

City of Alexandria, Virginia
Commission on Information Technology

MINUTES

January 10, 2011 Meeting

Meeting called order at 7:00pm.

Roll Call

Members present: Phillip Acosta, Nina Baliga, Daniel Brooks (Vice-Chairman), Marjorie Conner, Steve Cooper, Margaret Leary, Kostas Liopiros (Chairman), Page Moon, Deb Roepke (for Del Pepper), Lynda Y. Rudd (Secretary)

Excused: Catherine Hogan, Alicia Hughes, Helen Morris, Marie Schuler

City Staff Present: Tom Trobridge, Suellen Savukas

Approval of Minutes

The minutes of the November 15, 2010 meeting were approved with modifications. Acceptance of minutes was moved by Page Moon and seconded Margaret Leary.

Broadband Surveys

Commission Chair Kostas Liopiros noted to the Commission that ACPS' Elizabeth Hoover has placed the upcoming school survey temporarily on hold.

The Chair presented and discussed two recent surveys on broadband usage and adoption. The first study aggregated data on broadband usage at schools and libraries that receive funds from the E-Rate program. The second study aggregated data on broadband connectivity to businesses -- including small to medium enterprises.

Lynda Rudd and Page Moon were asked to review the surveys and provide separate reports and recommendations on broadband funding, application and usage by Alexandria Libraries and any City of Alexandria local businesses.

FY 2012 IT Plan Review Process & Schedule

The Commission discussed the review and approval schedule for the upcoming Technology Budget Plan by Alexandria City Government's Information Technology Services (ITS).

The Legislative Review Session by City Council is currently scheduled for February 8, 2011.

Commission Chair Kostas Liopiros tasked all Commissioners to review the IT Plan in preparation for a

Special Meeting to review the plan in order to provide feedback with suggestions and recommendations to ITS personnel. The Special Meeting on the FY 2012 IT Plan shall convene on February 24, 2011 at 7:00pm. Commission Vice-Chair Dan Brooks will organize the meeting and arrange the informative review with ITS personnel.

Alexandria City Council is scheduled to meet and approve the IT Plan by May 2, 2011.

IT Vision and Strategic Goals

Commission Chair Kostas Liopiros will schedule an informal work session to meet with Commissioner Steve Cooper and ITS' Tom Trobridge to review the draft IT Vision and Strategic Goals on Tuesday, January 18, 2011. All Commissioners are invited to attend.

New Business

Steve Cooper and Marjorie Conner volunteered to create a draft memorandum for web conferencing of IT Commission meetings. The Chair asked that the authors first review the Alexandria City Code and the Freedom of Information Act as they would pertain to meetings that are open to the public and any implications for holding an electronic quorum. Commission Vice-chair Dan Brooks asked that the memorandum identify any other Commissions or Boards that conduct meetings electronically.

Meeting adjourned at 7:50pm.



NEWS

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This is an unofficial announcement of Commission action. Release of the full text of a Commission order constitutes official action.
See MCI v. FCC, 515 F 2d 385 (D.C. Circ 1974).

FOR IMMEDIATE RELEASE
January 6, 2011

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FCC RELEASES DATA FROM E-RATE PROGRAM AND BROADBAND USAGE SURVEY *Survey finds faster broadband needed in schools and libraries*

Washington, D.C. – The Federal Communications Commission today released a report on the state of broadband connectivity at schools and libraries receiving funds from the federal E-rate program, which provides support to help connect schools and libraries to the Internet.

The report is based on data from a survey conducted in 2010 that examined the success and challenges related to broadband use faced by schools and libraries. This survey will help the Commission make data-driven policy decisions for the E-rate program by providing information on the educational and technological needs of schools and libraries.

The survey was commissioned by the FCC and conducted by Harris Interactive, Inc., an independent national marketing research firm. Specifically, the survey found:

- ***Almost All Have At Least Some Broadband:*** 95% of all E-rate survey respondents have some form of terrestrial broadband connection to at least one facility, while 2% use satellite and 3% use dial-up.
- ***Faster Broadband Speeds Needed:*** However, nearly 80% of all survey respondents say their broadband connections do not fully meet their current needs.
 - Slow connection speed is the primary reason current Internet connectivity does not meet the needs for 55% of these respondents.
- ***Cost is a Big Factor:*** 39% of E-rate survey respondents cite cost of service as a barrier in meeting their Internet needs, and 27% cite cost of installation as a barrier.
- ***E-Book Use to Greatly Increase:*** 56% of all E-rate survey respondents expect to implement or expand the use of digital textbooks in the next two to three years, and 45% expect to implement or expand the use of handheld devices for educational purposes.
- ***Most Have Speeds Greater Than 3 Mbps:*** 10% of E-rate survey respondents have broadband speeds of 100 Mbps or greater and most (55%) have broadband speeds greater than 3 Mbps.
 - More than half of school districts (60%) subscribe to a fiber optic connection.
 - 66% of respondents provide some wireless connectivity for staff, students or library patrons.

- ***E-Mail Essential for Schools:*** For schools, e-mail is the most-used application (almost all schools, 98%, regularly use or access e-mail), and the most essential (69% consider it the most essential).
- ***Libraries Rely on Online Reference Materials:*** For libraries, online reference materials are both the most used application (86% of staff and patrons regularly use or access online reference materials) and the most essential (62% consider it the most essential).

The E-rate program, which provides more than \$2.25 billion annually to support telephone and Internet connections at schools and libraries across the country, was recently upgraded to allow schools and libraries to get higher-speed broadband at lower cost ([FCC 10-175](#)).

-FCC-

News about the Federal Communications Commission can also be found on the Commission's web site www.fcc.gov.



2010 E-Rate Program and Broadband Usage Survey: Report

**Federal Communications Commission
Wireline Competition Bureau**

DA 10-2414



SUMMARY

This report presents data from the *2010 E-rate Program and Broadband Usage Survey* commissioned by the Federal Communications Commission (FCC) and conducted by Harris Interactive, Inc. (Harris), an independent national marketing research firm, between February and April 2010. The primary goal of the survey was to collect data on the current state of broadband connectivity for E-rate funded schools and libraries and inquire into challenges related to broadband use that recipients face now or will face in the future. This survey will help the Commission make policy decisions for the E-rate program by providing information on the educational and technological needs of schools and libraries.

