National Science Foundation
National Institutes of Health

FY 2007 Survey of Science and Engineering Research Facilities

Part 1: Research Space

Your participation in this survey is voluntary. However, your institution's response is important. The information from this survey on individual institutions can be used by your institution and other institutions for decision- and policy-making. The data also describe science and engineering research facilities at the national, regional, and state levels.

Based on pretests, responding to this survey (Part 1 and Part 2 combined) typically requires 41 hours for academic institutions or 7 hours for biomedical institutions, depending on how data are maintained at your institution. If you wish to comment on the burden of completing this survey, contact Suzanne H. Plimpton, Reports Clearance Officer, NSF, via e-mail at splimpto@nsf.gov or call 1-703-292-7556. Or, you may write to the Office of Management and Budget, Paperwork Reduction Project (OMB Number 3145-0101), Washington, DC 20503.

If you have a question, please contact *[name]* via e-mail at *[email address]* or call *[toll-free number]*. The survey director at the National Science Foundation is Dr. Leslie Christovich.

Please complete and submit this survey on the web (according to the instructions on page 1) or return it by mail to:

ATTN: NSF Facilities Survey
[Contractor name and address]

Thank you for your participation.

General information

This questionnaire is available on the World Wide Web. Go to *[web address]* to access the web version of the questionnaire. You will need to click on "Part 1 and Coordinator Tools" and then enter the Part 1 Coordinator ID and password. These are provided on the label on the front cover of this paper questionnaire.

Please report information for the **institution** named on the label on the front cover.

If you do not have exact figures for any part of this questionnaire, please provide estimates.

Most FY 2007 Research Facilities Survey data will be identified for individual institutions. Identifying individual institutional data is standard policy for NSF's research and development surveys, and will permit you to compare your institution's data with other institutions' data. Responses on two topics will not be publicly available for individual institutions because of their sensitive nature. These confidential data are: all responses concerning animal space (Question 1 row i, and questions 3, 7, 8, 10, 12F, 15, 18, 21, and 24) and reports on the condition of research space (Question 6).

Changes from previous survey cycle

- **Fields of science and engineering (S&E)**

  Changes have been made to some field names, the order in which fields are listed in survey questions, and the disciplines included in some fields. For a description of the fields of S&E, see Question 2 on pages 5-7 or the crosswalk of NSF fields of S&E to the National Center for Education Statistics (NCES) 2000 Classification of Instructional Programs (CIP 2000) on pages 29-30.

- **Definition of a medical school**

  The definition of medical school has been expanded to include schools that award the M.D. or D.O. degree.

- **Leased space**

  The question asking for the amount of leased space has been deleted.

- **Deferred projects**

  The questions on deferred repairs and renovations and deferred new construction are now limited to projects whose prorated cost is estimated to be $250,000 or more for at least one field of S&E.

Definition of science and engineering (S&E) research and research space

Please use these definitions when answering all questions in this survey.

Research is all sponsored research and development activities of your institution that are separately budgeted and accounted for. Research can be funded by your own institution, the federal government, a state government, foundations, corporations, or other sources. It does not include departmental research that is not separately budgeted.

Research space is the net assignable square feet of space in buildings within which research activities take place. Research facilities are located within buildings. A **building** is a roofed structure for permanent or temporary shelter of persons, animals, plants, materials, or equipment. Structures should be included if they are (1) attached to a foundation, (2) roofed, (3) serviced by a utility, exclusive of lighting, and (4) a source of significant maintenance and repair activities.

Net assignable square feet (NASF) is the sum of all areas on all floors of a building assigned to, or available to be assigned to, an occupant for a specific use, such as research or instruction. NASF is measured from the inside faces of walls.

Science and engineering (S&E) includes the following fields: agricultural sciences and natural resources sciences, biological and biomedical sciences, computer and information sciences, engineering, health and clinical sciences, mathematics and statistics, physical sciences, psychology, social sciences, and other science and engineering fields. See Question 2 on pages 5-7 for a detailed list of the disciplines included in each of these fields.

Definition of science and engineering (S&E) research and research space (continued)

Research space includes:

- controlled-environment space, such as clean, cold, or white rooms
- technical and laboratory support space, such as equipment areas, preparation areas, darkrooms, carpentry and machine shops, storage areas, etc.
- laboratories, including computer labs, behavior observation rooms, etc.
- core laboratories that serve other laboratories
- laboratories and associated support areas used for research animals, including procedure rooms, bench space, animal production colonies, holding rooms, germ-free rooms, surgical facilities, recovery rooms, etc.
- housing facilities for research animals and associated maintenance areas, including cage rooms, stalls, wards, isolation rooms, exercise rooms, feed storage rooms, cage-washing rooms, holding and storage areas, etc.
- space for clinical trial research
- offices, to the extent that they are used for research activities, including administrative activities for a specific research project
- space with fixed (built-in) equipment such as fume hoods
- space with nonfixed equipment costing $1 million or more each, such as MRIs
- space that is leased by your institution

Research space does not include:

- space for the fields of law, business administration/management, humanities, history, the arts, or education
- libraries, unless they are dedicated to a specific research project
- animal field buildings sheltering animals that do not directly support research or that are not subject to government regulations concerning humane care and use of laboratory animals
- Federally Funded Research and Development Centers (FFRDCs)
- in-kind space used by your faculty, staff, or other persons but administered by other organizations, such as research facilities at non-university hospitals or Veterans Administration hospitals
- space administered by your institution but leased to another organization
- outdoor areas such as fish ponds or planting fields

Question 1: Types of science and engineering (S&E) research space

1. Please indicate whether or not your institution had each type of S&E research space listed below at the end of your FY 2007. See page 2 for the definition of research space and fields of S&E.

Types of S&E research space	Did your institution have this type of S&E research space at end of FY 2007? *(Mark one "X" for each row.)* Yes	No	Uncertain
a. Laboratories, wet or dry, including computer laboratories, behavior observation laboratories, etc.	☐	☐	☐
b. Laboratory support space, including autoclave rooms, darkrooms, equipment areas, storage areas for research equipment and supplies, etc.	☐	☐	☐
c. Instructional laboratories that are ***also*** used for research	☐	☐	☐
d. Core laboratories that serve other laboratories	☐	☐	☐
e. Leased space that is used for research	☐	☐	☐
f. Offices, to the extent they are used for research	☐	☐	☐
g. Space used for research containing nonfixed equipment costing $1 million or more each, such as MRIs	☐	☐	☐
h. Research space in a medical school that awards the M.D. or D.O. degree	☐	☐	☐
i. Research animal space	☐	☐	☐
Laboratories and associated support areas used for research animals that are subject to local, state, and federal government policies and regulations concerning humane care and use of animals. Examples include procedure rooms, holding rooms, recovery rooms, animal production colonies, and storage areas. Space for housing research animals and associated maintenance areas that are subject to local, state, and federal government policies and regulations concerning humane care and use of animals. Examples include animal quarters, cage washing rooms, feed storage areas, isolation rooms, and exercise rooms.			
j. Research space that is used for clinical trials	☐	☐	☐

Question 2: Amount of research space

2. At the end of your FY 2007, how much net assignable square feet was used for research (based on the definition of research space on page 2) for each of the fields of science and engineering (S&E) below? Please include any research animal space in the relevant fields of S&E. You may provide estimates if you do not have exact figures.

   Research space is equivalent to functional category 2 (Research) for facilities inventory systems based on the U.S. Department of Education classification (FICM classification), the Western Interstate Commission for Higher Education (WICHE classification), and the National Association of College and University Business Officers (NACUBO classification).

   Research animal space includes all departmental and central facilities, such as laboratories, housing, and associated support areas, that are subject to local, state, and federal government policies and regulations concerning humane care and use of laboratory animals.

   If research space was shared among fields or used for other purposes in addition to research, report the portion of space used for research for each field below. For example, if two fields shared the space equally, report half of the space in one field and half in the other. Or, if an area was used for research one-fourth of the time and for other purposes the rest of the time, report one-fourth of the space as research space.

   See pages 29-30 for crosswalk of NSF fields of S&E and NCES CIP codes.

Field of S&E
(Include research animal space.)

Net assignable square feet of research space at end of FY 2007

a. Agricultural sciences and natural resources sciences

- Agricultural economics
- Animal sciences
- Fishing and fisheries sciences
- Food science and technology
- Forestry
- Natural resources conservation and research (includes environmental science)
- Natural resources economics
- Plant sciences
- Soil sciences
- Wildlife and wildlands science

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

b. Biological and biomedical sciences

- Anatomical sciences
- Animal biology
- Biochemistry
- Bioinformatics
- Biology
- Biomathematics
- Biophysics
- Biotechnology
- Botany
- Cell biology
- Cellular biology
- Ecology
- Evolution
- Genetics
- Human nutrition
- Immunology
- Microbiological sciences
- Molecular biology
- Pathology
- Pharmacology
- Physiology
- Plant biology
- Population biology
- Toxicology
- Zoology
- Biological and biomedical sciences, other

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

c. Computer and information sciences

- Computer science
- Computer software and media applications
- Computer systems networking and telecommunications
- Information science

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

Field of S&E
(Include research animal space.)

