Future Internet Architectures (FIA)

PROGRAM SOLICITATION
NSF 10-528

National Science Foundation

Directorate for Computer & Information Science & Engineering
   Division of Information & Intelligent Systems
   Division of Computing and Communication Foundations
   Division of Computer and Network Systems

Full Proposal Deadline(s) (due by 5 p.m. proposer's local time):

   April 22, 2010

IMPORTANT INFORMATION AND REVISION NOTES

Please be advised that the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) includes revised guidelines to implement the mentoring provisions of the America COMPETES Act (ACA) (Pub. L. No. 110-69, Aug. 9, 2007.)   As specified in the ACA, each proposal that requests funding to support postdoctoral researchers must include a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see the PAPP Guide Part I: *Grant Proposal Guide* Chapter II for further information about the implementation of this new requirement).

SUMMARY OF PROGRAM REQUIREMENTS

General Information

Program Title:

   Future Internet Architectures (FIA)

Synopsis of Program:

   Continuing its long-standing commitment to support groundbreaking research through Network Science and Engineering (NetSE), the Directorate for Computer and Information Science and Engineering (CISE) invites research teams to submit innovative and creative proposals that describe projects to conceive, design, and evaluate trustworthy Future Internet architectures. Proposing teams should include individuals with expertise in a range of relevant disciplines and/or different research methods, from theoretical to experimental to applications-driven.

Cognizant Program Officer(s):

- Darleen L. Fisher, Program Director, 1175, telephone: (703) 292-8950, email: dlfisher@nsf.gov

- Victor S. Frost, Program Director, 1175, telephone: (703) 292-8950, email: vsfrost@nsf.gov

Applicable Catalog of Federal Domestic Assistance (CFDA) Number(s):

- 47.070 --- Computer and Information Science and Engineering

Award Information

Anticipated Type of Award: Standard Grant or Continuing Grant

Estimated Number of Awards: 2 to 4

Anticipated Funding Amount: $30,000,000 Dependent upon the availability of funds and the quality of proposals received, CISE expects to support 2-4 projects, each with cumulative budgets of up to $9 million and durations of 3 years.

Eligibility Information

Organization Limit:

   None Specified

PI Limit:

> None Specified

Limit on Number of Proposals per Organization:

> None Specified

Limit on Number of Proposals per PI:

> There is no limit to the number of proposals on which an individual can serve as a PI, co-PI or senior personnel. However, an individual can be identified in the "*Collaboration and Management*" section of the proposal as the lead project investigator on only **one** project.

Proposal Preparation and Submission Instructions

A. Proposal Preparation Instructions

- **Letters of Intent:** Not Applicable

- **Preliminary Proposal Submission:** Not Applicable

- **Full Proposals:**

  - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at:
    http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg .

  - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at:
    http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)

B. Budgetary Information

- **Cost Sharing Requirements:** Cost Sharing is not required under this solicitation.

- **Indirect Cost (F&A) Limitations:** Not Applicable

- **Other Budgetary Limitations:** Not Applicable

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

  > April 22, 2010

Proposal Review Information Criteria

Merit Review Criteria: National Science Board approved criteria apply.

Award Administration Information

Award Conditions: Standard NSF award conditions apply.

Reporting Requirements: Standard NSF reporting requirements apply.

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I. INTRODUCTION

The Internet has created unprecedented opportunities for advancing knowledge across the spectrum of human endeavors. It has evolved from a small scale network of networks to become integral to our lives and vital to the operation of all critical sectors of our society. The continued success of the Internet, however, is increasingly threatened by the ever-mounting sophistication of security attacks and by the lack of performance reliability of Internet services. As our reliance on a secure and highly dependable information technology infrastructure continues to increase, it is no longer clear that emerging and future needs of our society can be met by the current trajectory of incremental changes to the current Internet.

