office of Naval Research
875 North Randolph Street - Suite W1105C
Code: ONR 311
Arlington, VA 22203-1995
Email: kim.mccormick@navy.mil

Questions of a business nature should be submitted to:

Primary:

AJ Tysenn
Contract Specialist
Office of Naval Research
875 North Randolph Street - Suite W1269B
Code: ONR BD251
Arlington, VA 22203-1995
Email: anthony.tysenn@navy.mil

Secondary:

Vera M. Carroll
Acquisition Branch Head
Office of Naval Research
875 North Randolph Street - Suite 1279
Code ONR BD251
Arlington, VA 22203-1995
Email: vera.carroll@navy.mil

Questions of a security nature should be submitted to:

Diana Pacheco
Information Security Specialist
Office of Naval Research
Security Department, Code 43
One Liberty Center
875 N. Randolph Street
Arlington, VA 22203-1995
Email Address: diana.pacheco@navy.mil

NOTE: All UNCLASSIFIED questions shall be submitted via e-mail to the Technical Point of Contact (PCO) with a copy to the designated Business POC.

CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any entity wanting to ask a CLASSIFIED question shall send an email to the ONR Security POC with copy to both the Technical POC and the Business POC stating that the entity would like to ask a CLASSIFIED question. DO NOT EMAIL ANY CLASSIFIED QUESTIONS. The Security POC will contact the entity and arrange for the CLASSIFIED question to be asked through a secure method of communication.

Questions regarding white papers and full proposals must be submitted by 2:00 PM Eastern Time, two (2) weeks prior to the date of which white papers and full proposals are due. Questions received after this date and time may not be answered, and the due date for submission of the white paper and/or full proposal will not be extended.

Answers to questions submitted in response to this BAA will be addressed in the form of an Amendment and will be posted to one or more of the following webpages:

- Federal Business Opportunities (FEDBIZOPPS) Webpage - <https://www.fbo.gov/>
- ONR Broad Agency Announcement (BAA) Webpage - <http://www.onr.navy.mil/02/baa/>

8. Instrument Type(s) – Contracts

Awards will be issued as Contracts, however ONR reserves the right to award a different instrument type if deemed to be in the best interest of the Government.

9. Catalog of Federal Domestic Assistance (CFDA) Numbers -

10. Catalog of Federal Domestic Assistance (CFDA) Titles -

11. Other Information

FAR Part 35 restricts the use of Broad Agency Announcements (BAAs), such as this, to the acquisition of basic and applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts awarded under BAAs are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

THIS ANNOUNCEMENT IS NOT FOR THE ACQUISITION OF TECHNICAL, ENGINEERING AND OTHER TYPES OF SUPPORT SERVICES.

II. AWARD INFORMATION

The amount and period of performance of each selected proposal may vary depending on the research area and the technical approach to be pursued by the selected Offeror.

Estimated Total Amount of Funding Available:

FY2011	FY2012	FY2013	FY2014	FY2015	Total
\$2M	\$4M	\$4M	\$4M	\$2M	\$16M

The Office of Naval Research (ONR) may award multiple technology development Indefinite Delivery Indefinite Quantity (IDIQ) contracts that represent the best value to the Government in accordance with the evaluation criteria. The Office of Naval Research is seeking participants for this program that are capable of supporting the goals described in this announcement. The amount and period of performance of each selected proposal will vary depending on the research area and the technical approach to be pursued by the selected Offeror. The Government intends to award IDIQ contracts with a minimum value of the Phase 1 study and maximum value of \$5,300,000 per award.

Efforts under this BAA will be funded from an anticipated budget that begins at approximately \$2M in FY2011, increasing to approximately \$4M in FY2012 through FY2014, and reducing to approximately \$2M in FY2015. ONR plans to utilize Exploratory Development Funds (Budget Category 6.2) and Advanced Technology Funds (Budget Category 6.3). ONR will consider proposals from Government Entities outside of this BAA that may draw from this budget.

As identified in paragraph 6.4 (Program Plan) of Section I, it is envisioned that each effort shall consist of two Phases, a study phase (Phase I) during which the initially proposed designs will be developed and an implementation phase (Phase II) during which the implementation of the proposed approach will take place.