Net assignable square feet of research space at end of FY 2007

d. Engineering

Aeronautical engineering
Aerospace engineering
Agricultural engineering
Architectural engineering
Astronautical engineering
Bioengineering
Biological engineering
Biomedical engineering
Ceramic sciences and engineering
Chemical engineering
Civil engineering
Computer engineering, general
Construction engineering
Electrical, electronics and communications engineering
Engineering mechanics
Engineering physics
Engineering science
Environmental engineering
Environmental health engineering
Forest engineering
Geological engineering
Geophysical engineering
Industrial engineering
Manufacturing engineering
Marine engineering
Materials engineering
Materials science
Mechanical engineering
Medical engineering
Metallurgical engineering
Mining and mineral engineering
Naval architecture
Nuclear engineering
Ocean engineering
Operations research
Petroleum engineering
Plastics engineering
Polymer engineering
Surveying engineering
Systems engineering
Textile sciences and engineering
Engineering, other

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

e. Health and clinical sciences

Allied health diagnostic, intervention, and treatment
Clinical laboratory science
Communication disorders sciences
Dentistry
Informatics
Kinesiology and exercise science
Medical clinical sciences
Medical illustration
Medical laboratory science
Medicine
Nursing
Optometry
Oral sciences
Osteopathic medicine
Osteopathy
Pharmaceutical sciences
Pharmacy
Podiatric medicine
Podiatry
Public health
Rehabilitation and therapeutic subfields
Veterinary biomedical sciences
Veterinary medicine

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

f. Mathematics and statistics

Applied mathematics
Mathematics
Statistics
Mathematics and statistics, other

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

Field of S&E *(Include research animal space.)*	**Net assignable square feet of research space at end of FY 2007**

g. Physical sciences

Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

Group 2: Astronomy, astrophysics, chemistry, and physics

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

h. Psychology

Clinical child psychology
Clinical psychology
Cognitive psychology
Community psychology
Comparative psychology
Counseling psychology
Developmental and child psychology
Educational psychology
Environmental psychology
Experimental psychology
Family psychology
Forensic psychology
Geropsychology
Health psychology
Industrial and organizational psychology
Personality psychology
Physiological psychology
Psychobiology
Psycholinguistics
Psychometrics
Psychopharmacology
Quantitative psychology
School psychology
Social psychology
Psychology, other

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

i. Social sciences

Anthropology
Archeology
Criminalistics
Criminal justice
Criminal science
Criminology
Demography
Economics
Forensic science and technology
Geography and cartography
International relations and affairs
Police science
Political science and government
Population studies
Sociology
Urban affairs
Social sciences, other

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

j. Other sciences

Use this category when multidisciplinary, interdisciplinary, or other aspects make classification under one primary field impossible.

*(Please describe.)*_____

_____ NASF

☐ Check this box if no research space in this field at the end of FY 2007

Question 3: Research animal space

3. At the end of your FY 2007, how much of the research NASF reported in Question 2 was used for research animals?

Research animal space includes all departmental and central facilities, such as laboratories, housing, and associated support areas, that are subject to local, state, and federal government policies and regulations concerning humane care and use of laboratory animals.

Research animal portion of the space
included in Question 2 (*If none, enter "0.")*..... _____ NASF

Question 4: Clinical trial research space

4. At the end of your FY 2007, how much of the research NASF reported in Question 2 was used for clinical trials?

Clinical trial portion of the space
included in Question 2 *(If none, enter "0.")*..... _____ NASF

Question 5: Research space in medical school

5. ***If your institution had a medical school,*** how much of the research NASF reported in Question 2 was located in the medical school at the end of your FY 2007?

Medical school is a school that awards the M.D. or D.O. degree.

If your institution did ***not*** have a medical school,
check this box and go to Question 6..... ☐

Medical school portion of the space
included in Question 2 *(If none, enter "0.")*..... _____ NASF

Question 6: Condition of research space

6. At the end of your FY 2007, what percentage of the research NASF reported in Question 2 fell into each of the four condition categories below? Include research animal space.

Superior condition	Suitable for the most scientifically competitive research in this field over the next 2 years (your FY 2008 and FY 2009)
Satisfactory condition	Suitable for continued use over the next 2 years (your FY 2008 and FY 2009) for most levels of research in this field, but may require minor repairs or renovation
Requires renovation	Will no longer be suitable for current research without undergoing major renovation within the next 2 years (your FY 2008 and FY 2009)
Requires replacement	Should stop using space for current research within the next 2 years (your FY 2008 and FY 2009)

For Field of S&E definitions, see Question 2 on pages 5-7.

Field of S&E *(Include research animal space.)*	***Mark "X" if no research space in this field***	**Percent of net assignable square feet** *(The percentages should sum to 100 within each row.)* Superior condition	Satisfactory condition	Requires renovation	Requires replacement	Total
a. Agricultural sciences and natural resources sciences	☐	____ %	____ %	____ %	____ %	100%
b. Biological and biomedical sciences	☐	____ %	____ %	____ %	____ %	100%
c. Computer and information sciences	☐	____ %	____ %	____ %	____ %	100%
d. Engineering	☐	____ %	____ %	____ %	____ %	100%
e. Health and clinical sciences	☐	____ %	____ %	____ %	____ %	100%
f. Mathematics and statistics	☐	____ %	____ %	____ %	____ %	100%
g. Physical sciences						
Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography	☐	____ %	____ %	____ %	____ %	100%
Group 2: Astronomy, astrophysics, chemistry, and physics	☐	____ %	____ %	____ %	____ %	100%
h. Psychology	☐	____ %	____ %	____ %	____ %	100%
i. Social sciences	☐	____ %	____ %	____ %	____ %	100%
j. Other sciences	☐	____ %	____ %	____ %	____ %	100%

Question 7: Condition of research animal space

7. At the end of your FY 2007, what percentage of the research animal space reported in Question 3 fell into each of the four condition categories below?

Research animal space includes all departmental and central facilities, such as laboratories, housing, and associated support areas, that are subject to local, state, and federal government policies and regulations concerning humane care and use of laboratory animals.

Superior condition	Suitable for the most scientifically competitive research in this field over the next 2 years (your FY 2008 and FY 2009)
Satisfactory condition	Suitable for continued use over the next 2 years (your FY 2008 and FY 2009) for most levels of research in this field, but may require minor repairs or renovation
Requires renovation	Will no longer be suitable for current research without undergoing major renovation within the next 2 years (your FY 2008 and FY 2009)
Requires replacement	Should stop using space for current research within the next 2 years (your FY 2008 and FY 2009)

Percent of net assignable square feet

(The percentages should sum to 100.)

	Mark "X" if no research animal space	Superior condition	Satisfactory condition	Requires renovation	Requires replacement	Total
All space for research animals regardless of S&E field	☐	____ %	____ %	____ %	____ %	100%

Question 8: Biosafety level of research animal facilities

8. For each type of animal listed below, please indicate which types of biosafety level (BL) facilities were available at your institution at the end of your FY 2007.

Biosafety Levels (BL)

All research animal facilities are BL-1 or higher, depending on the type of research performed.

BL-1 Involves working with defined and characterized strains of viable microorganisms not known to cause disease in healthy adult humans

BL-2 Involves working with the broad spectrum of indigenous moderate-risk agents present in the community and associated with human disease of varying severity

BL-3 Involves working with indigenous or exotic agents with a potential for respiratory transmission, and which may cause serious and potentially lethal infection

BL-4 Involves working with dangerous and exotic agents that pose a high individual risk of life-threatening disease, that may be transmitted via the aerosol route, and for which there is no available vaccine or therapy

If your institution did ***not*** have research animal facilities, check this box and go to Question 9 ☐

Type of animal	***Mark "X" if no facilities for this type of animal***	**Biosafety levels at end of FY 2007** *(Check all that apply for each row.)* BL-1	BL-2	BL-3	BL-4
Non-mammals					
a. Fish/Aquatic species	☐	☐	☐	☐	☐
b. Birds	☐	☐	☐	☐	☐
c. Amphibians	☐	☐	☐	☐	☐
d. Reptiles	☐	☐	☐	☐	☐
e. Insects	☐	☐	☐	☐	☐
f. Other non-mammals *(Please specify.)* _____	☐	☐	☐	☐	☐
Mammals					
g. Rats, guinea pigs, or other rodents	☐	☐	☐	☐	☐
h. Cats, dogs, or rabbits	☐	☐	☐	☐	☐
i. Pigs, sheep, cattle, or goats	☐	☐	☐	☐	☐
j. Non-human primates	☐	☐	☐	☐	☐
k. Other mammals *(Please specify.)* _____	☐	☐	☐	☐	☐

Note: For additional information on biosafety levels, see the report Biosafety in Microbiological and Biomedical Laboratories, 4th Edition, 1999, U.S. Department of Health and Human Services.

Question 9: Repairs and renovations started in FY 2006 and FY 2007

9. Please provide the completion costs for repair and renovation of S&E research facilities that started during your FY 2006 or FY 2007. Include research animal space in the relevant fields of S&E. Include only projects whose prorated cost was estimated to be $250,000 or more for at least one field of S&E listed below. For **multi-year projects**, report the entire completion cost even if some work will occur in future years.

Start date is the date on which the physical work of the repairs or renovations actually began.

Repairs and renovations are activities such as fixing up facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, and the building out of shell space. Include any repairs or renovations to existing space that are performed in combination with new construction projects. ***Do not*** report building additions since they are reported in this survey under new construction.

Completion costs include planning, site preparation, construction, fixed equipment, nonfixed equipment that costs $1 million or more, and building infrastructure such as plumbing, lighting, air exchange, and safety systems either in the building or within 5 feet of the building foundation.

If research facilities are shared by two or more fields, allocate the appropriate share of the costs to each field in order to determine which fields to report. For example, if a field will have one-fourth of the costs for a $300,000 project, do **not** report that field's share, which is $75,000. If a $400,000 project will have two fields with the same costs, do **not** report either field's portion, which is $200,000 each.

If research facilities are also used for nonresearch activities, report the S&E research portion of the costs for the fields listed below if the research portion is $250,000 or more. For example, if a facility is used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the completion costs for S&E research facilities.