Recognizing the need for a secure and highly dependable information technology infrastructure and building on our on-going investments in network science and engineering, the Directorate for Computer and Information Science and Engineering (CISE) has formulated this program to stimulate innovative and creative research to explore, design, and evaluate trustworthy future Internet architectures. Our objective is to engage the research community in collaborative, long-range, transformative thinking - unfettered by the constraints of today's networks yet inspired by lessons learned and promising new research ideas - to design and experiment with new network architectures and networking concepts that take into consideration the larger social, economic and legal issues that arise from the interplay between the Internet and society.

II. PROGRAM DESCRIPTION

The Future Internet Architectures program invites research teams that include individuals with expertise in a range of relevant disciplines and/or different research methods (from theoretical to experimental to applications-driven) to submit innovative and creative proposals that describe projects to conceive, design, and evaluate trustworthy Future Internet architectures.

This program solicitation is informed by the recent CISE-sponsored Future Internet Summit, information about which is available at http://www.fisummit.info/, as well as by projects supported in the Future Internet Design (FIND) component of CISE's Networking Technology and Systems (NeTS), and by projects supported in the Network Science and Engineering (NetSE) and the Trustworthy Computing programs.

Driven by technological innovations and the requirements of emerging and yet to be discovered applications, the Internet of the future is likely to be different from that of today. Responsive proposals should not focus on making the existing Internet better through incremental changes, but rather should focus on designing comprehensive architectures that can meet the challenges and opportunities of the 21st century.

Proposing teams are encouraged to: capitalize on lessons learned from the past; explore emerging concepts and promising research outcomes recently reported by the research community; and, engage in transformative research that has the potential to enable the creation of comprehensive architectures that reach beyond current core neworking components, mechanisms and application requirements.

Proposals submitted must identify architectural requirements that are clearly informed by the legal, ethical and the societal contexts in which the Future Internet will exist. ***Trustworthiness - broadly defined as encompassing security, privacy, reliability, and usability - must be considered as a fundamental design requirement in proposed architectures.*** Other design requirements such as, but not limited to, scalability, openness, ubiquitous access, innovation-enabling, manageability, evolvability and economic viability, may also be considered. Finally, proposals ***must*** describe plans to prototype and evaluate the proposed architectures; this may require the construction of new artifacts or the use of research infrastructure like GENI (Global Environment for Network Innovations) or the NCR (National Cyber Range).

III. AWARD INFORMATION

Dependent upon the availability of funds and the quality of proposals received, CISE expects to support 2-4 projects, each with cumulative budgets of up to $9 million and durations of 3 years.

IV. ELIGIBILITY INFORMATION

Organization Limit:

None Specified

PI Limit:

None Specified

Limit on Number of Proposals per Organization:

None Specified

Limit on Number of Proposals per PI:

There is no limit to the number of proposals on which an individual can serve as a PI, co-PI or senior personnel. However, an individual can be identified in the "*Collaboration and Management*" section of the proposal as the lead project investigator on only **one** project.

Additional Eligibility Info:

V. PROPOSAL PREPARATION AND SUBMISSION INSTRUCTIONS

A. Proposal Preparation Instructions

Full Proposal Preparation Instructions: Proposers may opt to submit proposals in response to this Program Solicitation via Grants.gov or via the NSF FastLane system.

- Full proposals submitted via FastLane: Proposals submitted in response to this program solicitation should be prepared and submitted in accordance with the general guidelines contained in the NSF Grant Proposal Guide (GPG). The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg. Paper copies of the GPG may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov. Proposers are reminded to identify this program solicitation number in the program solicitation block on the NSF Cover Sheet For Proposal to the National Science Foundation. Compliance with this requirement is critical to determining the relevant proposal processing guidelines. Failure to submit this information may delay processing.

- Full proposals submitted via Grants.gov: Proposals submitted in response to this program solicitation via Grants.gov should be prepared and submitted in accordance with the NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov. The complete text of the NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: (http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide). To obtain copies of the Application Guide and Application Forms Package, click on the Apply tab on the Grants.gov site, then click on the Apply Step 1: Download a Grant Application Package and Application Instructions link and enter the funding opportunity number, (the program solicitation number without the NSF prefix) and press the Download Package button. Paper copies of the Grants.gov Application Guide also may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

In determining which method to utilize in the electronic preparation and submission of the proposal, please note the following:

Collaborative Proposals. All collaborative proposals submitted as separate submissions from multiple organizations must be submitted via the NSF FastLane system. Chapter II, Section D.4 of the Grant Proposal Guide provides additional information on collaborative proposals.