The Government estimates a start date of Phase I **30 October 2010**, subject to date of final award and availability of funds. A Phase II Task Order will be issued to various IDIQ contract holders contingent upon a government decision to pursue the Phase II approach. The Government estimates a start date of **30 April 2011**, subject to date of final award and availability of funds.

Total amount of funding: Maximum up to \$5,300,000 over three (3) to five (5) years per award.

Anticipated number of awards:

- Up to five (5) IDIQ Contracts, each with one (1) or more associated Task Orders.

Total amount of funding available for each Task Order:

- Phase I: Variable but not to exceed \$300,000
- Phase II: Variable but not to exceed \$5,000,000

Anticipated period of performance*:

- Phase I: Six (6) months
- Phase II: Variable, but not to exceed fifty-four (54) months

* The months displayed above are the anticipated periods for the performance for each Phase. Phase II includes the Government integration. The performers shall be available to the Government for consultation during the integration period. Depending upon the perceived Navy needs, the periods of performance and levels of work for Phase II may differ from one company to another.

The Government intends to make separate awards to for each research area as described in the Technologies of Interest in paragraph 6.2 of Section I. It is not the Government's intention to make more than one award in a research focus area, nor is it the government's intention to conduct a formal "fly-off" among the developers under contract.

ONR has funded related technology development under numerous programs. If Offerors are enhancing work performed under other ONR or DoD projects, they must clearly identify the point of departure, what existing work will be brought forward and what new work will be performed under this BAA. The Government intends to award Firm Fixed Price Delivery Orders for Phase 1 and to award Cost Plus Fixed Fee Delivery Orders for Phase II.

Subsequent Delivery Orders will follow the criteria established in FAR 16.505 for multiple-award IDIQ Delivery Orders.

Although ONR expects the above described phasing plan to be executed, ONR reserves the right to make changes based upon the best needs of the Government as determined by the Contracting Officer.

The Government reserves the right to solicit and make additional awards to those Offerors who originally submitted white papers in response to this solicitation, regardless whether or not they subsequently received an IDIQ contract. Such awards are expected to fill any technological gaps that may exist, from the Navy's perspective, once the initial awards are made. Any contract award(s) made to fill any technological gaps will be awarded on a Cost Plus Fixed Fee basis.

III. ELIGIBILITY INFORMATION

All responsible sources from academia and industry may submit proposals under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation.

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this BAA and should not directly submit either white papers or full proposals in response to this BAA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR POC to discuss its area of interest. The various scientific divisions of ONR are identified at <http://www.onr.navy.mil/>. As with FFRDCs, these types of federal organizations may team with other responsible sources from academia and industry that are submitting proposals under this BAA.

Teams are also encouraged and may submit proposals in any and all areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors, as well as with system integrators, selected by ONR.

Some topics cover export controlled technologies. Research in these areas is limited to "U.S. persons" as defined in the International Traffic in Arms Regulations (ITAR) - 22 CFR § 1201.1 et seq. (See Section VII, Other Information).

IV. APPLICATION AND SUBMISSION INFORMATION

1. Application and Submission Process - Industry Day, White Paper, Full Proposals

Industry Day/Pre-Proposal Conference:

The Proactive Computer Network Defense and Information Assurance (CND/IA) EC Industry Day will be held at the Naval Research Laboratory, Building 226 on 10 February 2010, at 10:00 AM (EST) with check-in beginning at 9:00 AM (EST). To register and retrieve more event details please visit <https://secure.onr.navy.mil/events/>. The deadline to register is 4:00 PM (EST) on 3 February 2010. Pre-

registration using this web site is mandatory; WALK-IN REGISTRATION WILL NOT BE PERMITTED. All registrants will receive a confirmation email and visitor control instructions upon completion of the registration process. If requested attendance exceeds capacity, it may be necessary to limit attendance and organizations will be so notified.