Key Findings

- 95% of all E-rate survey respondents have some form of terrestrial broadband connection to at least one facility, while 2% use satellite and 3% use dial-up.
- However, nearly 80% of all survey respondents say their broadband connections do not fully meet their current needs.
 - Slow connection speed is the primary reason current Internet connectivity does not meet the needs for 55% of these respondents.
- 39% of E-rate survey respondents cite cost of service as a barrier in meeting their Internet needs, and 27% cite cost of installation as a barrier.
- 56% of all E-rate survey respondents expect to implement or expand the use of digital textbooks in the next two to three years, and 45% expect to implement or expand the use of handheld devices for educational purposes.
- 10% of E-rate survey respondents have broadband speeds of 100 Mbps or greater and most (55%) have broadband speeds greater than 3 Mbps.
 - More than half of school districts (60%) subscribe to a fiber optic connection.
 - 66% of respondents provide some wireless connectivity for staff, students or library patrons.
- For schools, e-mail is the most used application (almost all schools, 98%, regularly use or access e-mail), and the most essential (69% consider it the most essential).
- For libraries, online reference materials are both the most used application (86% of staff and patrons regularly use or access online reference materials) and the most essential (62% consider it the most essential).

I. Introduction

The Commission has long recognized the importance of broadband Internet services and their critical role in advancing the availability of educational and informational resources.¹ The Commission recently released an order that, among other things, makes changes to the E-rate program intended to ensure that schools can more easily obtain E-rate support for higher bandwidth services that will support more advanced applications.² The data presented in this report will further assist the Commission in its mission of promoting access to broadband services that meet the instructional and informational needs of schools and libraries.

This report on the *2010 E-rate Program and Broadband Usage Survey* examines the current state of the E-rate program as it relates to the advancement of broadband and its educational and informational purposes. The *Survey* was specifically designed to address broadband adoption and usage in the context of the E-rate program and specifically targets recipients of program funding.

This report highlights the findings of the *2010 E-rate Program and Broadband Usage Survey* in three sections. First, the report examines Internet connectivity in schools and libraries that receive E-rate funding. Next, the report looks at the types of technologies and applications used by schools and libraries that receive E-rate funding. Finally, the report addresses E-rate funded services. The report concludes with a brief summary of the survey methodology, some demographics of E-rate funded participants, and a copy of the survey instrument. Also attached is the original survey results presented to the FCC by Harris.

¹ See, e.g., *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriberhip Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriberhip*, WC Docket No. 07-38, Notice of Proposed Rulemaking, 22 FCC Rcd 7760, at para. 1 (2007) (*Broadband Data NPRM*); *Appropriate Framework for Broadband, Access to the Internet over Wireline Facilities, Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services, Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review – Review of Computer III and ONA Safeguards and Requirements, Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Policy Statement, 20 FCC Rcd 14986, 14987, para. 1 (2005); *Availability of Advanced Telecommunications Capability in the United States*, GN Docket No. 04-54, Fourth Report to Congress, 19 FCC Rcd 20540, 20572 (2004) (*Fourth Section 706 Report*).

² *Schools and Libraries Universal Service Support Mechanism, A National Broadband Plan for Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Sixth Report and Order, FCC 10-175 (Sep. 28, 2010) (*Sixth Report and Order*).

II.

III. Internet Connectivity in Schools and Libraries

Ninety-five percent of E-rate entities report having some form of terrestrial broadband connection to at least one facility.³ Only 3% of respondents have dial-up access and 2% have satellite connections. Overall, 42% of respondents have fiber optic connections and 14% have T3/DS-3 connections. Though 60% of school districts and 50% of consortia have some fiber optic connections, the survey does not reveal how many individual entities within a district or consortium have fiber to the premise. Only 21% of individual school respondents and 13% of library respondents have fiber optic connections. Forty-six percent of urban respondents had fiber optic connections compared to 38% of rural respondents.⁴

When the two fastest connection categories are combined, nearly half of respondents (49%) indicate they have fiber optic or T3/DS-3 connections, while 68% of school districts and 63% of consortia have fiber optic or T3/DS-3 connections.⁵ Only 25% of individual school respondents and 19% of library respondents have fiber optic or T3/DS-3 connections. Fifty-five percent of urban respondents had fiber optic or T3/DS-3 connections compared to 45% of rural respondents.

Schools and libraries are more likely to have either cable or DSL connections, and among schools, private schools are more than twice as likely as public schools to have either cable (31% to 16%) or DSL (29% to 16%).

Technologies Providing Internet Connections/Access

Reponses may total more than 100% because entities could mark more than one type of technology

	T1/DS-1	Fiber Optic	Wireless	DSL	Cable	T3/DS-3	Dial-Up	Satellite	Other
Total	51%	42%	36%	21%	20%	14%	3%	2%	3%
School	51%	21%	38%	27%	28%	9%	2%	2%	1%
District	50	60	33	15	14	18	3	2	3
Library	47	13	40	30	29	7	1	2	2
Consortium	65	50	36	21	19	26	8	-	8
Public	53%	55%	34%	16%	16%	18%	3%	2%	3%
Private	43	16	37	31	29	6	2	1	2
Urban	46%	46%	35%	19%	26%	14%	3%	1%	3%
Rural	50	38	35	21	14	12	2	2	2
Urban/Rural	66	51	45	24	25	33	10	2	5

- = Zero percent

Which of the following technologies provide Internet connection/access for your entity? Check all that apply.

Base: All Entities (n = 1,060)

³ 95% of E-rate entities report having at least one T1/DS-1, T3/DS-3, fiber optic, cable or DSL connection.

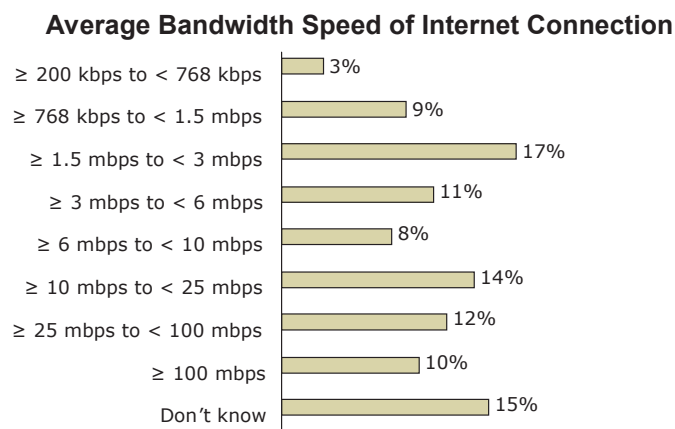
⁴ Survey respondents were asked to identify whether their entity was considered “urban” or “rural” for the purposes of the E-rate program at the time of the survey. Every school or library in the United States is located in either a rural or an urban area, based on Metropolitan Statistical Area (MSA) data.

⁵ Note that respondents could select more than one type of technology on the survey.