If your institution had no repair or renovation projects, check this box and go to Question 12 ..... ☐

For Field of S&E definitions, see Question 2 on pages 5-7.

Field of S&E (*Include costs for research animal space.*)	**Completion costs for projects started in FY 2006 or FY 2007**
a. Agricultural sciences and natural resources sciences	$ _____
b. Biological and biomedical sciences	$ _____
c. Computer and information sciences	$ _____
d. Engineering	$ _____
e. Health and clinical sciences	$ _____
f. Mathematics and statistics	$ _____
g. Physical sciences	
Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography	$ _____
Group 2: Astronomy, astrophysics, chemistry, and physics	$ _____
h. Psychology	$ _____
i. Social sciences	$ _____
j. Other sciences *(Please describe.)*	$ _____

_____

Question 10: For research animal facilities only: repairs and renovations in FY 2006 and FY 2007

10. How much of the completion costs for repair and renovation of research facilities as reported in Question 9 was for research animal facilities?

Research animal portion of the costs
included in Question 9 *(If none, enter "0.")*.....$ _____

Question 11: For medical schools only: repairs and renovations in FY 2006 and FY 2007

11. ***If your institution had a medical school,*** how much of the completion costs for repair and renovation of research facilities as reported in Question 9 was located in the medical school?

Medical school is a school that awards the M.D. or D.O. degree.

If your institution did ***not*** have a medical school,
check this box and go to Question 12..... ☐

Medical school portion of the costs
included in Question 9 *(If none, enter "0.")*.....$ _____

Question 12: New construction started in FY 2006 and FY 2007

12. Please provide the total number of new construction projects that included S&E research facilities that started during your FY 2006 or FY 2007. Include only projects whose prorated cost was estimated to be $250,000 or more for at least one field of S&E. Include research animal space in the relevant fields of S&E.

New construction is the construction of a new building or additions to an existing building.

Research facilities are defined on page 2 of the survey questionnaire.

Start date is the date on which the physical work of the construction actually began.

Completion costs include planning, site preparation, construction, fixed equipment, nonfixed equipment that costs $1 million or more, and building infrastructure such as plumbing, lighting, air exchange, and safety systems either in the building or within 5 feet of the building foundation.

If facilities are shared for research and nonresearch activities, report only projects with completion costs of $250,000 or more for at least one field of S&E research. For example, if a $300,000 project involves space used for research only one-fourth of the time, this project of $75,000 for the research facilities should not be reported.

If facilities are shared by two or more fields of S&E, report the new construction project only if at least one field of S&E research has completion costs of $250,000 or more. For example, if two fields share the costs equally for a research project costing $400,000, neither field's share of $200,000 meets the cost minimum.

If your institution had no new construction projects, check this box and go to Question 13 ..... ☐

If your institution had one or more new construction projects, enter the number of projects here and fill out a separate Individual Project Form for each one ..... _____ projects

Please make additional copies of this form as needed.

Individual Project Form for Question 12

Please complete this form for ***each*** new construction project that started during your FY 2006 or FY 2007. Include only projects that will cost $250,000 or more for at least one of the S&E fields. Consider the **start date** to be the date on which the physical work of the new construction began.

12A. What is the name of this project?_____

_____

_____

12B. During which of your fiscal years did the physical work of new construction begin for this project?

FY 2006 ..... ☐

FY 2007 ..... ☐

12C. When this project is completed, what is (a) the entire project's (research and nonresearch) gross square feet; (b) the entire project's net assignable square feet; and (c) the S&E research facilities portion in net assignable square feet?

For multi-year projects, report the space expected when the project is completed.

a. Gross square feet (GSF) for entire project (research and nonresearch) ..... _____ GSF

Gross square feet (GSF) is the floor area of a structure within the outside faces of the exterior walls.

b. Net assignable square feet (NASF) for entire project (research and nonresearch)..... _____ NASF

Net assignable square feet (NASF) is the sum of all areas on all floors of a building assigned to, or available to be assigned to, an occupant for a specific use, such as research or instruction. NASF is measured from the inside faces of walls.

NOTE: If the entire project is S&E research, the answers for row b and row c will be the same.

c. Net assignable square feet for ***S&E research facilities*** portion (defined on page 2 of the survey questionnaire)..... _____ NASF

Research facilities are defined on page 2 of the survey questionnaire, including examples of what areas to include and exclude.

If the research facilities are also used for nonresearch activities, adjust the amount of space based on the amount of time the area is used for S&E research. For example, if an area is used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the space as S&E research facilities.

12D. When this project is completed, what are the completion costs for (a) the entire project (research and nonresearch), and (b) the S&E research facilities portion of the project? ***For multi-year projects***, report the costs expected when the project is completed.

Completion costs include planning, site preparation, construction, fixed equipment, nonfixed equipment that costs $1 million or more, and building infrastructure such as plumbing, lighting, air exchange, and safety systems either in the building or within 5 feet of the building foundation.

a. Completion costs for the GSF of the *entire project* (research and nonresearch).... $ _____

b. Completion costs for the ***S&E research facilities*** portion (defined on page 2 of the survey questionnaire) ..... $ _____

If the research facilities are also used for nonresearch activities, adjust the completion costs based on the amount of time the facilities are used for S&E research. For example, if a facility is used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the completion costs for S&E research facilities.

Please make additional copies of this form as needed.

Individual Project Form for Question 12

12E. For the portion of this project used for ***S&E research facilities,*** what are (1) the completion costs, and (2) the net assignable square feet, for each field listed below? ***For multi-year projects***, report costs and NASF expected when the project is completed.

Report only fields with costs of $250,000 or more for research facilities.

If research facilities are shared by two or more fields, allocate the appropriate share of the costs to each field in order to determine which fields to report. For example, if a field will have one-fourth of the costs for a $300,000 project, do **not** report that field's share, which is $75,000. If a $400,000 project will have two fields with the same costs, do **not** report either field's portion, which is $200,000 each.

If research facilities are also used for nonresearch activities, report the S&E research portion of the cost and net assignable square feet for the fields listed below if the research portion is $250,000 or more. For example, if a facility will be used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the completion costs for S&E research facilities.

For Field of S&E definitions, see Question 2 on pages 5-7.

	Research facilities	
Field of S&E *(Include research animal space.)*	(1) Completion costs	(2) Net assignable square feet
a. Agricultural sciences and natural resources sciences	$ _____	_____ NASF
b. Biological and biomedical sciences	$ _____	_____ NASF
c. Computer and information sciences	$ _____	_____ NASF
d. Engineering	$ _____	_____ NASF
e. Health and clinical sciences	$ _____	_____ NASF
f. Mathematics and statistics	$ _____	_____ NASF
g. Physical sciences		
Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography	$ _____	_____ NASF
Group 2: Astronomy, astrophysics, chemistry, and physics	$ _____	_____ NASF
h. Psychology	$ _____	_____ NASF
i. Social sciences	$ _____	_____ NASF
j. Other sciences *(Please describe.)*	$ _____	_____ NASF

_____

Please make additional copies of this form as needed.

Individual Project Form for Question 12

12F. How much of the completion costs and NASF reported in Question 12E are for ***research animal space***?

Research animal space includes all departmental and central facilities, such as laboratories, housing, and associated support areas, that are subject to local, state, and federal government policies and regulations concerning humane care and use of laboratory animals.

	Completion costs	**Net assignable square feet**
Research animal portion included in Question 12E *(If none, enter "0.")*	$ _____	_____ NASF

12G. ***If your institution has a medical school,*** how much of the completion costs and NASF reported in Question 12E are for research facilities located in the medical school?

Medical school is a school that awards the M.D. or D.O. degree.

If your institution does ***not*** have a medical school, check this box and go to Question 13..... ☐

	Completion costs	**Net assignable square feet**
Medical school portion included in Question 12E *(If none, enter "0.")*	$ _____	_____ NASF

Question 13: Sources of project funding

13. Please provide the completion costs by source of funding for repair and renovation and new construction of S&E research facilities that started during your FY 2006 or FY 2007 as reported in Question 9 and Question 12E.

Total costs reported in column 1 should match the sum of the costs for repair and renovation of research facilities reported in Question 9 on page 12.

Total costs reported in column 2 should match the sum of the costs for new construction as reported in Question 12E on all Individual Project Form(s).

Source of funding	Completion costs (1) For repairs and renovations reported in Question 9	Completion costs (2) For new construction reported in Question 12E (all project forms)
a. Federal government	$ _____	$ _____
b. State or local government	$ _____	$ _____
c. Institutional funds and other sources Examples: operating funds, endowments, tax-exempt bonds and other debt financing, indirect costs recovered from federal grants/contracts, private donations, other sources	$ _____	$ _____
Total	$ _____	$ _____

Question 14: Planned repairs and renovations to start in FY 2008 and FY 2009

14. Please provide the estimated completion costs planned for repair and renovation of S&E research facilities that are funded **and** scheduled to start in your FY 2008 or FY 2009. Include research animal space in the relevant fields of S&E. Include only projects whose prorated cost was estimated to be $250,000 or more for at least one field of S&E listed below. For **multi-year projects**, report the entire completion cost even if some work will occur in future years.

Start date is the date on which the physical work of the repairs or renovations is scheduled to begin.

Repairs and renovations are activities such as fixing up facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, and the building out of shell space. Include any repairs or renovations to existing space that are performed in combination with new construction projects. ***Do not*** report building additions since they are reported in this survey under new construction.

Completion costs include planning, site preparation, construction, fixed equipment, nonfixed equipment that costs $1 million or more, and building infrastructure such as plumbing, lighting, air exchange, and safety systems either in the building or within 5 feet of the building foundation.