White Papers

The due date for white papers is no later than 2:00 PM (EST) on Monday, 15 March 2010. White papers received after the published due date and time will not be considered for funding in FY 2011. The acceptable methods for submission of white papers include electronic mail (e-mail), the United States Postal Service (USPS) with delivery confirmation, via a commercial carrier (FedEx and UPS). (In order to provide traceability and evidence of submission, Offerors may wish to use the "Delivery Receipt" option available from Microsoft Outlook and other e-mail programs that will automatically generate a response when the subject e-mail is delivered to the recipient's e-mail system. Consult the User's Manual for your e-mail software for further details on this feature.) Each white paper should state that it is submitted in response to this BAA and cite the specific research opportunity effort being addressed.

The purpose of the white papers is to provide the Government an initial description of the technologies being proposed. It is important that Offerors focus their white papers on the specific areas of their expertise that may be applicable to the overall objectives of this BAA and not attempt to cover the entirety of the Research Opportunity using broad general descriptions. The Government will select those technologies deemed to be most suitable for implementation using the evaluation criteria in Section V and request proposals for those technologies of interest.

Navy evaluations of the white papers will be issued via e-mail on or about Tuesday, 11 April 2010. A full proposal will be subsequently requested from those Offerors whose proposed technologies have been identified as being of "particular value" to the Navy. However, any such request does not assure a subsequent award. In cases where the Offeror has identified, within the white paper, several technologies as its strength, the Navy through its evaluation may identify only some of those as a "particular value" to the Navy. Offerors are encouraged to concentrate their efforts on those technologies when preparing their full proposal.

Any Offeror whose white paper was not identified as being of "particular value" to the Navy is ineligible to submit a full proposal under this BAA.

Full Proposal Submission:

The due date for full proposals is no later than 2:00 PM (EDT) on Thursday, 21 May 2010. Full proposals received after the published due date will not be considered for funding in FY 2011.

The only acceptable methods for submission of full proposals for contracts is via the United States Postal Service (USPS) with delivery confirmation, via a commercial carrier (FedEx and UPS) or hand delivered to the attention Mr. Stanley Chinchek (Primary) or Ms. Kim McCormick (Secondary) at the address provided in this BAA. Delivery of materials by USPS, even when sent as Express Mail, may take a week or more due to current security procedures in place to ensure the safety of U.S. mail to DoD activities. Navy evaluations of the full proposal submissions will be issued via email notification on or about Friday, 4 June 2010.

NOTE: Full Proposals sent by email or fax will not be considered.

2. Content and Format of White Papers/Full Proposals –

White Papers and Full Proposals submitted under the BAA are expected to be unclassified; however, confidential/classified responses are permitted. If a classified response is submitted, the resultant contract will be unclassified.

Unclassified Proposal Instructions:

Unclassified White Papers and Full Proposals shall be submitted in accordance with Section IV, Application and Submission Information.

Classified Proposal Instructions:

Classified White Papers and Full Proposals shall be submitted directly to the attention of ONR's Document Control Unit at the following address:

OUTSIDE ENVELOPE (no classification marking):

Office of Naval Research
Document Control Unit
ONR Code 43
875 North Randolph Street
Arlington, VA 22203-1995

The inner wrapper of the classified proposal should be addressed to the attention of Stanley Chincheck, ONR Code 311 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)
Program: Computer Network Defense
Office of Naval Research
Attn: Stanley Chincheck
ONR Code: 311
875 North Randolph Street
Arlington, VA 22203-1995

An 'unclassified' Statement of Work (SOW) must accompany any classified proposal.

Proposal submissions will be protected from unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

IMPORTANT NOTE: Titles given to the White Papers/Full Proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.

The proposal format and content identified below are applicable to the submission of proposals for contracts.

WHITE PAPERS

White Paper Format

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single spaced
- Font - Times New Roman, 12 point
- Max. Number of Pages permitted: 10 pages (excluding cover page, resumes, bibliographies, and table of contents)
- Format - one (1) original, plus 5 hard copies and one (1) electronic copy in Adobe PDF format on CD-ROM.

White Paper Content

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER" and shall include the BAA number, proposed title, technical points of contact, telephone numbers facsimile numbers and e-mail addresses.
- **Technical Concept:** A description of the technology innovation and technical risk areas.
 1. Project Manager or Principal Investigator and key personnel
 2. Research Opportunity and Effort being addressed (capability deficiency being satisfied)
 3. Technical Approach in detail
 4. Deliverables (data, reports, hardware, and software/firmware)
 5. Recent technical breakthroughs that will reduce risk
 6. Project plan showing schedule of individual tasks. The project plan shall reflect a 6-9 month study phase for development of the proposed design, followed by possible tasks supporting this effort.
 7. Funding plan showing requested funding for base study and estimated funding for future tasks per month in each fiscal year for both the study phase and proposed tasks.
 8. State whether or not assertion(s) of data rights will be proposed under this effort.
- **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.