*Wireless Connectivity*⁶: Overall, 80% of E-rate survey respondents provide wireless Internet access in at least one building, and an additional 12% plan to make it available within the next three years. Two-thirds (66%) of respondents offer access for staff, students and/or patrons and another 14% provide access only to staff. Entities with a 90% E-rate discount rate are most likely to have wireless Internet access available.

Connection Speeds

The survey asked respondents to indicate which of several speed ranges best described the average speed of their connection.



Indicate which of the following best describes the average speed of the Internet connection to your entity.

Base: All Entities (n = 1,060)

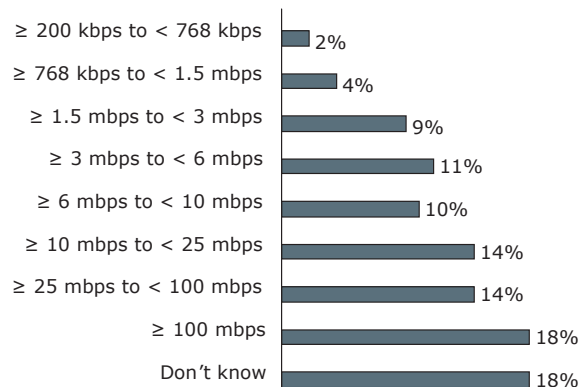
Overall, 48% of entities report experience average speeds under 10 Mbps, 36% experience average speeds greater than or equal to 10 Mbps, and 15% don't know. Schools (63%) and libraries (65%) are more likely than school districts (39%) and consortia (48%) to report average speeds under 10 Mbps. Only 14% of private schools report speeds greater than or equal to 10 Mbps compared to 48% of public schools.

Rural recipients are also more likely to report slower speeds. While 32% of rural entities report average speeds greater than or equal to 10 Mbps, 41% of urban entities and 39% of entities serving both urban and rural areas report these speeds.

The survey also asked respondents to indicate which range best described the minimum bandwidth speed needed to adequately meet the educational objectives of their entity.

⁶ The survey asked "Which of the following technologies provide Internet connection/access for your entity?" and allowed respondents to choose as many technologies as apply, including "wireless". Respondents who chose "wireless" may be including both fixed wireless service like WiMAX or to an internal WiFi network.

Maximum Bandwidth Speed Needed



In your opinion, what is the minimum bandwidth speed needed to adequately meet the educational objectives of your entity?

Base: All Entities (n = 1,060)

Rural entities are also less likely to indicate that they need speeds in excess of 10 Mbps to adequately meet their educational objectives. One possible explanation is that they are serving fewer students or patrons. Though 46% of all entities believe they need a minimum bandwidth speed of at least 10 Mbps, only 42% of rural entities believe this to be true.

Bandwidth Speed of Internet Connection by Recipient Type

	Average Bandwidth Speed			Minimum Bandwidth Speed		
	< 10 Mbps	≥10 Mbps	Don't Know	< 10 Mbps	≥10 Mbps	Don't Know
Total	48%	36%	15%	36%	46%	18%
School	63%	12%	25%	51%	23%	26%
District	39	52	9	26	63	11
Library	65	14	20	44	23	33
Consortium	48	48	5	38	54	8
Public	43%	48%	9%	31%	57%	12%
Private	58	14	30	48	22	31
Urban	44%	41%	15%	34%	52%	15%
Rural	54	32	14	39	42	19
Urban/Rural	47	39	14	26	48	26

Indicate which of the following best describes the average speed of the Internet connection to your entity. In your opinion, what is the minimum bandwidth speed needed to adequately meet the educational objectives of your entity?

Base: All Entities (n = 1,060)

Comparing responses to the two questions about average speed and minimum speed needed suggests that about 36% of E-rate entities believe they have the correct connection speed and about the same percentage, 38%, believe their connection speed is inadequate. Only 6% believe their current connections are more than adequate and 20% do not know. There is relatively little variation on this point across geographies, but school districts and consortiums are more likely to report their connections are adequate than individual schools or libraries.

Bandwidth Adequacy Based on Comparison of Average and Minimum Speeds

	Inadequate	Correct	More than Adequate	Don't Know
Total	38%	36%	6%	20%
School	37%	32%	3%	28%
School District	40	40	8	12
Library	34	28	3	35
Consortium	33	50	8	8
Urban	40%	37%	6%	18%
Rural	37	37	6	21
Urban/Rural	36	34	4	26

Based on your current usage and educational objectives, please indicate whether the current Internet connection for your entity is inadequate, correct, more than adequate or you don't know.

Base: All Entities (n = 1,060)

Satisfaction with Current Connectivity

Survey respondents were also asked directly whether their current Internet connection meets their needs based on current usage and educational objectives. Using this scale, 22% said their connection speeds completely meet their needs. Just over half (58%) said their connection mostly meets their needs while 16% believe their current connections sometimes meets their needs, 3% believe connections rarely meets their needs and 1% believe connection does not meet their needs at all.

Most Recipients Desire More Bandwidth

Completely meets your needs	22%
Mostly meets your needs	58
Sometimes meets your needs	16
Rarely meets your needs	3
Does not meet your needs at all	1
Don't know	1

* = Less than 1%

- = Zero percent

Based on your current usage and educational objectives, please indicate how the current Internet connection for your entity meets your needs.

Base: All Entities (n = 1,060)

Among entities that said their current Internet connection does not meet their needs, 55% cited slow connection speeds as one of the primary reasons. Thirty-seven percent of entities chose lack of capacity to serve multiple users and close to three in 10 (29%) were unsatisfied because their wireless networks cannot provide coverage to all school or library facilities.

Reasons Internet Does Not Meet Needs by Entity Type

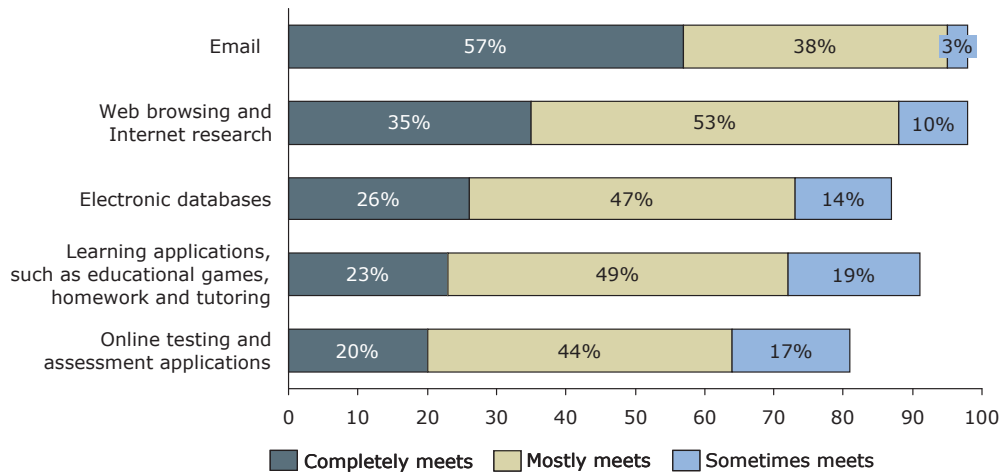
	All Entities	School	District	Library	Consortium
Connection speed too slow	55%	54%	54%	62%	59%
Lack of capacity to serve multiple users	37	38	39	31	44
Wireless networks cannot provide coverage to all facilities	29	30	35	11	17
Inadequate internal wiring and connections	25	21	28	25	22
Frequent interruptions of service	13	15	11	18	15
Other	11	9	11	11	18