If research facilities are shared by two or more fields, allocate the appropriate share of the costs to each field in order to determine which fields to report. For example, if a field will have one-fourth of the costs for a $300,000 project, do **not** report that field's share, which is $75,000. If a $400,000 project will have two fields with the same costs, do **not** report either field's portion, which is $200,000 each.

If research facilities will also be used for nonresearch activities, report the S&E research portion of the costs for the fields listed below if the research portion is $250,000 or more. For example, if a facility will be used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the completion costs for S&E research facilities.

If your institution does **not** have planned repair or renovation projects, check this box and go to Question 17..... ☐

For Field of S&E definitions, see Question 2 on pages 5-7.

Field of S&E *(Include costs for research animal space.)*	**Completion costs for planned repair/renovation projects to start in FY 2008 or FY 2009**
a. Agricultural sciences and natural resources sciences	$ _____
b. Biological and biomedical sciences	$ _____
c. Computer and information sciences	$ _____
d. Engineering	$ _____
e. Health and clinical sciences	$ _____
f. Mathematics and statistics	$ _____
g. Physical sciences	
Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography	$ _____
Group 2: Astronomy, astrophysics, chemistry, and physics	$ _____
h. Psychology	$ _____
i. Social sciences	$ _____
j. Other sciences *(Please describe.)* _____	$ _____

Question 15: For research animal facilities only: planned repairs and renovations in FY 2008 and FY 2009

15. How much of the completion costs for planned repair and renovation of research facilities as reported in Question 14 will be for research animal facilities?

Research animal portion of the costs included in Question 14 *(If none, enter "0.")*.....$ _____

Question 16: For medical schools only: planned repairs and renovations in FY 2008 and FY 2009

16. ***If your institution has a medical school***, how much of the completion costs for planned repair and renovation of research facilities as reported in Question 14 will be located in the medical school?

Medical school is a school that awards the M.D. or D.O. degree.

If your institution does ***not*** have a medical school, check this box and go to Question 17 ..... ☐

Medical school portion of the costs included in Question 14 *(If none,* enter *"0.")*.....$ _____

Question 17: Planned new construction to start in FY 2008 and FY 2009

17. Please provide the estimated completion costs and NASF for planned new construction of S&E research facilities that are funded and scheduled to start in your FY 2008 or FY 2009. Include research animal space in the relevant fields of S&E. Include only projects whose prorated cost was estimated to be $250,000 or more for at least one field of S&E listed below. For **multi-year projects**, report the entire completion cost even if some work will occur in future years.

Start date is the date on which the physical work of the construction is scheduled to begin.

New construction is the construction of a new building or additions to an existing building.

Completion costs include planning, site preparation, construction, fixed equipment, nonfixed equipment that costs $1 million or more, and building infrastructure such as plumbing, lighting, air exchange, and safety systems either in the building or within 5 feet of the building foundation.

If research facilities are shared by two or more fields, allocate the appropriate share of the costs to each field in order to determine which fields to report. For example, if a field will have one-fourth of the costs for a $300,000 project, do **not** report that field's share, which is $75,000. If a $400,000 project will have two fields with the same costs, do **not** report either field's portion, which is $200,000 each.

If research facilities are also used for nonresearch activities, report the S&E research portion of the costs and net assignable square feet for the fields listed below if the research portion is $250,000 or more. For example, if a facility will be used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the completion costs for S&E research facilities.

If your institution does ***not*** have any planned new construction projects, check this box and go to Question 20 ..... ☐

For Field of S&E definitions, see Question 2 on pages 5-7.

Field of S&E *(Include research animal space.)*	**Planned new construction scheduled to start in FY 2008 or FY 2009**	
	Completion costs	Net assignable square feet
a. Agricultural sciences and natural resources sciences	$ _____	_____ NASF
b. Biological and biomedical sciences	$ _____	_____ NASF
c. Computer and information sciences	$ _____	_____ NASF
d. Engineering	$ _____	_____ NASF
e. Health and clinical sciences	$ _____	_____ NASF
f. Mathematics and statistics	$ _____	_____ NASF
g. Physical sciences		
Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography	$ _____	_____ NASF
Group 2: Astronomy, astrophysics, chemistry, and physics	$ _____	_____ NASF
h. Psychology	$ _____	_____ NASF
i. Social sciences	$ _____	_____ NASF
j. Other sciences *(Please describe.)* _____	$ _____	_____ NASF

Question 18: For research animal facilities only: planned new construction in FY 2008 and FY 2009

18. How much of the completion costs and NASF for the planned new construction of research facilities as reported in Question 17 will be for research animal facilities?

	Completion costs	Net assignable square feet
Research animal portion included in Question 17 *(If none, enter "0.")*	$ _____	_____ NASF

Question 19: For medical schools only: planned new construction in FY 2008 and FY 2009

19. ***If your institution has a medical school***, how much of the completion costs and NASF for the planned new construction of research facilities as reported in Question 17 will be located in the medical school?

Medical school is a school that awards the M.D. or D.O. degree.

If your institution does ***not*** have a medical school, check this box and go to Question 20 ..... ☐

	Completion costs	Net assignable square feet
Medical school portion included in Question 17 *(If none, enter "0.")*	$ _____	_____ NASF

Question 20: Deferred repairs and renovations

20. Please provide the estimated costs for any **deferred repair and renovation** projects of S&E research facilities that are needed for current research program commitments, but are not yet funded **and** not yet scheduled to start in your FY 2008 or FY 2009. Include research animal space in the relevant fields of S&E. Include only projects whose prorated cost was estimated to be $250,000 or more for at least one field of S&E listed below. Please estimate costs separately for projects included in your approved institutional plan and projects not included in this plan. Institutional plans usually will include goals, strategies, and budgets for fulfilling your institution's mission during a specific time period.

Deferred projects are those that: (1) are not funded, and (2) are not scheduled for FY 2008 or FY 2009. Do not include projects planned for developing new programs or expanding your current programs.

Repairs and renovations are activities such as fixing up facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, and the building out of shell space. Include any repairs or renovations to existing space that are performed in combination with new construction projects. ***Do not*** report building additions since they are reported in this survey under new construction.

Current research program commitments include current faculty and staff or those to whom offers have been made or grants awarded (whether or not research has actually begun) and programs which have been approved.

If research facilities will be shared by two or more fields, allocate the appropriate share of the costs to each field in order to determine which fields to report. For example, if a field will have one-fourth of the costs for a $300,000 project, do **not** report that field's share, which is $75,000. If a $400,000 project will have two fields with the same costs, do **not** report either field's portion, which is $200,000 each.

If research facilities will also be used for nonresearch activities, report the S&E research portion of the costs for the fields listed below if the research portion is $250,000 or more. For example, if a facility will be used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the completion costs for S&E research facilities.

If your institution does ***not*** have deferred projects for repair or renovation, check this box and go to Question 23 ..... ☐

For Field of S&E definitions, see Question 2 on pages 5-7.

Field of S&E (*Include costs for research animal space*.)	**Estimated costs of deferred repairs and renovations** For projects included in your institutional plan	For projects ***not*** included in your institutional plan
a. Agricultural sciences and national resources sciences	$ _____	$ _____
b. Biological and biomedical sciences	$ _____	$ _____
c. Computer and information sciences	$ _____	$ _____
d. Engineering	$ _____	$ _____
e. Health and clinical sciences	$ _____	$ _____
f. Mathematics and statistics	$ _____	$ _____
g. Physical sciences		
Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography	$ _____	$ _____
Group 2: Astronomy, astrophysics, chemistry, and physics	$ _____	$ _____
h. Psychology	$ _____	$ _____
i. Social sciences	$ _____	$ _____
j. Other sciences *(Please describe.)* _____	$ _____	$ _____

Question 21: For research animal facilities only: deferred repairs and renovations

21. How much of the estimated costs for deferred repair and renovation of research facilities as reported in Question 20 would be for research animal facilities?

	For projects included in your institutional plan	For projects *not* included in your institutional plan
Research animal portion of the costs included in Question 20 *(If none, enter "0.")*.....	$ _____	$ _____

Question 22: For medical schools only: deferred repairs and renovations

22. ***If your institution has a medical school***, how much of the estimated costs for deferred repair and renovation of research facilities as reported in Question 20 would be located in the medical school?

Medical school is a school that awards the M.D. or D.O. degree.

If your institution does ***not*** have a medical school, check this box and go to Question 23..... ☐

	For projects included in your institutional plan	For projects *not* included in your institutional plan
Medical school portion of the costs included in Question 20 *(If none, enter "0.")*.....	$ _____	$ _____

Question 23: Deferred new construction

23. Please provide the estimated costs for any **deferred new construction** projects of S&E research facilities that are needed for current program commitments, but are not yet funded **and** not yet scheduled to start in your FY 2008 or FY 2009. Include research animal space in the relevant fields of S&E. Include only projects whose prorated cost was estimated to be $250,000 or more for at least one field of S&E listed below. Please estimate costs separately for projects included in your approved institutional plan and projects not included in this plan. Institutional plans usually will include goals, strategies, and budgets for fulfilling your institution's mission during a specific time period.

Deferred projects are those that: (1) are not funded, and (2) are not scheduled for FY 2008 or FY 2009. Do not include projects planned for developing new programs or expanding your current programs.

New construction is the construction of a new building or additions to an existing building.

Current research program commitments include current faculty and staff or those to whom offers have been made or grants awarded (whether or not research has actually begun) and programs which have been approved.

If research facilities will be shared by two or more fields, allocate the appropriate share of the costs to each field in order to determine which fields to report. For example, if a field will have one-fourth of the costs for a $300,000 project, do **not** report that field's share, which is $75,000. If a $400,000 project will have two fields with the same costs, do **not** report either field's portion, which is $200,000 each.