FULL PROPOSALS

Full Proposal Format - Volume 1 - Technical and Volume 2 - Cost Proposal

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single-spaced
- Font - Times New Roman, 12 point
- Number of Pages - The Technical Volume (Vol. 1) shall not exceed more than 52 pages. The cover page, table of contents, personnel resumes, and bibliographies shall not be included in the page limit. Full Proposals exceeding the page limit may not be evaluated. There are no page limitations to the Cost Proposal, Volume 2.
- Format - one (1) original plus 5 hard copies and one (1) electronic copy in MS Word and Adobe PDF (2 files total) on CD-ROM.

Full Proposal Content

Volume 1: Technical Proposal

- **Cover Page:** This should include the words "Technical Proposal" and the following:
 1. BAA Number 10-004;
 2. Title of Proposal;
 3. Identity of prime Offeror and complete list of subcontractors, if applicable;
 4. Technical contact (name, address, phone/fax, electronic mail address)
 5. Administrative/business contact (name, address, phone/fax, electronic mail address) and;
 6. Duration of effort
- **Proposal Checklist:** To assist Offerors in the development and submission of their proposals in response to this BAA, a Proposal Checklist for Contracts, Grants, Cooperative Agreements and Other Transactions has been uploaded as an attachment. Offerors should print and complete the checklist to ensure that all required actions have been taken and information included prior to proposal submission. Inclusion of the completed checklist as the first page of your Volume I,

Technical Proposal, will assist in proposal evaluation and may shorten the time it takes to make an award.

- **Table of Contents:** An alphabetical/numerical listing of the sections within the proposal, including corresponding page numbers.
- **Statement of Work:** A Statement of Work (SOW) clearly detailing the scope and objectives of the effort and the technical approach. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, the proposals must include a severable, self-standing SOW, without any proprietary restrictions, which can be attached to the contract award. Include a detailed listing of the technical tasks/subtasks organized by year. Limit the number of pages for this section to 6.

The contractor shall provide a general SOW inclusive of Phases I and II for the IDIQ Base Award, and additional detailed SOWs for the Phase I work. Offerors should submit the general SOW and the detailed SOW for Phase I at the time of full proposal submission.

NOTE: Submission of the SOW without restrictive markings is your company's affirmation that the SOW is non-proprietary and releasable in response to Freedom of Information Act (FOIA) requests.

- **Technical Approach and Justification:** The major portion of the proposal should consist of a clear description of the technical approach being proposed. This discussion should provide the technical foundation / justification for pursuing this particular approach / direction and why one could expect it to enable the objectives of the proposal to be met. Limit the number of pages for this section to 25. Include a discussion of:
 - **Operational Naval Concept:** A description of the project objectives, the concept of operation for the new capabilities to be delivered, and the expected operational performance improvements.
 - **Operational Utility Assessment Plan:** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field experiments and/or tests in a simulated environment.
- **Project Schedule and Milestones:** A summary of the schedule of events and milestones. Limit the number of pages for this section to 1.
- **Assertion of Data Rights and/or Rights in Computer Software:** For a contract award an Offeror may provide with its proposal assertions to restrict use, release or disclosure of data and/or computer software that will be provided in the course of contract performance. The rules governing these assertions are prescribed in Defense Federal Acquisition Regulation Supplement (DFARS) clauses 252.227-7013, -7014 and - 7017. These clauses may be accessed at the following web address:

<http://farsite.hill.af.mil/VDFDARA.HTM>

The Government may challenge assertions that are provided in improper format or that do not properly acknowledge earlier federal funding of related research by the Offeror. Limit the number of pages for this section to 1.