What is the primary reason that the current Internet connection does not meet some or all of your needs?
Check all that apply.

Base: Current Internet Connection Does Not Completely Meet Needs (n = 825)

The survey also asked respondents about common instructional uses of broadband. Nearly all indicated that their connectivity mostly or completely meets their e-mail needs (95%). A majority say their connectivity completely meets their e-mail needs, and additional 38% say it mostly meets their needs. Most entities (88%) report that their connectivity completely (35%) or mostly (53%) meets web browsing and Internet research needs.

Specific Needs Met by Current Connectivity

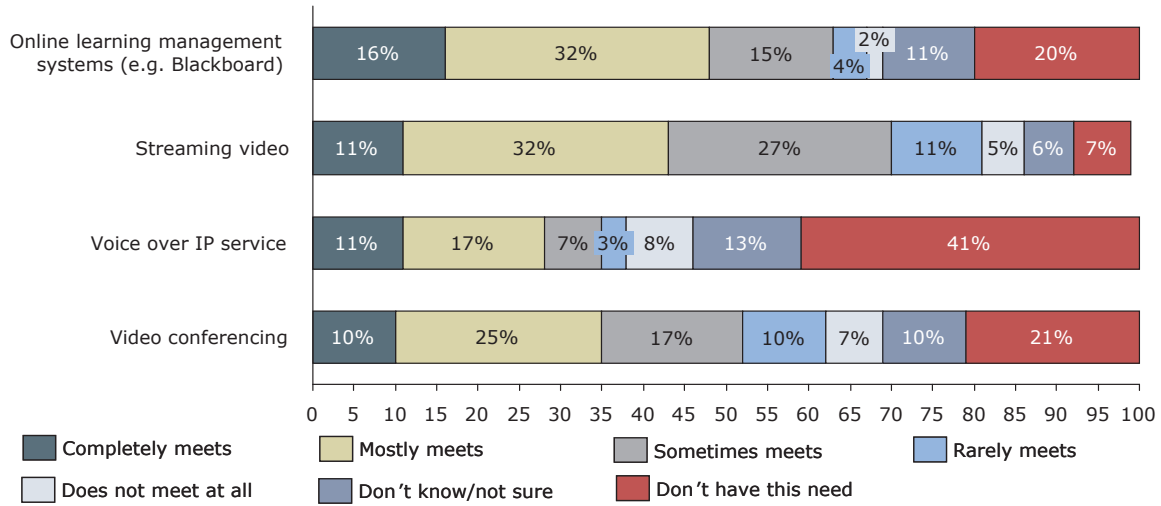


Specifically, please indicate whether the current Internet connectivity for your entity Completely Meets, Mostly Meets, Sometimes Meets, Rarely Meets or Does Not Meet At All your needs for each of the following.

Base: All Entities (n = 1,060)

Recipients are much less likely to believe their connectivity meets their video needs. Only 11% say that that their current connection completely meets their streaming video needs and even fewer (10%) report that their connections completely meet their video-conferencing needs. This question only refers to the bandwidth to the premises, not internal wiring or other network factors that may affect the actual experience in the classroom or office. As more applications have a video component, schools and libraries will likely need additional bandwidth to take advantage of the full range of educational options available.

Specific Entity Needs Not Met by Current Connectivity



More specifically, please indicate whether the current Internet connectivity for your entity Completely Meets, Mostly Meets, Sometimes Meets, Rarely Meets or Does Not Meet At All your needs for each of the following.
 Base: All Entities (n = 1,060)

Issues Preventing Recipients from Obtaining or Using Internet Access Necessary to Meet Needs

The survey asked respondents what issues prevent them from obtaining and using the Internet access necessary to meet their needs.

Issues Preventing Entities from Obtaining/Using Internet Access Necessary to Meet Needs

	Service Cost	Install Cost	Outdated Equipment	Inadequate LAN Internal networks and wiring	Physical structure/building layout	Broadband not available	Lack of training/technical support	Frequent outages and down time	Other	No barriers
Total	39%	27%	26%	16%	15%	15%	10%	5%	4%	25%
90% discount rate	28%	25%	29%	11%	16%	11%	14%	5%	4%	28%
80 - 89%	38	29	29	16	13	19	12	6	3	24
70 - 79%	45	30	26	18	15	15	11	4	5	25
60 - 69%	40	32	28	24	18	17	11	6	4	24
50 - 59%	42	26	23	12	14	15	6	4	5	22
20 - 49%	47	20	24	15	15	9	7	5	2	27
School	37%	28%	31%	14%	17%	8%	10%	6%	2%	27%
School District	40	24	24	17	14	16	10	4	5	26
Library	42	35	24	13	16	21	11	6	6	20
Consortium	45	47	32	24	13	14	7	5	5	16
Urban	43%	27%	27%	15%	16%	10%	9%	5%	4%	28%
Rural	35	27	25	17	15	20	10	5	4	24
Urban/Rural	47	37	37	21	12	13	16	7	5	17

Do any of the following issues prevent your entity from obtaining and using the high-speed, broadband Internet access that you think is necessary to meet your entity's needs? If so, check all that apply. Base: All Entities (n = 1,060)

- 39% of all respondents cited cost of service as preventing them from obtaining and using the Internet access necessary to meet their needs.
 - 35% of respondents in rural areas noted that cost of service is a barrier, while 43% of recipients in urban areas cited cost of service as a barrier.
- 27% of all respondents cited the cost of installation as a barrier.
 - 37% of rural respondents say installation costs are a barrier, while only 27% of urban districts cited cost of installation as a barrier.