Proposal preparation instructions specific to the preparation of proposals submitted in response to this solicitation are provided below:

- **Cover Sheet.** For management purposes, all proposal titles should begin with the FIA acronym. For proposals coming from a single institution, the FIA acronym should be directly followed by the project title (i.e., **FIA: Project Title**). If the proposal is part of a set of collaborative proposals, the FIA acronym should be followed by a colon, then by the words "Collaborative Research" followed by a colon, and then the title (i.e., **FIA: Collaborative Research: Title).**

- **Project Summary.** The proposal must contain a summary of the proposed activity suitable for publication. The summary must not exceed one page and should be informative to other persons working in the same or related fields. The summary must clearly address in separate statements the intellectual merit of the proposed activity and the broader impacts resulting from the proposed activity.

- **Project Description.** The Project Description is limited to 20 pages, and must include the following sections:
  - *Vision*: describe a well-articulated "vision" of the proposed comprehensive architecture, its high-level objectives, and its motivating ideas
  - *Architecture*: discuss the underlying architectural principles and the requirements to be satisfied by the proposed comprehensive architecture-the discussion must include trustworthiness; and identify the architectural components and invariants and expose the interactions between these components.
  - *Research Agenda*: define a coherent research agenda focused on the technical approaches and methodologies to realize the proposed architecture, including how the design requirements, invariants and components are synthesized into an coherent comprehensive architecture; discuss the metrics for the proposed architecture validation, evaluation and assessment, including associated experimental methodology; describe a plan for the prototyping of the proposed architecture, including, when applicable, the description of the artifacts to be developed and the facilities to be used for experimentation and validation.
  - *Collaboration and Management*: describe a comprehensive collaboration and management plan; identify the lead investigator for the project and describe the management and research responsibilities the lead will assume for the project; define the expected contributions of each of the PIs and provide a convincing case that the collaborative contributions of the project team will be greater than the sum of each of their individual contributions; describe plans for integrating and managing all organizations and individuals involved in the project to ensure the project goals are met; provide a timeline for the proposed effort and identify the parties responsible for each major task -

the length of and degree of detail provided in the Collaboration and Management Plan should be commensurate with the complexity of the proposed project

- o *Education and Outreach*: describe plans to integrate education and research focused on exploring architectural design and understanding of large-scale systems. Discuss plans to stimulate interest in architectures and networked systems in undergraduate and graduate education and/or to foster innovation by students using prototype platforms on campus, and describe one or more out-reach activities, for example, activities designed to address the under-representation of women and minorities, or interactions with institutions with strong traditions of teaching, mentoring, and workforce development.

- **Budget**: Provide a detailed budget for each year of the project. FastLane or Grants.gov will automatically generate a cumulative budget. The budget should include funds for domestic travel for up to 3 two-day awardee meetings per year. Each collaborative proposal must submit a separate budget and budget justification (two-page limit for each collaborative proposal). Identify items of equipment costing more than $10,000; full justification of the latter is required.

- **Lead Institution Required Supplementary Documents:** In the Supplementary Documents Section, the lead institution should upload the following information (not part of the project description and need only be submitted by the lead institution):

    o *Intellectual property* (up to 1 page): provide a clear statement of the project's policies on intellectual property. Discuss the nature of the research, methodologies used, ownership and ideas, and roles and responsibilities with respect to intellectual property.

    o *Personnel*: a list of PIs, co-PIs, senior personnel, paid consultants, collaborators and post-doctoral researchers who will be involved in the project. This list should be numbered and include (in this order) full name, organization(s), and role in the project, with each item separated by a semi-colon. Each person listed should start at a new numbered line. For example:

    1. Mary Smith; XYZ University; PI

    2. John Jones; University of PQR; Senior Personnel

    3. Jane Brown; XYZ University; Postdoc

    4. Bob Adams; ABC Inc.; Paid Consultant

This information provides NSF and reviewers with a comprehensive list of personnel and institutions involved in the project, and will be used when determining conflicts of interest in the review process.