- **Deliverables:**

Specific deliverables should be proposed by the Offeror and will be finalized with the Technical Program Officer and the Contract Specialist. Reports and hardware deliverables that the Government anticipates for the proposed program are as follows:

Administrative (Applicable to Orders placed under IDIQ Contract)

- Detailed schedule and expenditure plan delivered at the beginning of each Delivery Order. Monthly granularity is required.
- Monthly technical and financial status reports.
- Monthly progress review presentation material and record of meetings.

Deliverables for Phase I:

- Preliminary and Final Design Report detailing technology (ies)/component(s) concept and design.
- Full Technical and Cost Proposals to Phase II: SOW, schedule, and expenditure plan.

Deliverables for Phase II:

- Algorithms, techniques and/or software and associated required documentation

Include the timeframe in which they will be delivered. Limit the number of pages for this section to 1.

- **Management Approach:** A discussion of the overall approach to the management of this effort, including brief discussions of the total organization; use of personnel; project/function/subcontractor/subrecipient relationships; government research interfaces; and planning, scheduling and control practice. Identify which personnel and subcontractors/subrecipients (if any) will be involved. Include a description of the facilities that are required for the proposed effort with a description of any Government Furnished Equipment/Hardware/Software/Information required, by version and/or configuration. Limit the number of pages for this section to 5.
- **Current and Pending Project and Proposal Submissions:** Offerors are required to provide information on all current and pending support for ongoing projects and proposals, including subsequent funding in the case of continuing contracts, grants, and other assistance agreements. Offerors shall provide the following information of any related proposal submissions from whatever sources (e.g., ONR, Federal, State, local or foreign government agencies, public or private foundations, industrial or other commercial organizations).

The information must be provided for all proposals already submitted or submitted concurrently to other possible sponsors, including ONR. Concurrent submission of a proposal to other organizations will not prejudice its review by ONR:

1. Title of Proposal and Summary;
2. Source and amount of funding (annual direct costs; provide contract and/or grant numbers for current contracts/grants);
3. Percentage effort devoted to each project;
4. Identity of prime Offeror and complete list of subcontractors, if applicable;
5. Technical contact (name, address, phone/fax, electronic mail address);
6. Administrative/business contact (name, address, phone/fax, electronic mail address);
7. Duration of effort (differentiate basic effort);
8. The proposed project and all other projects or activities requiring a portion of time of the Principal Investigator and other senior personnel must be included, even if they receive no salary support from the project(s);
9. The total award amount for the entire award period covered (including indirect costs) must be shown as well as the number of person-months or labor hours per year to be devoted to the project, regardless of source of support; and
10. State how projects are related to the proposed effort and indicate degree of overlap.

Limit the number of pages for this section to 3.

- **Qualifications:** A discussion of the qualifications of the proposed Principal Investigator and any other key personnel. Include resumes for the Principal Investigator and other key personnel and full curricula vitae for Principal Investigators and consultants. The resumes and curricula vitae shall be attached to the proposal and will not count toward the page limitations. Limit the number of pages for this section to 11.

For all key members of the proposed Team, including but not limited to the Project Manager(s) and Principal Technical Investigator(s), provide names, title, and a paragraph describing area of expertise/relevant experience, qualifications, and capabilities along with roles and responsibilities for the proposed project. If subcontracting significant elements of the proposed work, identify companies by name, the companies' area(s) of responsibility with respect to this project, the names and titles of key individuals (along with their area(s) of expertise if different from their title), and the individuals' roles and responsibilities for this proposed effort. The resumes and curricula vitae shall be attached to the proposal and will not count toward the page limitations.

A description of Offeror past performance on similar technical efforts, indicating contract values, contacts, and contact phone numbers. Past performance information should also include cost/price performance information including those internal controls that ensured the Offeror did not exceed the cost/price. If costs were exceeded or prices were adjusted, provide the reasons and state the systemic improvement actions taken and current controls now in-place to prevent future recurrences.

VOLUME 2: Cost Proposal

Instructions for Contracts

The following information is provided to assist contractors in preparing and submitting an adequate and compliant cost proposal. The purpose of the submission of other than cost or pricing data is to enable Government personnel to perform cost or price analysis and ultimately negotiate a fair and reasonable cost. Offerors are reminded that the responsibility for providing adequate supporting data and attachments lies solely with the Offeror. Further, the Offeror must also bear the burden of proof in establishing reasonableness of proposed costs; therefore, it is in the contractor's best interest to submit a fully supportable and well-prepared cost proposal. The basis and rationale for all proposed costs should be provided as part of the proposal so that Government personnel can place reliance on the information as current, complete and accurate. Further, FAR 15.403-4 sets forth those circumstances in which Offerors are required to submit certified cost or pricing data.