If research facilities will also be used for nonresearch activities, report the S&E research portion of the costs for the fields listed below if the research portion is $250,000 or more. For example, if a facility will be used for S&E research one-fourth of the time and for instruction the rest of the time, report one-fourth of the completion costs for S&E research facilities.

If your institution does ***not*** have deferred projects for new construction, check this box and go to Question 26 ..... ☐

For Field of S&E definitions, see Question 2 on pages 5-7.

Field of S&E (*Include costs for research animal space.*)	**Estimated costs of deferred new construction** For projects included in your institutional plan	For projects ***not*** included in your institutional plan
a. Agricultural sciences and natural resources sciences	$ _____	$ _____
b. Biological and biomedical sciences	$ _____	$ _____
c. Computer and information sciences	$ _____	$ _____
d. Engineering	$ _____	$ _____
e. Health and clinical sciences	$ _____	$ _____
f. Mathematics and statistics	$ _____	$ _____
g. Physical sciences		
Group 1: Atmospheric, earth, and geological sciences; meteorology; and oceanography	$ _____	$ _____
Group 2: Astronomy, astrophysics, chemistry, and physics	$ _____	$ _____
h. Psychology	$ _____	$ _____
i. Social sciences	$ _____	$ _____
j. Other sciences *(Please describe.)* _____	$ _____	$ _____

Question 24: For research animal facilities only: deferred new construction

24. How much of the estimated costs for deferred new construction projects of research facilities as reported in Question 23 would be for research animal facilities?

	For projects included in your institutional plan	For projects *not* included in your institutional plan
Research animal portion of the costs included in Question 23 *(If none, enter "0.")*.....	$ _____	$ _____

Question 25: For medical schools only: deferred new construction

25. ***If your institution has a medical school***, how much of the estimated costs for deferred new construction of research facilities as reported in Question 23 would be located in the medical school?

Medical school is a school that awards the M.D. or D.O. degree.

If your institution does ***not*** have a medical school, check this box and go to Question 26..... ☐

	For projects included in your institutional plan	For projects *not* included in your institutional plan
Medical school portion of the costs included in Question 23 *(If none, enter "0.")*.....	$ _____	$ _____

Question 26: Comments

26. Please add any comments for Part 1 below.

_____

_____

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Crosswalk of NSF Fields of S&E to the National Center for Education Statistics (NCES) 2000 Classification of Instructional Programs (CIP)

NSF field of S&E	NCES CIP 2000 classification	
Agricultural sciences and natural resources sciences	01.09 Animal sciences 01.10 Food science and technology 01.11 Plant sciences 01.12 Soil sciences 03.01 Natural resources conservation and research (includes environmental science) 03.03 Fishing and fisheries sciences and management	03.05 Forestry 03.06 Wildlife and wildlands science and management Also include: 01.0103 Agricultural economics 03.0204 Natural resources economics
Biological and biomedical sciences	26.01 Biology, general 26.02 Biochemistry, biophysics and molecular biology 26.03 Botany/plant biology 26.04 Cell/cellular biology and anatomical sciences 26.05 Microbiological sciences and immunology 26.07 Zoology/animal biology 26.08 Genetics 26.09 Physiology, pathology, and related sciences	26.10 Pharmacology and toxicology 26.11 Biomathematics and bioinformatics 26.12 Biotechnology 26.13 Ecology, evolution and population biology 26.99 Biological and biomedical sciences, other Also include: 19.0504 Human nutrition
Computer and information sciences	11.01 Computer and information sciences, general 11.04 Information science/studies 11.07 Computer science	11.08 Computer software and media applications 11.09 Computer systems networking and telecommunications
Engineering	14.01 Engineering, general 14.02 Aerospace, aeronautical and astronautical engineering 14.03 Agricultural/biological engineering and bioengineering 14.04 Architectural engineering 14.05 Biomedical/medical engineering 14.06 Ceramic sciences and engineering 14.07 Chemical engineering 14.08 Civil engineering 14.09 Computer engineering, general 14.10 Electrical, electronics and communications engineering 14.11 Engineering mechanics 14.12 Engineering physics 14.13 Engineering science 14.14 Environmental/environmental health engineering 14.18 Materials engineering 14.19 Mechanical engineering	14.20 Metallurgical engineering 14.21 Mining and mineral engineering 14.22 Naval architecture and marine engineering 14.23 Nuclear engineering 14.24 Ocean engineering 14.25 Petroleum engineering 14.27 Systems engineering 14.28 Textile sciences and engineering 14.31 Materials science 14.32 Polymer/plastics engineering 14.33 Construction engineering 14.34 Forest engineering 14.35 Industrial engineering 14.36 Manufacturing engineering 14.37 Operations research 14.38 Surveying engineering 14.39 Geological/geophysical engineering 14.99 Engineering, other
Health and clinical sciences	51.02 Communication disorders sciences and services 51.04 Dentistry 51.05 Advanced/graduate dentistry and oral sciences 51.09 Allied health diagnostic, intervention, and treatment professions 51.10 Clinical/medical laboratory science and allied professions 51.12 Medicine 51.14 Medical clinical sciences/graduate medical studies 51.16 Nursing 51.17 Optometry	51.19 Osteopathic medicine/osteopathy 51.20 Pharmacy, pharmaceutical sciences, and administration 51.21 Podiatric medicine/podiatry 51.22 Public health 51.23 Rehabilitation and therapeutic professions 51.24 Veterinary medicine 51.25 Veterinary biomedical and clinical sciences 51.27 Medical illustration and informatics Also include: 31.0505 Kinesiology and exercise science

NSF field of S&E	NCES CIP 2000 classification	
Mathematics and statistics	27.01 Mathematics 27.03 Applied mathematics	27.05 Statistics 27.99 Mathematics and statistics, other
Physical sciences	**Group 1** 40.04 Atmospheric sciences and meteorology 40.06 Geological and earth sciences/geosciences (includes oceanography) --- **Group 2** 40.01 Physical sciences, general 40.02 Astronomy and astrophysics 40.05 Chemistry 40.08 Physics 40.99 Physical sciences, other	
Psychology	42.01 Psychology, general 42.02 Clinical psychology 42.03 Cognitive psychology and psycholinguistics 42.04 Community psychology 42.05 Comparative psychology 42.06 Counseling psychology 42.07 Developmental and child psychology 42.08 Experimental psychology 42.09 Industrial and organizational psychology 42.10 Personality psychology 42.11 Physiological psychology/psychobiology 42.16 Social psychology	42.17 School psychology 42.18 Educational psychology 42.19 Psychometrics and quantitative psychology 42.20 Clinical child psychology 42.21 Environmental psychology 42.22 Geropsychology 42.23 Health psychology 42.24 Psychopharmacology 42.25 Family psychology 42.26 Forensic psychology 42.99 Psychology, other
Social sciences	45.01 Social sciences, general 45.02 Anthropology 45.03 Archeology 45.04 Criminology 45.05 Demography and population studies 45.06 Economics 45.07 Geography and cartography 45.09 International relations and affairs 45.10 Political science and government	45.11 Sociology 45.12 Urban studies/affairs 45.99 Social sciences, other Also include: 43.0106 Forensic science and technology 43.0107 Criminal justice/police science 43.0111 Criminalistics and criminal science
Other sciences	Use this category when multidisciplinary, interdisciplinary, or other aspects make classification under one primary field impossible.	

Thank you. This is the end of Part 1. Part 2, which is bound separately, covers your institution's computing and networking capacity.

National Science Foundation
National Institutes of Health

Part 2: Computing and Networking Capacity
(for research and instructional activities)

FY 2007 Survey of Science and Engineering Research Facilities

Who should be contacted if clarification of Part 2 answers is necessary?

Name: _____

Telephone:_____

Title/position: _____

E-mail address: _____

Please complete the questionnaire and submit it according to the arrangements you made with your institutional coordinator named in the label above. You may complete this questionnaire online at www.facilitiessurvey.org. You will need to click on "Part 2" and then enter the survey ID and password printed on the label above.

If you have a question, please contact *[name]* of *[contractor]* via e-mail at *[email address]* or call *[toll-free number.]* The survey director at the National Science Foundation is Dr. Leslie Christovich.

If you do not have exact figures for any part of this questionnaire, please provide estimates.

Thank you for your participation.

OMB #3145-0101

Question 1: Commodity internet (Internet1) and Abilene (Internet2) total bandwidth

1. At the end of your FY 2007, what was your institution's ***total*** bandwidth to the commodity internet (Internet1) and Abilene (Internet2)? What is your estimate of the total for your institution at the end of your FY 2008?

   Bandwidth is the amount of data that can be transmitted in a given amount of time, measured in bits per second.

   Commodity internet (Internet1) is the general public, multiuse network often called the "Internet."

   Abilene (Internet2) is a high performance backbone network managed by the Internet2 consortium of academia, industry, and government. The purpose of Internet2 is to develop and deploy advanced network applications and technologies.

   Please do <u>not</u> include:

   - Redundant connections, which are not normally active but available if a failure occurs with the active connection;
   - Burstable bandwidth;
   - Standard modems (57,600 bps or slower);
   - DSL (Digital Subscriber Lines), communication over copper wires;
   - Cable modems;
   - ISDN (Integrated Services Digital Network), a communications standard for sending voice, video, and data over telephone lines.

   Please include networking capacity for research, instruction, and residence halls.

Total bandwidth

(Mark one "X" for each column.)