Rural respondents are also more likely to report lack of availability of broadband (20% compared with 10% of urban entities). Only 11% of respondents at the 90% E-rate discount level and 9% of respondents in the 20-49% E-rate discount range cite lack of availability as a barrier, which is slightly below the overall average of 15%. Survey respondents in higher E-rate discount ranges are more likely than others to have problems with lack of training or technical support.

Approximately one-quarter (26%) of entities cited outdated computers and equipment as an issue. On average, 25% of respondents report that there are no specific issues preventing them from obtaining or using Internet access necessary to meet their needs.

Areas of Technology and Infrastructure Needing Improvement

Respondents highlighted the following areas of technology infrastructure as needing the most improvement in the next two years (respondents were allowed to select up to three areas):

- 57% cited computers and desktop equipment
- 42% cited server hardware, operating systems and storage solutions
- 38% said their staff will need more training and support
- 28% cited local area network (LAN) equipment
- 16% cited LAN (internal wiring) in general
- 19% cited wide area network (WAN) equipment such as routers and switches
- 14% cited WAN circuits

Areas of Technology Infrastructure Needing Improvement

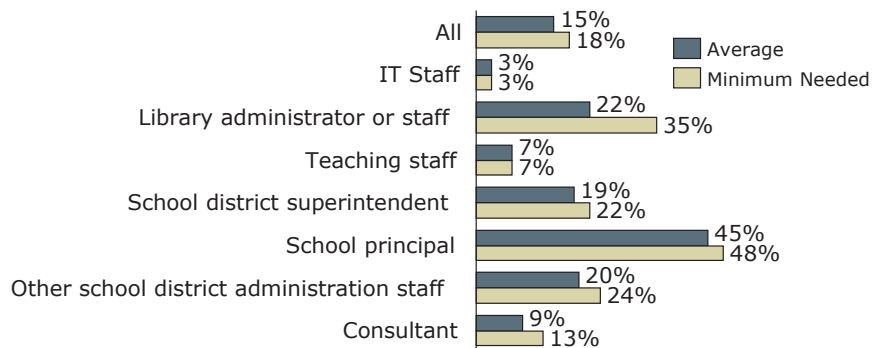
	All	School	District	Library	Consort.	Urban	Rural	Urban/ Rural
Computers and desktop equipment	57%	69%	50%	62%	42%	58%	57%	45%
Server hardware, operating systems and storage solutions	42	42	45	35	28	48	37	44
Staff training and support	38	41	35	42	28	37	40	18
Technical support staff capacity and knowledge	32	27	34	34	27	32	31	41
LAN equipment (switches, hubs)	28	26	31	19	25	26	30	27
Server software applications (e.g., increasing the number of user access licenses for software)	19	21	18	20	16	17	20	23
WAN equipment (routers, switches)	19	11	23	14	35	21	17	27
Local Area Network (LAN) internal wiring	16	17	16	17	11	15	17	14
Wide Area Network (WAN) circuits	14	6	18	12	36	12	15	28
Content management systems	11	10	11	9	18	14	8	19

Which areas of your entity's technology infrastructure need the most improvement during the next two years? Please select up to three.

Base: All Entities (n = 1,060)

Recipients without dedicated information technology (IT) staff may be less able to adequately plan for their IT needs. Many non-IT staffers responsible for the E-rate program are not familiar with their entity’s Internet connection speed. Overall, about 15% of respondents didn’t know the average speed of their connection, and 18% could not identify the minimum speed needed to adequately meet educational objectives. However, only 3% of IT staff respondents did not know this information. In contrast, 45% of the school principals surveyed did not know the average speed, and 48% did not know the minimum speed needed. This finding could suggest that non-IT professionals making decisions regarding the purchase of broadband connections may have difficulty determining what bandwidth they need to purchase.

Don’t Know Bandwidth Speed by Job Responsibility



Indicate which of the following best describes the average speed of the Internet connection to your entity. In your opinion, what is the minimum bandwidth speed needed to adequately meet the educational objectives of your entity?

Base: All Entities (n = 1,060)

IV. Technology Use by Schools and Libraries

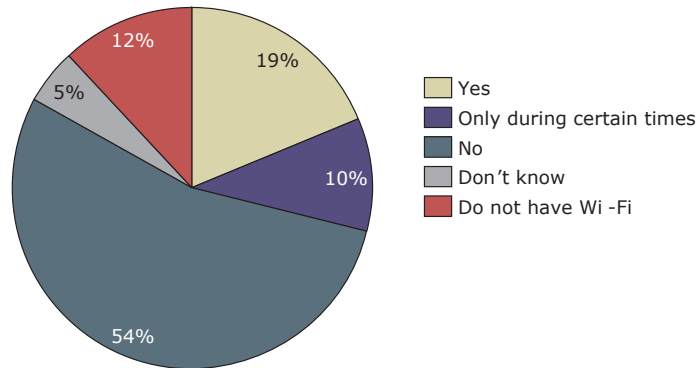
Computers in Schools

At least 90% of entities receiving funding for at least one school have computers available for students. The mean student-to-computer ratio among E-rate survey respondents that receive funding for at least one school is 5.86 to 1 and the median is almost half of that, 3 to 1. Among entities receiving funding for at least one school:

- 3% of schools have a student to computer ratio of 1:1
- 51% have a student to computer ratio of 2-3:1
- 76% have a student to computer ratio of 5:1 or lower
- 4% have a student to computer ratio of 10:1 or greater

Close to 30% of entities receiving funding for at least one school allow students to bring laptops to school to use the school’s Wi-Fi at least during certain times, but over half (54%) of the respondents never allow students to use laptops to access the school’s Wi-Fi.

Are students allowed to bring a laptop to your school or school district to utilize the school’s/district’s Wi-Fi?



Are students allowed to bring a laptop to your school or in your school district to utilize the school or school district's Wi-Fi?

Base: Entities receiving funding for at least one school (n = 898)

Wireless Applications in Schools and Libraries

Almost all (98%) entities with wireless Internet have staff, students or patrons using a laptop, netbook or personal computer for wireless access. Forty-three percent of respondents have staff, students or patrons that use smartphones or personal digital assistants (PDAs) for wireless access, and 25% report individuals using tablet personal computers. One in 10 respondents state that staff, students or patrons are using digital books or wireless reading devices such as a Kindle.