Although not required and provided for informational purposes only, using the cost proposal format spreadsheet (spreadsheet.xls) that is an attachment to this document and the accompanying instructions (spreadsheetinstructions.doc) as the basis of the cost proposal may **significantly decrease** the time required to review and award proposals submitted in response to this announcement.

For pricing purposes, assume that performance will start no earlier than six (6) months after submission of the cost proposal.

The Cost Proposal shall consist of a cover page and two parts. Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar or Government fiscal year, and Part 2 will provide a cost breakdown by Government fiscal year and task/sub-task corresponding to the task numbers in the proposed Statement of Work.

The Government requires cost proposals for both Phases I and II of this solicitation. A detailed cost proposal is required for the Phase I award, which must include the cost data as outlined below. The cost estimates for Phase II are only expected to be rough estimates at this time; the detailed cost proposal for Phase II will be required as one of the deliverables at the completion of Phase I. It is anticipated that the minimum IDIQ amount will equate to the cost of the first Delivery Order (for Phase I).

Cover Page: The use of the SF 1411 is optional. The words "Cost Proposal" should appear on the cover page in addition to the following information:

- BAA Number 10-004
- Title of Proposal
- Identity of prime Offeror and complete list of subcontractors, if applicable
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address) and
- Proposed period of performance (identify both the Phase I period and Phase II period)

Part 1 - Detailed breakdown of all costs by cost category by calendar or Government fiscal year:

- **Direct Labor** – Individual labor categories or persons, with associated labor hours and unburdened direct labor rates. Provide escalation rates for out years.
- **Indirect Costs** – Fringe Benefits, Overhead, G&A, COM, etc. and their applicable allocation bases. If composite rates are used, provide the calculations used in deriving the composite rates.
- **Travel** – The proposed travel cost should include the following for each trip: the purpose of the trip, origin and destination if known, approximate duration, the number of travelers, and the estimated cost per trip must be justified based on the organizations historical average cost per trip or other reasonable basis for estimation. Such estimates and the resultant costs claimed must conform to the applicable Federal cost principals.
- **Subcontracts/Inter-organizational Transfers** – A cost proposal as detailed as the Offeror's cost proposal will be required to be submitted by all proposed subcontractors and for all inter-organizational transfers. For subcontracts or inter-organizational transfers over \$100,000, the subcontract proposal, along with supporting documentation, must be provided either in a sealed envelope with the prime's proposal or via email directly to both the Program Officer and the Business Point of Contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is a subcontract, and should include a description of the effort to be performed by the subcontractor. A proposal and supporting documentation must be received and reviewed before the Government can complete its cost analysis of the proposal and enter negotiations. The prime contractor should perform and provide a cost/price analysis of each subcontractor's cost proposal.* Offerors are required to obtain competition to the maximum extent practicable when selecting subcontractors or inter-organizational transfers; if the Offeror has obtained competitive quotes, copies should be provided. If the Offeror has selected other than the low bid for inclusion in their proposal or intends to award the subcontract/inter-organizational transfer on a sole-source basis, the Offeror should provide rationale for their decision. Certified cost or pricing data may be required for subcontractor proposals over \$650,000.
***Note:** DoD Federal Acquisition Regulation provision 252.215-7003 (48 CFR §252.215-7003) is incorporated into this solicitation by reference. The Offeror is to exclude excessive pass-through charges from subcontractors. The Offeror must identify in its proposal the percentage of effort it intends to perform and the percentage to be performed by each of its proposed subcontractors. If more than 70 percent of the total effort will be performed subcontractors, the Offeror must include the additional information required by the above-cited clause.
- **Consultants** – Provide a breakdown of the consultant's hours, the hourly rate proposed, other proposed consultant costs, a copy of the signed Consulting Agreement or documentation supporting the proposed consultant rate/cost, and a copy of the proposed statement of work if it is not already separately identified in the prime contractor's proposal.
- **Materials & Supplies** – Provide an itemized list of all proposed materials and supplies for each year including quantities, unit prices, proposed vendors (if known), and the basis for estimate (e.g., quotes, prior purchases, catalog price lists). If the total cost for materials and supplies exceeds \$100,000 per year, then select a sample of the items proposed and provide catalog price lists/quotes/prior purchase orders to support the price for the items in the sample. All

items with a unit price over \$10,000, regardless of the total cost for materials and supplies, must be supported with a copy of catalog price lists/quotes/prior purchase orders.