- **All Institutions Special Information and Required Supplementary Documents:** In the Supplementary Documents Section, each institution should provide:

    o *Results of Prior Support for PIs and co-PI's* (up to 2 pages): provide information only for the PI(s) and each co-PI, for contributions to research and education in science and engineering over the past five years (from any funding source). Include a brief statement of results of funded projects.

    o *Post-doctorate Mentoring*: (up to 1 page) Please be advised that the NSF Proposal & Award Policies & Procedures Guide (PAPPG) includes revised guidelines to implement the mentoring provisions of the America COMPETES Act (ACA) (Pub. L. No. 110-69, Aug. 9, 2007.) As specified in the ACA, each proposal that requests funding to support postdoctoral researchers must include a description of the mentoring activities that will be provided for such individuals. Proposals that do not comply with this requirement will be returned without review (see the PAPP Guide Part I: Grant Proposal Guide Chapter II for further information about the implementation of this new requirement).

B. Budgetary Information

Cost Sharing: Cost sharing is not required under this solicitation.

C. Due Dates

- **Full Proposal Deadline(s)** (due by 5 p.m. proposer's local time):

    April 22, 2010

D. FastLane/Grants.gov Requirements

- **For Proposals Submitted Via FastLane:**

Detailed technical instructions regarding the technical aspects of preparation and submission via FastLane are available at: https://www.fastlane.nsf.gov/a1/newstan.htm. For FastLane user support, call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this funding opportunity.

Submission of Electronically Signed Cover Sheets. The Authorized Organizational Representative (AOR) must electronically sign the proposal Cover Sheet to submit the required proposal certifications (see Chapter II, Section C of the Grant Proposal Guide for a listing of the certifications). The AOR must provide the required electronic certifications within five working days following the electronic submission of the proposal. Further instructions regarding this process are available on the FastLane Website at: https://www.fastlane.nsf.gov/fastlane.jsp .

- **For Proposals Submitted Via Grants.gov:**

Before using Grants.gov for the first time, each organization must register to create an institutional profile. Once registered,

the applicant's organization can then apply for any federal grant on the Grants.gov website. The Grants.gov's Grant Community User Guide is a comprehensive reference document that provides technical information about Grants.gov. Proposers can download the User Guide as a Microsoft Word document or as a PDF document. The Grants.gov User Guide is available at: http://www.grants.gov/CustomerSupport. In addition, the NSF Grants.gov Application Guide provides additional technical guidance regarding preparation of proposals via Grants.gov. For Grants.gov user support, contact the Grants.gov Contact Center at 1-800-518-4726 or by email: support@grants.gov. The Grants.gov Contact Center answers general technical questions related to the use of Grants.gov. Specific questions related to this program solicitation should be referred to the NSF program staff contact(s) listed in Section VIII of this solicitation.

Submitting the Proposal: Once all documents have been completed, the Authorized Organizational Representative (AOR) must submit the application to Grants.gov and verify the desired funding opportunity and agency to which the application is submitted. The AOR must then sign and submit the application to Grants.gov. The completed application will be transferred to the NSF FastLane system for further processing.

VI. NSF PROPOSAL PROCESSING AND REVIEW PROCEDURES

Proposals received by NSF are assigned to the appropriate NSF program where they will be reviewed if they meet NSF proposal preparation requirements. All proposals are carefully reviewed by a scientist, engineer, or educator serving as an NSF Program Officer, and usually by three to ten other persons outside NSF who are experts in the particular fields represented by the proposal. These reviewers are selected by Program Officers charged with the oversight of the review process. Proposers are invited to suggest names of persons they believe are especially well qualified to review the proposal and/or persons they would prefer not review the proposal. These suggestions may serve as one source in the reviewer selection process at the Program Officer's discretion. Submission of such names, however, is optional. Care is taken to ensure that reviewers have no conflicts of interest with the proposal.