Speed	At end of FY 2007	Estimated at end of FY 2008
a. ***No bandwidth to EITHER commodity internet (Internet1) OR Abilene (Internet2)***	☐	☐
b. Less than 1.6 megabits/second	☐	☐
c. 1.6 to 9 megabits/second	☐	☐
d. 10 megabits/second	☐	☐
e. 11 to 45 megabits/second	☐	☐
f. 46 to 99 megabits/second	☐	☐
g. 100 megabits/second	☐	☐
h. 101 to 155 megabits/second	☐	☐
i. 156 to 622 megabits/second	☐	☐
j. 623 to 999 megabits/second	☐	☐
k. 1 to 2.4 gigabits/second	☐	☐
l. 2.5 to 9 gigabits/second	☐	☐
m. 10 gigabits/second	☐	☐
n. More than 10 gigabits/second	☐	☐
o. Other *(Please specify.)* _____ _____	☐	☐

Question 2: Abilene (Internet2) bandwidth

Questions 2-11 include networking capacity for: research, instruction, and residence halls.

2. At the end of your FY 2007, what was your institution's bandwidth to Abilene (Internet2)? What is your estimate of the bandwidth to Abilene at the end of your FY 2008?

Bandwidth is the amount of data that can be transmitted in a given amount of time, measured in bits per second.

Abilene (Internet2) is a high performance backbone network managed by the Internet2 consortium of academia, industry, and government. The purpose of Internet2 is to develop and deploy advanced network applications and technologies.

Please do <u>not</u> include redundant connections. A redundant connection is not normally active but is available if a failure occurs with the active connection.

Bandwidth for Abilene

(Mark one "X" for each column.)

Speed	At end of FY 2007	Estimated at end of FY 2008
a. ***No bandwidth to Abilene (Internet2)***	☐	☐
b. Less than 1.6 megabits/second	☐	☐
c. 1.6 to 9 megabits/second	☐	☐
d. 10 megabits/second	☐	☐
e. 11 to 45 megabits/second	☐	☐
f. 46 to 99 megabits/second	☐	☐
g. 100 megabits/second	☐	☐
h. 101 to 155 megabits/second	☐	☐
i. 156 to 622 megabits/second	☐	☐
j. 623 to 999 megabits/second	☐	☐
k. 1 to 2.4 gigabits/second	☐	☐
l. 2.5 to 9 gigabits/second	☐	☐
m. 10 gigabits/second	☐	☐
n. More than 10 gigabits/second	☐	☐
o. Other *(Please specify.)*	☐	☐

_____

_____

Question 3: Commodity internet (Internet1) bandwidth

3. At the end of your FY 2007, what was your institution's bandwidth to the commodity internet (Internet1)? What is your estimate of the bandwidth to the commodity internet at the end of your FY 2008?

Bandwidth is the amount of data that can be transmitted in a given amount of time, measured in bits per second.

Commodity internet (Internet1) is the general public, multiuse network often called the "Internet."

Please do <u>not</u> include:

- Redundant connections, which are not normally active but available if a failure occurs with the active connection;
- Burstable bandwidth;
- Standard modems (57,600 bps or slower);
- DSL (Digital Subscriber Lines), communication over copper wires;
- Cable modems;
- ISDN (Integrated Services Digital Network), a communications standard for sending voice, video, and data over telephone lines.

		Bandwidth for commodity internet *(Mark one "X" for each column.)*	
Speed		At end of FY 2007	Estimated at end of FY 2008
a.	***No bandwidth to commodity internet (Internet1)***	☐	☐
b.	Less than 1.6 megabits/second	☐	☐
c.	1.6 to 9 megabits/second	☐	☐
d.	10 megabits/second	☐	☐
e.	11 to 45 megabits/second	☐	☐
f.	46 to 99 megabits/second	☐	☐
g.	100 megabits/second	☐	☐
h.	101 to 155 megabits/second	☐	☐
i.	156 to 622 megabits/second	☐	☐
j.	623 to 999 megabits/second	☐	☐
k.	1 to 2.4 gigabits/second	☐	☐
l.	2.5 to 9 gigabits/second	☐	☐
m.	10 gigabits/second	☐	☐
n.	More than 10 gigabits/second	☐	☐
o.	Other *(Please specify.)* _____ _____	☐	☐

Question 4: Commodity internet (Internet1) connections

4. At the end of your FY 2007, how many lines did your institution have to the commodity internet (Internet1) at each of the connection speeds listed below? Please estimate this information for your FY 2008.

Commodity internet (Internet1) is the general public, multiuse network often called the "Internet."

If your institution has bonded lines, please report the speed of the bonded lines together and count as one line. For example, if your institution has two T1 lines joined to act as a single line, report the speed as 3 megabits/second.

Please do <u>not</u> include:

- Redundant connections, which are not normally active but available if a failure occurs with the active connection;
- Burstable bandwidth;
- Standard modems (57,600 bps or slower);
- DSL (Digital Subscriber Lines), communication over copper wires;
- Cable modems;
- ISDN (Integrated Services Digital Network), a communications standard for sending voice, video, and data over telephone lines.

		Number of lines	
	Connection speed	At end of FY 2007	Estimated at end of FY 2008
a.	***No bandwidth to commodity internet (Internet1)***	☐	☐
b.	Less than 1.6 megabits/second	_____	_____
c.	1.6 to 9 megabits/second	_____	_____
d.	10 megabits/second	_____	_____
e.	11 to 45 megabits/second	_____	_____
f.	46 to 99 megabits/second	_____	_____
g.	100 megabits/second	_____	_____
h.	101 to 155 megabits/second	_____	_____
i.	156 to 622 megabits/second	_____	_____
j.	623 to 999 megabits/second	_____	_____
k.	1 to 2.4 gigabits/second	_____	_____
l.	2.5 to 9 gigabits/second	_____	_____
m.	10 gigabits/second	_____	_____
n.	More than 10 gigabits/second	_____	_____
o.	Other *(Please specify.)*	_____	_____

_____

_____

Question 5: Bandwidth from consortia

5. At the end of your FY 2007, did any of your institution's bandwidth come from a consortium? Do you expect to obtain bandwidth from a consortium at the end of your FY 2008?

   A **consortium** is a collaboration of any combination of educational institutions (e.g., university system, K-12), state and local agencies, network infrastructure operators (e.g., Internet2), vendors, health care organizations, or non-profit organizations with the purpose of coordinating and facilitating networking activities.

   Bandwidth is the amount of data that can be transmitted in a given amount of time, measured in bits per second.

(Mark one "X" for each row.)

Fiscal year	Yes	No
a. Bandwidth from consortia at the end of FY 2007	☐	☐
b. Bandwidth from consortia at the end of FY 2008	☐	☐

Please provide the names of all consortia from which you expect to obtain bandwidth at the end of your FY 2008.

_____

_____

_____

_____

Question 6: High performance network connections

6. At the end of your FY 2007, did your institution have connections to the following high performance networks? Do you expect to have connections to any of these networks at the end of your FY 2008?

A **high performance network** is characterized by high bandwidth, low latency, and low rates of packet loss. Additionally, a high performance network is able to support delay-sensitive, bandwidth-intensive applications such as distributed computing, real-time access, and control of remote instrumentation.

Abilene (Internet2) is a high performance backbone network managed by the Internet2 consortium of academia, industry, and government. The purpose of Internet2 is to develop and deploy advanced network applications and technologies.

National LambdaRail is an initiative of research universities and technology companies to provide a national infrastructure for research and experimentation in networking technologies and applications.

ESnet is the Department of Energy's Energy Sciences Network.

NREN is the NASA Research and Education Network.

(Mark one "X" for each row.)

At the end of FY 2007	Yes	No
a. Abilene	☐	☐
b. National LambdaRail	☐	☐
c. Federal government research network (e.g., Department of Energy ESnet, NASA NREN)	☐	☐
d. State or regional high performance network	☐	☐
e. Other *(Please specify.)*	☐	☐

_____

_____

Estimated at the end of FY 2008	Yes	No
f. Abilene	☐	☐
g. National LambdaRail	☐	☐
h. Federal government research network (e.g., Department of Energy ESnet, NASA NREN)	☐	☐
i. State or regional high performance network	☐	☐
j. Other *(Please specify.)*	☐	☐

_____

_____

Question 7: Desktop port connections

7. At the end of your FY 2007, what percentage of your institution's desktop ports had hardwire connections at each of the speeds listed below? What percentage do you estimate will be at these speeds at the end of your FY 2008? If your answer is between 0 and 1 percent, please round to 1 percent.

   Please report on the ***capacity of the ports themselves*** and not the speed of the workstations connected to them. Also, ***do <u>not</u> include servers*** when determining your responses.

		Percentage of desktop ports	
Speed of connection		At end of FY 2007	Estimated at end of FY 2008
a.	10 megabits/second or less	_____%	_____%
b.	100 megabits/second	_____%	_____%
c.	1 gigabit/second or more	_____%	_____%
d.	Other *(Please specify.)* _____	_____%	_____%
	Total	**100%**	**100%**

Question 8: Type of cable for desktop ports

8. At the end of your FY 2007, what percentage of your institution's desktop ports were connected to your institution's network by the following types of cable? What percentages do you estimate at the end of your FY 2008? If your answer is between 0 and 1 percent, please round to 1 percent.

   Please ***do <u>not</u> include servers*** when determining your responses.

		Percentage of desktop ports	
Type of cable		At end of FY 2007	Estimated at end of FY 2008
a.	Unrated	_____%	_____%
b.	Category 3	_____%	_____%
c.	Category 5	_____%	_____%
d.	Category 5e	_____%	_____%
e.	Category 6	_____%	_____%
f.	Other *(Please specify.)* _____	_____%	_____%
	Total	**100%**	**100%**

Question 9: Dark fiber

9. At the end of your FY 2007, did your institution own any dark fiber to your institution's internet service provider (ISP) or between your institution's buildings? Do you plan to acquire any dark fiber to your ISP or between your institution's buildings during your FY 2008?