- **Contractor Acquired Equipment or Facilities** – Equipment and/or facilities are normally furnished by the Contractor. If acquisition of equipment and/or facilities is proposed, justification for the purchase of the items must be provided including: 1) a very specific description of any equipment/hardware that it needs to acquire to perform the work, 2) whether or not each particular piece of equipment/hardware will be included as part of a deliverable item under the resulting award, and 3) the basis for the estimate (e.g., quotes, prior purchases, catalog price lists). The description should identify the component, nomenclature, and configuration of the equipment/hardware that it proposes to purchase for this effort. The purchase on a direct reimbursement basis of equipment that is not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.
- **Other Direct Costs** – Provide an itemized list of all other proposed other direct costs and the basis for the estimate (e.g., quotes, prior purchases, catalog price lists).
- **Fee/Profit (Contract Proposals Only)** – Profit or fee is not allowed on direct costs for facilities or in cost-sharing contracts. Note: Indicate if you have an approved Purchasing/Estimating System and/or describe the process used to determine the basis of reasonableness (e.g., competition, market research, best value analysis) for subcontractors, consultants, materials, supplies, equipment/facilities, and other direct costs.

Part 2 - Cost breakdown by Government fiscal year and task/sub-task corresponding to the same task breakdown in the proposed Statement of Work.

3. Significant Dates and Times –

Event	Date	Time
White Paper Due Date	3/15/2010	2:00 PM Eastern Local Time
Notification of White Paper Evaluation*	4/11/2010	
Full Proposal Due Date	5/21/2010	2:00 PM Eastern Local Time
Notification of Selection: Full Proposals*	6/4/2010	
Awards*	10/30/2010	

**These dates are estimates as of the date of this announcement.*

NOTE: Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be received at the Office of Naval Research has increased. Materials submitted through the U.S. Postal Service, for example, may take seven days or more to be received, even when sent by Express Mail. Thus any hard-copy proposal should be submitted long enough before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration.

4. Submission of Late Proposals -

Any proposal, modification, or revision that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and:

- If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 P.M. one working day prior to the date specified for receipt of proposals; or

- There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or
- It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any Offeror if its proposal, modifications, or revision was received late and must inform the Offeror whether its proposal will be considered.

5. Address for the Submission of White Papers and Full Proposals -

Hard copies of White Papers and Full Proposals for Contracts should be sent to the Office of Naval Research at the following address:

Primary Contact	Secondary Contact
Office of Naval Research Attn: Stanley Chincheck ONR Department Code: 311 875 North Randolph Street Suite W1170 Arlington, VA 22203-1995 (703) 696-0374	Office of Naval Research Attn: Kim McCormick ONR Department Code: 311 875 North Randolph Street Suite W1105C Arlington, VA 22203-1995 (703) 696-8528

V. EVALUATION INFORMATION

1. Evaluation Criteria -

Award decisions will be based on a competitive selection of proposals resulting from a scientific and cost review. Evaluations will be conducted using the following evaluation criteria:

1. Overall scientific and technical merits of the proposal
 - a. The degree of innovation.
 - b. The soundness of the technical concept/approach.
 - c. The Offeror's awareness of the state of the art and understanding of the scope of the problem and the technical effort needed to address it.
2. Potential Naval relevance and anticipated contributions of the proposed technology to research objectives.
3. Offeror's capabilities, related experience, and past performance, including the qualifications, capabilities, and experience of the proposed personnel.
 - a. The quality of technical personnel proposed.
 - b. The Offeror's experience in relevant efforts with similar resources.