A. NSF Merit Review Criteria

All NSF proposals are evaluated through use of the two National Science Board (NSB)-approved merit review criteria: intellectual merit and the broader impacts of the proposed effort. In some instances, however, NSF will employ additional criteria as required to highlight the specific objectives of certain programs and activities.

The two NSB-approved merit review criteria are listed below. The criteria include considerations that help define them. These considerations are suggestions and not all will apply to any given proposal. While proposers must address both merit review criteria, reviewers will be asked to address only those considerations that are relevant to the proposal being considered and for which the reviewer is qualified to make judgements.

What is the intellectual merit of the proposed activity?
How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the proposer (individual or team) to conduct the project? (If appropriate, the reviewer will comment on the quality of the prior work.) To what extent does the proposed activity suggest and explore creative, original, or potentially transformative concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

What are the broader impacts of the proposed activity?
How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Examples illustrating activities likely to demonstrate broader impacts are available electronically on the NSF website at: http://www.nsf.gov/pubs/gpg/broaderimpacts.pdf.

Mentoring activities provided to postdoctoral researchers supported on the project, as described in a one-page supplementary document, will be evaluated under the Broader Impacts criterion.

NSF staff also will give careful consideration to the following in making funding decisions:

Integration of Research and Education
One of the principal strategies in support of NSF's goals is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities where individuals may concurrently assume responsibilities as researchers, educators, and students and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.

Integrating Diversity into NSF Programs, Projects, and Activities
Broadening opportunities and enabling the participation of all citizens -- women and men, underrepresented minorities, and persons with disabilities -- is essential to the health and vitality of science and engineering. NSF is committed to this principle of diversity and deems it central to the programs, projects, and activities it considers and supports.

B. Review and Selection Process

Proposals submitted in response to this program solicitation will be reviewed by Ad hoc Review and/or Panel Review, or Reverse Site Review.

Reverse Site Visits will used as needed.

Reviewers will be asked to formulate a recommendation to either support or decline each proposal. The Program Officer assigned to manage the proposal's review will consider the advice of reviewers and will formulate a recommendation.

After scientific, technical and programmatic review and consideration of appropriate factors, the NSF Program Officer recommends to the cognizant Division Director whether the proposal should be declined or recommended for award. NSF is striving to be able to tell applicants whether their proposals have been declined or recommended for funding within six months. The time interval begins on the deadline or target date, or receipt date, whichever is later. The interval ends when the Division Director accepts the Program Officer's recommendation.

A summary rating and accompanying narrative will be completed and submitted by each reviewer. In all cases, reviews are treated as confidential documents. Verbatim copies of reviews, excluding the names of the reviewers, are sent to the Principal Investigator/Project Director by the Program Officer. In addition, the proposer will receive an explanation of the decision to award or decline funding.

In all cases, after programmatic approval has been obtained, the proposals recommended for funding will be forwarded to the Division of Grants and Agreements for review of business, financial, and policy implications and the processing and issuance of a grant or other agreement. Proposers are cautioned that only a Grants and Agreements Officer may make commitments, obligations or awards on behalf of NSF or authorize the expenditure of funds. No commitment on the part of NSF should be inferred from technical or budgetary discussions with a NSF Program Officer. A Principal Investigator or organization that makes financial or personnel commitments in the absence of a grant or cooperative agreement signed by the NSF Grants and Agreements Officer does so at their own risk.

VII. AWARD ADMINISTRATION INFORMATION

A. Notification of the Award

Notification of the award is made to *the submitting organization* by a Grants Officer in the Division of Grants and Agreements. Organizations whose proposals are declined will be advised as promptly as possible by the cognizant NSF Program administering the program. Verbatim copies of reviews, not including the identity of the reviewer, will be provided automatically to the Principal Investigator. (See Section VI.B. for additional information on the review process.)