Dark fiber is fiber-optic cable that has already been laid but is not being used. Include only fiber that was dark (i.e., unlit) when it was purchased by your institution.

(Mark one "X" for each row.)

Owned at the end of FY 2007	Yes	No
a. To your institution's ISP	☐	☐
b. Between your institution's buildings	☐	☐

To be acquired during FY 2008	Yes	No
c. To your institution's ISP	☐	☐
d. Between your institution's buildings	☐	☐

Question 10: Speed on your network

10. At the end of your FY 2007, what was the ***distribution speed*** (or backbone speed) that a desktop computer on your network could connect to another computer ***on your institution's network***? What distribution speed will your institution have at the end of your FY 2008?

(Mark one "X" for each column.)

Speed	At end of FY 2007	Estimated at end of FY 2008
a. Less than 1.6 megabits/second	☐	☐
b. 1.6 to 9 megabits/second	☐	☐
c. 10 megabits/second	☐	☐
d. 11 to 45 megabits/second	☐	☐
e. 46 to 99 megabits/second	☐	☐
f. 100 megabits/second	☐	☐
g. 101 to 155 megabits/second	☐	☐
h. 156 to 622 megabits/second	☐	☐
i. 623 to 999 megabits/second	☐	☐
j. 1 to 2.4 gigabits/second	☐	☐
k. 2.5 to 9 gigabits/second	☐	☐
l. 10 gigabits/second	☐	☐
m. More than 10 gigabits/second	☐	☐
n. Other *(Please specify.)* _____ _____	☐	☐

Question 11: Wireless connections

11. At the end of your FY 2007, what percentage, if any, of your institution's building area was covered by wireless capabilities for network access? What percentage do you estimate will have wireless access at the end of your FY 2008?

Building area refers to the sum of floor by floor calculations of square footage.

Please ***do <u>not</u> include rogue*** wireless access points.

Percent of building area	**Wireless coverage for network access** *(Mark one "X" for each column.)* At end of FY 2007	Estimated at end of FY 2008
a. None	☐	☐
b. 1 to 10 percent	☐	☐
c. 11 to 20 percent	☐	☐
d. 21 to 30 percent	☐	☐
e. 31 to 40 percent	☐	☐
f. 41 to 50 percent	☐	☐
g. 51 to 60 percent	☐	☐
h. 61 to 70 percent	☐	☐
i. 71 to 80 percent	☐	☐
j. 81 to 90 percent	☐	☐
k. 91 to 100 percent	☐	☐

Question 12: Architectures for centrally administered high performance computing (HPC) of 1 teraflop or faster

12. At the end of your FY 2007, did your institution provide centrally administered high performance computing (HPC) of 1 teraflop or faster at peak performance for each type of architecture listed below?

Centrally administered HPC is within a distinct organizational unit with a staff and a budget; the unit has a stated mission that includes supporting the HPC needs of faculty and researchers.

If some of your high performance computing systems are slower than 1 teraflop and some are faster, please report only the systems that are 1 teraflop or faster. For example, if you have 2 clusters of ½ teraflop and 1 cluster of 1 teraflop, report information for the 1 teraflop system. Or, if you have 3 clusters of ½ teraflop each, then you would report that you have no high performance computing with a cluster architecture.

Centrally administered HPC architectures	**Had at end of FY 2007** *(Mark one "X" for each row.)* Yes	No	Uncertain
a. **Cluster**..... This architecture uses multiple commodity systems with an Ethernet based or high performance interconnect network to perform as a single system.	☐	☐	☐
b. **Massively parallel processors (MPP)**..... This architecture uses multiple processors within a single system with a high performance interconnect network. Each processor uses its own memory and operating system.	☐	☐	☐
c. **Symmetric multiprocessors (SMP)**..... This architecture uses multiple processors sharing the same memory and operating system to simultaneously work on individual pieces of a program.	☐	☐	☐
d. **Parallel vector processors (PVP)**..... This architecture uses multiple vector processors sharing the same memory and operating system to simultaneously work on individual pieces of a program.	☐	☐	☐
e. **Experimental/Emerging architecture** *(Please describe.)*..... This architecture uses technologies not currently in common use for HPC systems (e.g., an accelerator-based architecture). _____	☐	☐	☐
f. **Special purpose architecture** *(Please describe.)*..... This custom-designed architecture uses established technology that supports a special purpose system that is dedicated to a single type of problem. _____	☐	☐	☐
g. **Other architecture** *(Please describe.)*..... _____	☐	☐	☐

Question 13: HPC centrally administered resources

13. In Question 12 (a-g), did you report having any centrally administered HPC of 1 teraflop or faster at the end of your FY 2007?

Yes (Check this box and continue with Question 14) ..... ☐

No (Check this box and go to Question 37) ..... ☐

Question 14: Centrally administered clusters of 1 teraflop or faster

14. In Question 12 (a), did you report having any centrally administered ***clusters*** for HPC at the end of your FY 2007?

Yes (Check this box and continue with Question 15) ..... ☐

No (Check this box and go to Question 21) ..... ☐

Question 15: Centrally administered single-core clusters

15. At the end of your FY 2007, how many single-core computing clusters of each size listed below did your institution provide at a speed of 1 teraflop or faster? Include only clusters that are centrally administered.

A computing cluster uses multiple commodity systems with an Ethernet based or high performance interconnect network to perform as a single system.

If your institution did not administer any such clusters, check this box and go to Question 16..... ☐

Size		Number of single-core clusters
a.	128 nodes or less.....	_____
b.	129 to 512 nodes.....	_____
c.	513 to 1,024 nodes.....	_____
d.	1,025 to 2,048 nodes.....	_____
e.	2,049 or more nodes *(Please specify.)*.....	_____

_____

Question 16: Centrally administered dual-core clusters

16. At the end of your FY 2007, how many dual-core computing clusters of each size listed below did your institution provide at a speed of 1 teraflop or faster? Include only clusters that are centrally administered.

A computing cluster uses multiple commodity systems with an Ethernet based or high performance interconnect network to perform as a single system.

If your institution did not administer any such clusters, check this box and go to Question 17..... ☐

Size		Number of dual-core clusters
a.	128 nodes or less.....	_____
b.	129 to 512 nodes.....	_____
c.	513 to 1,024 nodes.....	_____
d.	1,025 to 2,048 nodes.....	_____
e.	2,049 or more nodes *(Please specify.)*.....	_____

_____

Question 17: Centrally administered quad-core clusters

17. At the end of your FY 2007, how many quad-core computing clusters of each size listed below did your institution provide at a speed of 1 teraflop or faster? Include only clusters that are centrally administered.

A computing cluster uses multiple commodity systems with an Ethernet based or high performance interconnect network to perform as a single system.

If your institution did not administer any such clusters, check this box and go to Question 18..... ☐

Size		Number of quad-core clusters
a.	128 nodes or less.....	_____
b.	129 to 512 nodes.....	_____
c.	513 to 1,024 nodes.....	_____
d.	1,025 to 2,048 nodes.....	_____
e.	2,049 or more nodes *(Please specify.)*.....	_____

_____

Question 18: Centrally administered 8-core clusters

18. At the end of your FY 2007, how many 8-core computing clusters of each size listed below did your institution provide at a speed of 1 teraflop or faster? Include only clusters that are centrally administered.

A computing cluster uses multiple commodity systems with an Ethernet based or high performance interconnect network to perform as a single system.

If your institution did not administer any such clusters, check this box and go to Question 19..... ☐

Size		Number of 8-core clusters
a.	128 nodes or less.....	_____
b.	129 to 512 nodes.....	_____
c.	513 to 1,024 nodes.....	_____
d.	1,025 to 2,048 nodes.....	_____
e.	2,049 or more nodes *(Please specify.)*.....	_____

_____

Question 19: Clarifications on HPC clusters

19. Please provide any clarifications you may wish to make about your responses to Questions 15 through 18 concerning HPC clusters centrally administered by your institution.

Question 20: Peak performance of clusters of 1 teraflop or faster

20. At the end of your FY 2007, what was the peak theoretical performance of a) your ***fastest*** computing cluster of 1 teraflop or faster, and b) ***all*** your computing clusters of 1 teraflop or faster (including the fastest one)? Include only clusters that are centrally administered.

A computing cluster uses multiple commodity systems with an Ethernet based or high performance interconnect network to perform as a single system.

If you have only one cluster that is 1 teraflop or faster, report the same number for rows a and b.

		Number of teraflops
a.	Fastest cluster of 1 teraflop or faster.....	_____
b.	All computing clusters of 1 teraflop or more (including the fastest cluster).....	_____

Question 21: Centrally administered MPP systems of 1 teraflop or faster

21. At the end of your FY 2007, how many MPP systems of 1 teraflop or faster did your institution administer? Include only systems that are centrally administered.

Massively parallel processing (MPP) systems use multiple processors within a single system with a high performance interconnect network. Each processor uses its own memory and operating system.

If some of your MPP systems for high performance computing are slower than 1 teraflop and some are faster, please report only the systems that are 1 teraflop or faster. For example, if you have one MPP system at ½ teraflop and another at 1½ teraflops, report only the one at 1½ teraflops.

If your institution did not administer any such systems, check this box and go to Question 23..... ☐

Number of MPP systems of 1 teraflop or faster..... _____

Question 22: Peak performance of MPP systems of 1 teraflop or faster

22. At the end of your FY 2007, what was the peak theoretical performance of a) your ***fastest*** MPP system of 1 teraflop or faster, and b) ***all*** your MPP systems of 1 teraflop or faster (including the fastest one)? Include only systems that are centrally administered.