4. Management Approach
 - a. The ability to manage the proposed effort (planning, scheduling, resources, management practices, and techniques).
 - b. Processes to identify and mitigate risks.
5. Suitability of data rights being asserted.
6. The realism of the proposed costs and availability of funds.

Overall, the technical factors 1-5 above are more important than the cost factor, with the technical factors all being of equal value. The degree of importance of cost will increase with the degree of equality of the submissions in relation to the other factors on which selection is to be based, or when the cost is so significantly high so as to diminish the value of the submission's technical superiority to the Government.

For proposed awards to be made as contracts to other than small businesses, the socio-economic merits of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

2. Evaluation Panel -

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and 15.207. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Cost proposals will be evaluated by Government business professionals. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject-matter-expert technical consultants. Similarly, support contractors may be utilized to evaluate cost proposals. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to technical and cost proposals submitted in response to this BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions.

VI. AWARD ADMINISTRATION INFORMATION

1. Administrative Requirements -

- The North American Industry Classification System (NAICS) code - The North American Industry Classification System (NAICS) code for this announcement is "541712" with a small business size standard of "500 employees".
- Central Contractor Registry (CCR) - Successful Offerors not already registered in the CCR will be required to register in CCR prior to award of any grant, contract, cooperative agreement, or other transaction agreement. Information on CCR registration is available at <http://www.onr.navy.mil/02/ccr.htm>.
- Subcontracting Plans - Successful contract proposals that exceed \$550,000, submitted by all but small business concerns, will be required to submit prior to award a Small Business Subcontracting Plan in accordance with FAR 52.219-9.
- Certifications - Proposals for contracts and assistance agreements should be accompanied by a completed certification package.

For contracts, in accordance with FAR 4.1201, prospective contractors shall complete and submit electronic annual representations and certifications at <http://orca.bpn.gov>. In addition to completing the Online Representations and Certifications Application (ORCA), proposals must be accompanied with a completed DFARS and contract specific representations and certifications. These "DFARS and Contract Specific Representations and Certifications", i.e., Section K, may be accessed under the Contracts and Grants Section of the ONR Home Page at http://www.onr.navy.mil/02/rep_cert.asp.

VII. OTHER INFORMATION

1. Government Property/Government Furnished Equipment (GFE) and Facilities

Government research facilities and operational military units are available and should be considered as potential government-furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for any one specific program. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain as part of their proposal which of these facilities are critical for the project's success.

2. Security Classification

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible. If access to classified material will be required at any point during performance, the Offeror must clearly identify such need prominently in its proposal.

If awardees use unclassified data in their deliveries and demonstrations regarding a potentially classified project, they should use methods and conventions consistent with those used in classified environments. Such conventions will permit the various subsystems and the final system to be more adaptable in accommodating classified data in the transition system.

3. Use of Animals and Human Subjects in Research

Reserved

4. Recombinant DNA

Reserved

5. Department of Defense High Performance Computing Program

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S&T and RDT&E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at <http://www.hpcmo.hpc.mil/>.

6. Organizational Conflicts of Interest

All Offerors and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any ONR technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Offeror supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. 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 Offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval, a contractor cannot simultaneously be a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests or do not have acceptable plans to mitigate identified conflicts will be rejected without technical evaluation and withdrawn from further consideration for award. If a prospective Offeror believes that any conflict of interest exists or may exist (whether organizational or otherwise), the Offeror should promptly raise the issue with ONR by sending

his/her contact information and a summary of the potential conflict by e-mail to the Business Point of Contact in Section I, item 7 above, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Government after full consideration of the circumstances, any conflict situation cannot be effectively avoided or mitigated, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

7. Project Meetings and Reviews

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, Offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

At a minimum, the Offeror should plan to present a progress briefing semi-annually (during each government fiscal year that the project receives funding) at the Office of Naval Research in the Arlington, VA area.

8. Roles of the Navy Warfare Centers

The Navy Warfare Centers will have the primary role for the integration and experimentation/demonstration process. They will also participate in the development of technologies where there are unique capabilities and facilities of interest to ONR. They will also assist ONR in the management, engineering, and administrative tasks and will provide government furnished equipment (GFE) and facilities that will be used for system level integration and portions of experiment execution.