Wireless Internet Availability at Entities Receiving E-Rate Funding

	Available for staff and students or patrons	Available for staff only	Not available, plan to make it available within 3 years	Not available, no plans to make it available	Don't know
Total	66%	14%	12%	6%	2%
90%	77%	9%	6%	6%	1%
80 - 89%	70	11	12	7	*
70 - 79%	60	17	13	6	4
60 - 69%	62	16	12	7	3
50 - 59%	66	17	16	2	*
20 - 49%	62	17	10	9	2
School	65%	17%	9%	8%	2%
School District	60	16	15	6	2
Library	90	1	4	4	1
Consortium	60	20	7	4	9

* = Less than 1%

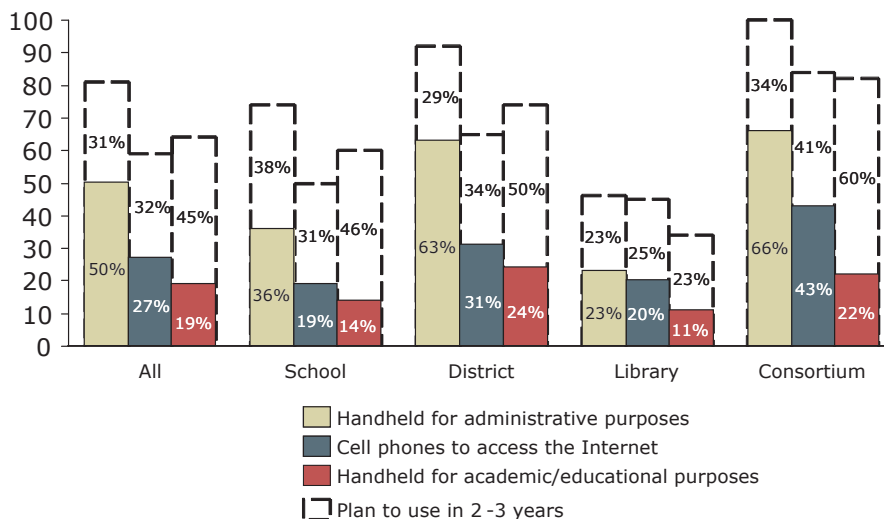
What is the current availability of wireless Internet access provided by your entity?

Base: All Entities (n = 1,060)

Handheld Devices in Schools and Libraries

Half (50%) of E-rate survey respondents currently use handheld devices such as PDAs, smartphones or cell phones for administrative purposes, and another 31% plan to start doing so over the next 2 to 3 years. Though less than 20% of respondents currently use such devices for academic or educational purposes, 45% plan to start within the next 2 to 3 years. If respondents follow through with their current plans, 60% of schools and 74% of school districts may use handheld devices for academic/educational purposes within 3 years.

Current and Planned Use of Cell Phones and Handheld Devices by Entities Receiving E-Rate Funding



Which of the following applications does your entity already use or do you believe that your entity will implement or expand over the next two to three years? Check all that apply. If none apply, select None of the Above.

Base: All Entities (n = 1,060)

Applications Currently Used by Schools and Libraries

Almost every school (98%) regularly accesses and uses e-mail, and four out of five (80%) report students using online applications in the classroom, educators using online instructional planning materials and curriculum resources, and educators using online school and student assessment data and results.

Regularly Used or Accessed Applications Online by School Type

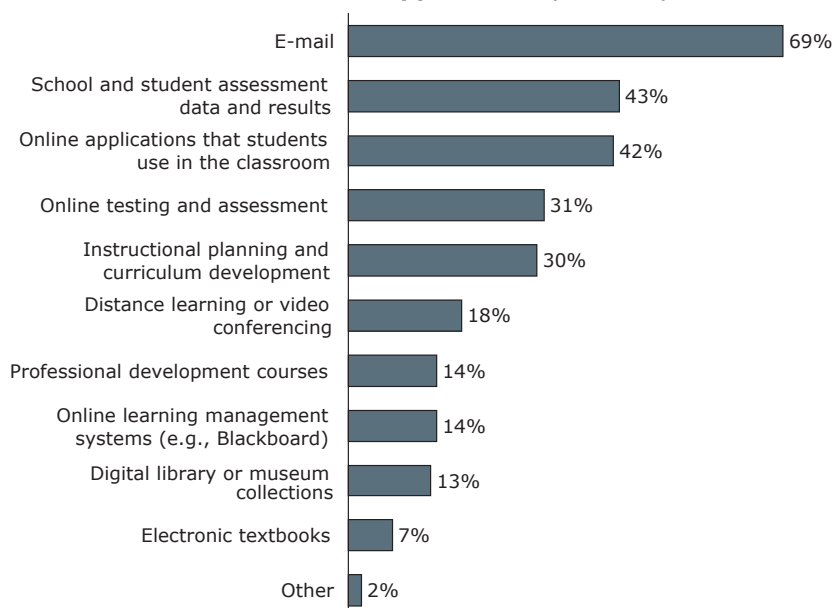
	All	School	School District	Consortium	One School	More than one
E-mail	98%	97%	98%	98%	97%	98%
Online applications that students use in the classroom	80	78	82	77	78	83
Instructional planning materials and curriculum resources	79	79	79	71	77	81
School and student assessment data and results	78	67	84	75	62	87
Online testing and assessment applications	69	55	76	61	55	77
Professional development courses	59	57	59	58	54	61
Digital library or museum collections, including online subscriptions to periodicals and other primary resources	58	42	66	62	45	66
Distance learning or video conferencing	50	28	61	68	31	60
Online learning management systems (e.g., Blackboard)	46	39	50	50	37	52
Electronic textbooks	19	18	20	22	18	19

Please tell us whether your students, teachers and school administrative staff regularly use or access these applications online, and, if not, when does your entity anticipate making these resources available?

Base: All Schools (n = 898)

Seven in 10 schools consider e-mail an essential application. It is the most used and most often considered essential application by a wide margin. Respondents said applications for students are second in importance. Just over 40% of schools consider applications that students use in classrooms and school and student assessment data as essential online applications. Three in 10 rate online testing or instructional planning and curriculum material as essential.

Most Essential Applications (Schools)



Of the following resources or applications listed below, which do you consider **most** essential to the operation of your school or school district. Please select up to three.

Base: All Schools (n = 898)

The most common online application – and the most essential – for library respondents was online reference materials. Libraries also reported making online homework and job search, resume builders or job applications available for their patrons. About 40% of all respondents that include at least one library consider job resource material to be an essential application, and 41% consider homework resources essential, but a majority of respondents who offer each of those types of applications consider them essential.