B. Award Conditions

An NSF award consists of: (1) the award letter, which includes any special provisions applicable to the award and any numbered amendments thereto; (2) the budget, which indicates the amounts, by categories of expense, on which NSF has based its support (or otherwise communicates any specific approvals or disapprovals of proposed expenditures); (3) the proposal referenced in the award letter; (4) the applicable award conditions, such as Grant General Conditions (GC-1); * or Research Terms and Conditions * and (5) any announcement or other NSF issuance that may be incorporated by reference in the award letter. Cooperative agreements also are administered in accordance with NSF Cooperative Agreement Financial and Administrative Terms and Conditions (CA-FATC) and the applicable Programmatic Terms and Conditions. NSF awards are electronically signed by an NSF Grants and Agreements Officer and transmitted electronically to the organization via e-mail.

*These documents may be accessed electronically on NSF's Website at http://www.nsf.gov/awards/managing/award_conditions.jsp?org=NSF. Paper copies may be obtained from the NSF Publications Clearinghouse, telephone (703) 292-7827 or by e-mail from nsfpubs@nsf.gov.

More comprehensive information on NSF Award Conditions and other important information on the administration of NSF awards is contained in the NSF *Award & Administration Guide* (AAG) Chapter II, available electronically on the NSF Website at http://www.nsf.gov/publications/pub_summ.jsp?ods_key=aag.

C. Reporting Requirements

For all multi-year grants (including both standard and continuing grants), the Principal Investigator must submit an annual project report to the cognizant Program Officer at least 90 days before the end of the current budget period. (Some programs or awards require more frequent project reports). Within 90 days after expiration of a grant, the PI also is required to submit a final project report, and a project outcomes report for the general public.

Failure to provide the required annual or final project reports, or the project outcomes report will delay NSF review and processing of any future funding increments as well as any pending proposals for that PI. PIs should examine the formats of the required reports in advance to assure availability of required data.

PIs are required to use NSF's electronic project-reporting system, available through FastLane, for preparation and submission of annual and final project reports. Such reports provide information on activities and findings, project participants (individual and organizational) publications; and, other specific products and contributions. PIs will not be required to re-enter information previously provided, either with a proposal or in earlier updates using the electronic system. Submission of the report via FastLane constitutes certification by the PI that the contents of the report are accurate and complete. The project outcomes report must be prepared and submitted using Research.gov. This report serves as a brief summary, prepared specifically for the public, of the nature and outcomes of the project. This report will be posted on the NSF website exactly as it is submitted by the PI.

VIII. AGENCY CONTACTS

General inquiries regarding this program should be made to:

- Darleen L. Fisher, Program Director, 1175, telephone: (703) 292-8950, email: dlfisher@nsf.gov

- Victor S. Frost, Program Director, 1175, telephone: (703) 292-8950, email: vsfrost@nsf.gov

For questions related to the use of FastLane, contact:

- FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov.

For questions relating to Grants.gov contact:

- Grants.gov Contact Center: If the Authorized Organizational Representatives (AOR) has not received a confirmation message from Grants.gov within 48 hours of submission of application, please contact via telephone: 1-800-518-4726; e-mail: support@grants.gov.

IX. OTHER INFORMATION

The NSF Website provides the most comprehensive source of information on NSF Directorates (including contact information), programs and funding opportunities. Use of this Website by potential proposers is strongly encouraged. In addition, National Science Foundation Update is a free e-mail subscription service designed to keep potential proposers and other interested parties apprised of new NSF funding opportunities and publications, important changes in proposal and award policies and procedures, and upcoming NSF Regional Grants Conferences. Subscribers are informed through e-mail when new publications are issued that match their identified interests. Users can subscribe to this service by clicking the "Get NSF Updates by Email" link on the NSF web site.

Grants.gov provides an additional electronic capability to search for Federal government-wide grant opportunities. NSF funding opportunities may be accessed via this new mechanism. Further information on Grants.gov may be obtained at http://www.grants.gov.