Massively parallel processing (MPP) systems use multiple processors within a single system with a high performance interconnect network. Each processor uses its own memory and operating system.

If you have only one system that is 1 teraflop or faster, report the same number for rows a and b.

		Number of teraflops
a.	Fastest MPP system of 1 teraflop or faster	_____
b.	All MPP systems of 1 teraflop or more (including the fastest system)	_____

Question 23: Centrally administered SMP systems of 1 teraflop or faster

23. At the end of your FY 2007, how many SMP systems of 1 teraflop or faster did your institution administer? Include only systems that are centrally administered.

Symmetric multiprocessing (SMP) systems use multiple processors sharing the same memory and operating system to simultaneously work on individual pieces of a program.

If some of your SMP systems for high performance computing are slower than 1 teraflop and some are faster, please report only the systems that are 1 teraflop or faster. For example, if you have one SMP system at ½ teraflop and another at 1½ teraflops, report only the one at 1½ teraflops.

If your institution did not administer any such systems, check this box and go to Question 25..... ☐

Number of SMP systems of 1 teraflop or faster..... _____

Question 24: Peak performance of SMP systems of 1 teraflop or faster

24. At the end of your FY 2007, what was the peak theoretical performance of a) your ***fastest*** SMP system of 1 teraflop or faster, and b) ***all*** your SMP systems of 1 teraflop or faster (including the fastest one)? Include only systems that are centrally administered.

Symmetric multiprocessing (SMP) systems use multiple processors sharing the same memory and operating system to simultaneously work on individual pieces of a program.

If you have only one system that is 1 teraflop or faster, report the same number for rows a and b.

		Number of teraflops
a.	Fastest SMP system of 1 teraflop or faster	_____
b.	All SMP systems of 1 teraflop or faster (including the fastest system)	_____

Question 25: Centrally administered PVP systems of 1 teraflop or faster

25. At the end of your FY 2007, how many PVP systems of 1 teraflop or faster did your institution administer? Include only systems that are centrally administered.

Parallel vector processing (PVP) systems use multiple vector processors sharing the same memory and operating system to simultaneously work on individual pieces of a program.

If some of your PVP systems for high performance computing are slower than 1 teraflop and some are faster, please report only the systems that are 1 teraflop or faster. For example, if you have one PVP system at ½ teraflop and another at 1½ teraflops, report only the one at 1½ teraflops.

If your institution did not administer any such systems, check this box and go to Question 27..... ☐

Number of PVP systems of 1 teraflop or faster ..... _____

Question 26: Total peak performance of PVP systems of 1 teraflop or faster

26. At the end of your FY 2007, what was the total peak theoretical performance of ***all*** your PVP systems of 1 teraflop or faster? Include only systems that are centrally administered.

Parallel vector processing (PVP) systems use multiple vector processors sharing the same memory and operating system to simultaneously work on individual pieces of a program.

	Number of teraflops
All PVP systems of 1 teraflop or faster	_____

Question 27: HPC used for administrative functions

27. At the end of your FY 2007, were any of the following HPC architectures used for administrative functions (that is, for the business activities of your institution)?

	Used for administrative functions *(Mark one "X" for each row.)*			
Architectures	Yes	No	Uncertain	Does not apply*
a. Clusters	☐	☐	☐	☐
b. Massively parallel processors	☐	☐	☐	☐
c. Symmetric multiprocessors	☐	☐	☐	☐
d. Parallel vector processors	☐	☐	☐	☐

* Does not apply because none of our centrally administered HPC has this architecture.

Question 28: Centrally administered experimental/emerging computing systems of 1 teraflop or faster

28. At the end of your FY 2007, how many experimental/emerging computing systems of 1 teraflop or faster did your institution administer? Include only systems that are centrally administered.

Experimental/Emerging computing systems use technologies not currently in common use for HPC systems (e.g., an accelerator-based architecture).

If your institution did not administer any such systems, check this box and go to Question 29 ☐

Number of experimental/emerging computing systems of 1 teraflop or faster _____

Question 29: Centrally administered special purpose computing systems of 1 teraflop or faster

29. At the end of your FY 2007, how many special purpose computing systems of 1 teraflop or faster did your institution administer? Include only systems that are centrally administered.

Special purpose computing systems use a custom-designed architecture using established technology that supports a special purpose system that is dedicated to a single problem.

If your institution did not administer any such systems, check this box and go to Question 30..... ☐

Number of special purpose computing systems of 1 teraflop or faster.... _____

Question 30: External users of centrally administered HPC

30. During your FY 2007, which types of external users listed below used any of your institution's centrally administered HPC?

Type of external user	Used HPC during FY 2007 (Mark one "X" for each row.) Yes	No	Uncertain
a. **Colleges and universities**..... Include public and private academic institutions and systems.	☐	☐	☐
b. **Governments**..... Include local, state, and regional jurisdictions.	☐	☐	☐
c. **Non-profit organizations**..... Include legal entities chartered to serve the public interest and that are exempt from most federal taxation.	☐	☐	☐
d. **Industry**..... Include for-profit companies, either publicly or privately held.	☐	☐	☐
e. **Other** *(Please describe.)*..... _____ _____	☐	☐	☐

Question 31: Usable online storage for centrally administered HPC of 1 teraflop or faster

31. At the end of your FY 2007, what was the total **usable** online storage available for centrally administered HPC?

Usable storage is the amount of space for data storage that is available for use after the space overhead required by file systems and applicable RAID (redundant array of independent disks) configurations is removed.

Online storage includes all storage providing immediate access for files and data from your HPC systems (of at least 1 teraflop). Storage can be either locally available to specific HPC systems or made available via the network. For example, storage may be available via SAN (storage area network) or NAS (network attached storage) environments.

(Mark one "X.")

a. Less than 1 terabyte ☐
b. 1 to 5 terabytes ☐
c. 6 to 10 terabytes ☐
d. 11 to 25 terabytes ☐
e. 26 to 50 terabytes ☐
f. 51 to 100 terabytes ☐
g. 101 to 250 terabytes ☐
h. 251 to 500 terabytes ☐
i. 501 to 1,000 terabytes ☐
j. 1,001 or more terabytes *(Please specify.)* ☐

_____

k. Uncertain ☐

Question 32: Usable shared storage for centrally administered HPC of 1 teraflop or faster

32. At the end of your FY 2007, how much of the usable online storage reported in Question 31 was shared storage?

Usable storage is the amount of space for data storage that is available for use after the space overhead required by file systems and applicable RAID (redundant array of independent disks) configurations is removed.

Online storage includes all storage providing immediate access for files and data from your HPC systems (of at least 1 teraflop). Storage can be either locally available to specific HPC systems or made available via the network. For example, storage may be available via SAN (storage area network) or NAS (network attached storage) environments.

Shared storage includes the portion of online storage that is available simultaneously to multiple HPC systems (of at least 1 teraflop) via a network making use of SAN, NAS, file system mounting, or similar technologies.

(Mark one "X.")

a. Less than 1 terabyte ☐
b. 1 to 5 terabytes ☐
c. 6 to 10 terabytes ☐
d. 11 to 25 terabytes ☐
e. 26 to 50 terabytes ☐
f. 51 to 100 terabytes ☐
g. 101 to 250 terabytes ☐
h. 251 to 500 terabytes ☐
i. 501 to 1,000 terabytes ☐
j. 1,001 or more terabytes *(Please specify.)* ☐

_____

k. Uncertain ☐

Question 33: Usable online storage for HPC available for administrative functions

33. At the end of your FY 2007, was any of the usable online storage reported in Question 31 used for administrative functions (that is, for the business activities of your institution)?

(Mark one "X.")

a. Yes ☐
b. No ☐
c. Uncertain ☐

Question 34: Archival storage for centrally administered HPC of 1 teraflop or faster

34. At the end of your FY 2007, what was the total archival storage available specifically for centrally administered HPC? ***Do not*** include backup storage.

Archival storage is off-line, typically long-term storage for files and data that does not support immediate access from your HPC resources.

(Mark one "X.")

a. None ☐
b. Less than 100 terabytes ☐
c. 101 to 250 terabytes ☐
d. 251 to 500 terabytes ☐
e. 501 to 750 terabytes ☐
f. 751 to 1,000 terabytes ☐
g. 1,001 to 5,000 terabytes ☐
h. 5,001 to 10,000 terabytes ☐
i. 10,001 or more terabytes *(Please specify.)* ☐

_____

j. Uncertain ☐

Question 35: Archival storage for HPC available for administrative functions

35. At the end of your FY 2007, was any of the archival storage reported in Question 34 used for administrative functions (that is, for the business activities of your institution)?

(Mark one "X.")

a. Yes ☐
b. No ☐
c. Uncertain ☐

Question 36: Conditioned machine room space for centrally administered HPC of 1 teraflop or faster

36. At the end of your FY 2007, what was the total net assignable square feet (NASF) of conditioned machine room space for all centrally administered HPC at your institution?

Net assignable square feet (NASF) is the sum of all areas on all floors of a building assigned to, or available to be assigned to, an occupant for a specific use, such as research or instruction. NASF is measured from the inside faces of walls.

Conditioned machine rooms are specifically designed to house computing systems and are engineered to keep processors at a cool temperature so they can run efficiently and effectively.

Conditioned machine room space ..... _____ NASF

Question 37: Comments

37. Please add any comments for Part 2 below.

Thank you. This is the end of Part 2. Please submit this part of the survey according to the arrangements you made with your institutional coordinator (named on the label on the front cover of the survey questionnaire).