Regularly Used or Accessed Applications Online by Library Type

	All	One library only	More than one library	At least one school / one library
Reference materials	86%	82%	93%	88%
Homework resources	74	73	75	74
Online job search, resume builders or job application filing	70	84	83	54
Audio content (music, audio books, etc.)	64	65	74	60
Licensed databases, such as Lexis/Nexis and other online subscriptions	62	61	84	56
Video content (e.g., streaming video, video clips, etc.)	62	57	55	69
Online instructional courses and tutorials, such as practice exams for the GED or other certification exams	58	56	78	52
E-books	39	37	62	32
Digital special collections (e.g. letters, postcards, documents, etc.)	38	31	48	41
Video conferencing	28	15	16	45

Please indicate whether the library's staff or patrons regularly use or access these applications online, and, if not, when does your entity anticipate making these resources available?

Base: All libraries (n = 290)

Most Essential Applications by Library Type

	All	One library only	More than one library	At least one school / one library
Reference materials	62%	52%	55%	74%
Homework resources	46	74	68	12
Online job search, resume builders or job application filing	41	40	33	46
Audio content (music, audio books, etc.)	40	34	64	38
Licensed databases, such as Lexis/Nexis and other online subscriptions	32	37	35	27
Video content (e.g., streaming video, video clips, etc.)	20	11	8	33
Online instructional courses and tutorials, such as practice exams for the GED or other certification exams	13	4	14	21
E-books	11	15	10	8
Digital special collections (e.g. letters, postcards, documents, etc.)	8	5	3	12
Video conferencing	5	4	5	7

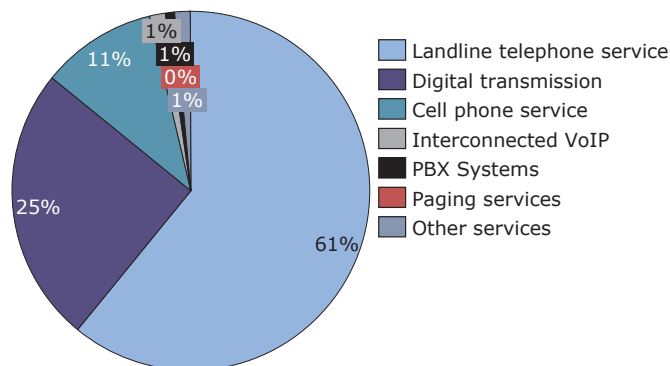
Of the following resources or applications listed below, which do you consider **most** essential to the operation of your library? Please select up to three.

BASE: All libraries (n = 290)

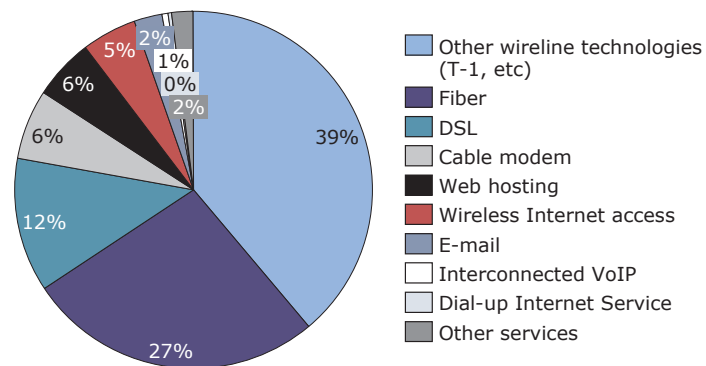
V. E-rate Funded Services

Survey respondents were asked to report on the services for which they received E-rate funding in FY 2008. Most telecommunications funding (61%) goes towards landline telephone service,⁷ 25% goes to digital transmission, and 10% goes to cell phone service. Libraries prioritize landline telephone service more than other entities, with libraries reporting 76% of telecommunications funding used for landline telephone service and only 2% used for cell phone service.

Percentage of Funding for Specific Telecommunications Services



Percentage of Funding for Specific Internet Access Services



Top Telecommunications Services

	School	District	Library	Consort.
Landline telephone	67%	56%	76%	51%
Digital transmission	18	28	20	36
Cell phone service	12	12	2	11

Approximately what percentage of your FY 2008 E-rate funding for telecommunications services went to the following services? Base: All entities receiving telecommunications services funding (n = 757)

Top Internet Access Services

	School	District	Library	Consort.
Other wireline technologies	39%	39%	36%	41%
DSL	22	37	35	39
Cable modem	16	7	11	8

Approximately what percentage of your FY 2008 E-rate funding for Internet access went to the following services? Base: All Entities Receiving Internet Access Funding (n =582)

Respondents use a wide variety of services for Internet access:

- 39% is spent on “other” wireline technologies, including T-1
- 39% is spent on Fiber (27%) or DSL (12%)
- 6% is spent on cable modem

The majority of the average internal connection funding (55%), which are the components that transport information to classrooms and public areas in libraries, is for services other than servers, software and software licenses. Just over one-third (35%) of this funding goes to servers (including installation and related charges), and 10% goes to software and software licenses.

By a wide margin, Internet access and landline telephone services are considered the most critical services funded under the E-rate program.

- 78% of all respondents consider Internet access critical

⁷ For purposes of the E-rate program, services selected under the telecommunications service category include not only basic telephone service, but also include T-1s, T-3s, and fractional T-1s; fiber optics; digital transmission services, including DSL, Ethernet, frame relay services, and integrated services digital network (ISDN); satellite service; and wireless service.

- 72% cite landline telephone service as critical

Libraries are more likely to identify E-rate funded landline telephone service as their most critical service while schools and consortia are more likely to identify Internet access. Eighty-one percent of libraries consider landline telephone service as critical compared to 65% of libraries that say that E-rate funding for Internet access is critical. In contrast, 81% of schools and 88% of consortia believe Internet access is critical compared to only 63% and 47% respectively that say landline telephone service is critical. School districts consider both services critical with a slight emphasis on Internet access, 79% to 75%.

Most critical services currently funded under E-Rate

	Internet access	Landline telephone	High speed circuits for WANs	Cell phone service	E-mail	Internal connections	Basic maintenance of internal connections	Web hosting
Total	78%	72%	34%	23%	18%	16%	15%	9%
90%	79%	51%	24%	15%	21%	36%	49%	6%
80 - 89%	73	74	34	25	19	22	16	8
70 - 79%	77	72	43	20	17	16	6	11
60 - 69%	78	81	37	25	18	8	6	9
50 - 59%	76	76	35	26	14	10	9	10
20 - 49%	87	73	29	28	19	5	7	9
School	81%	63%	18%	23%	25%	18%	23%	8%
School District	79	75	45	21	15	17	13	11
Library	65	81	20	27	15	9	6	3
Consortium	88	47	45	12	17	18	17	4
Urban	81%	67%	34%	23%	17%	17%	19%	10%
Rural	74	76	34	22	16	16	12	8
Urban/Rural	86	71	42	29	13	13	7	6

What are the most critical services for your school, school district, or library that is currently funded under the E-rate program? Please select up to three.