This solicitation is not the only NSF program seeking to fund research concerning the design of the future Internet. Other programs with different foci are identified below:

- CISE Cross-Cutting Programs :

  - Network Science and Engineering (NetSE)
  - Trustworthy Computing

- Computer and Network Systems (CNS): Core Programs

  - Networking Technology and Systems (NeTS)
  - Computer Systems Research (CSR)

- Expeditions in Computing

ABOUT THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) is an independent Federal agency created by the National Science Foundation Act of 1950, as amended (42 USC 1861-75). The Act states the purpose of the NSF is "to promote the progress of science; [and] to advance the national health, prosperity, and welfare by supporting research and education in all fields of science and engineering."

NSF funds research and education in most fields of science and engineering. It does this through grants and cooperative agreements to more than 2,000 colleges, universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the US. The Foundation accounts for about one-fourth of Federal support to academic institutions for basic research.

NSF receives approximately 40,000 proposals each year for research, education and training projects, of which approximately 11,000 are funded. In addition, the Foundation receives several thousand applications for graduate and postdoctoral fellowships. The agency operates no laboratories itself but does support National Research Centers, user facilities, certain oceanographic vessels and Antarctic research stations. The Foundation also supports cooperative research between universities and industry, US participation in international scientific and engineering efforts, and educational activities at every academic level.

Facilitation Awards for Scientists and Engineers with Disabilities provide funding for special assistance or equipment to enable persons with disabilities to work on NSF-supported projects. See Grant Proposal Guide Chapter II, Section D.2 for instructions regarding preparation of these types of proposals.

The National Science Foundation has Telephonic Device for the Deaf (TDD) and Federal Information Relay Service (FIRS) capabilities that enable individuals with hearing impairments to communicate with the Foundation about NSF programs, employment or general information. TDD may be accessed at (703) 292-5090 and (800) 281-8749, FIRS at (800) 877-8339.

The National Science Foundation Information Center may be reached at (703) 292-5111.

The National Science Foundation promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics, and engineering.

To get the latest information about program deadlines, to download copies of NSF publications, and to access abstracts of awards, visit the NSF Website at http://www.nsf.gov

- **Location:**   4201 Wilson Blvd. Arlington, VA 22230

- **For General Information**   (703) 292-5111
  (NSF Information Center)**:**

- **TDD (for the hearing-impaired):**   (703) 292-5090

- **To Order Publications or Forms:**

    Send an e-mail to: nsfpubs@nsf.gov

    or telephone: (703) 292-7827

- **To Locate NSF Employees:**   (703) 292-5111

PRIVACY ACT AND PUBLIC BURDEN STATEMENTS

The information requested on proposal forms and project reports is solicited under the authority of the National Science Foundation Act of 1950, as amended. The information on proposal forms will be used in connection with the selection of qualified proposals; and project reports submitted by awardees will be used for program evaluation and reporting within the Executive Branch and to Congress. The information requested may be disclosed to qualified reviewers and staff assistants as part of the proposal review process; to proposer institutions/grantees to provide or obtain data regarding the proposal review process, award decisions, or the administration of awards; to government contractors, experts, volunteers and researchers and educators as necessary to complete assigned work; to other government agencies or other entities needing information regarding applicants or nominees as part of a joint application review process, or in order to coordinate programs or policy; and to another Federal agency, court, or party in a court or Federal administrative proceeding if the government is a party. Information about Principal Investigators may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records," 69 Federal Register 26410 (May 12, 2004), and NSF-51, "Reviewer/Proposal File and Associated Records, " 69 Federal Register 26410 (May 12, 2004). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of receiving an award.

An agency may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a valid Office of Management and Budget (OMB) control number. The OMB control number for this collection is 3145-0058. Public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding the burden estimate and any other aspect of this collection of information, including suggestions for reducing this burden, to:

Suzanne H. Plimpton
Reports Clearance Officer
Division of Administrative Services
National Science Foundation
Arlington, VA 22230

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The National Science Foundation, 4201 Wilson Boulevard, Arlington, Virginia 22230, USA
Tel: (703) 292-5111, FIRS: (800) 877-8339 | TDD: (800) 281-8749

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