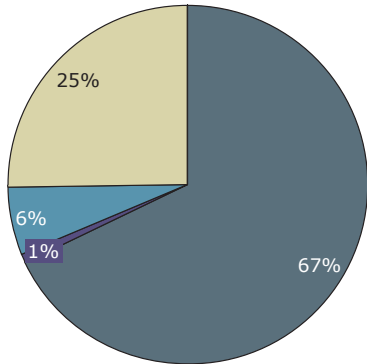
Base: All Entities (n = 1,060)

Overall, about one in six consider internal connections (16%) and basic maintenance of internal connections (15%) critical, but entities with a 90% discount rate are more likely to emphasize the importance of internal connections. Among entities with a 90% discount rate:

- 49% say basic maintenance of internal connections is critical.
- 36% say internal connections are critical.

Most survey respondents indicated that they did not receive E-rate funding for internal connections (67%) or basic maintenance of internal connections (65%). Of those respondents that could identify the amount of E-rate funding received, the amount was generally \$10,000 or more for internal connections, and \$5,000 or more for basic maintenance of internal connections.

Amount of Funding for Internal Connections

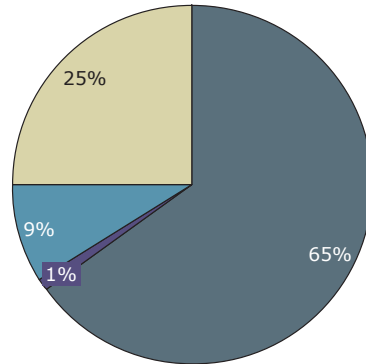


Nothing
 < \$10,000
 \$10,000 or more
 Don't know

What is the total amount of E-rate funding your entity has received or expects to receive for the following services in Funding Year 2008? Internal Connections

Base: All entities (n = 1,060)

Amount of Funding for Basic Maintenance of Internal Connections



Nothing
 < \$5,000
 \$5,000 or more
 Don't know

What is the total amount of E-rate funding your entity has received or expects to receive for the following services in Funding Year 2008? Basic maintenance of internal connections

Base: All Entities (n = 1,060)

About the Survey

The 2010 E-rate Program and Broadband Usage Survey was conducted by Harris Interactive, Inc. (Harris), from February 25 to April 5, 2010. USAC provided Harris with a list of all 22,819 E-rate recipients from funding year 2008. Harris surveyed a sample of 5,000 recipients of funding from 2008 and received completed surveys from 1,060 E-rate recipients. Sample recipients were sent an invitation via e-mail, sent five reminder e-mails and called twice to participate in the online survey. For responses based on the online survey, the margin of error is +/- 2.9% at the 95% confidence level.

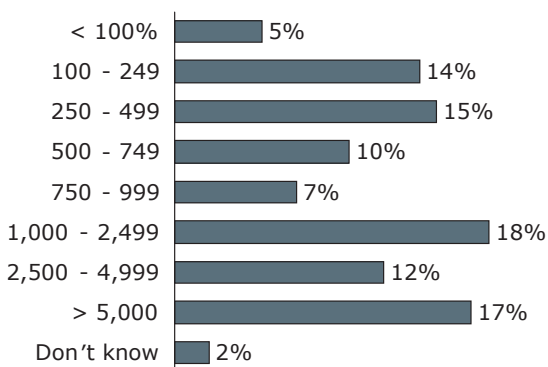
Online survey results were weighted by entity type and urban-rural definition to reflect the proportion of urban schools, rural schools, urban school districts, rural school districts, libraries and school-library consortiums in the USAC recipient list. On April 26 and 27, 2010, Harris conducted telephone follow-up interviews with 100 E-rate recipients who did not answer the online survey. The telephone survey was approximately five minutes long and did not include all questions contained in the online survey.

According to the survey, the mean number of students served by all applicants who fund school projects is 8,090. However, many E-rate applications include smaller schools, resulting in a median of 935 students per applicant. Overall, 69% of all applicants have less than 2,500 students enrolled in their school or district. Because of the inclusion of consortia, the mean and median for all applicants that fund school projects is significantly higher than the mean and median for individual schools and school districts:

- The mean number of students at schools surveyed is 1,650, and the median is 300.
- The mean number of students at school districts surveyed is 6,601, and the median is 1,700.
- The mean number of students at consortia surveyed is 120,321, and the median is 9,428.

Similarly, based on responses from applicants who knew information about the size of their service areas, the mean number of people living in areas served by libraries receiving funding is 75,978, but the median is significantly lower at 8,886.

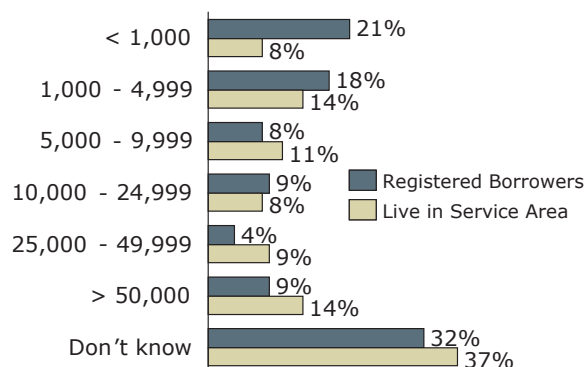
Number of Students



How many students are currently enrolled at your school or in your school district?

Base: Entities receiving funding for at least one school (n = 898)

Number of Registered Borrowers/ People in Library Service Area



How many registered borrowers are/people live in the service area currently served by the branch library or library system receiving E-rate funding?

Base: Entities receiving funding for at least one library (n=290)

SURVEY QUESTIONS

1. Which “applicant type” do you generally select on your E-rate application?
 1. School
 2. School district
 3. Library
 4. Consortium
 5. Don’t know/never applied (**TERMINATE**)

2. Did you receive E-rate funding for Funding Year 2008 (7/1/2008 – 6/30/2009) to support projects at:
 1. One school, but no libraries (**Go to Q3**)
 2. More than one school, but no libraries (**Go to Q3**)
 3. One library, but no schools (**Go to Q5**)
 4. More than one library, but no schools (**Go to Q5**)
 5. At least one school and at least one library (**Go to Q3**)
 6. None of the above (**TERMINATE**)

3. Was the school(s) that received E-rate funding in Funding Year 2008 public or private?
 1. Public, including charter schools
 2. Private
 3. Don’t know

4. Was the school(s) that received E-rate funding in Funding Year 2008...? Check all that apply.
 1. Pre-school
 2. Elementary school, including kindergarten
 3. Middle school or junior high
 4. High school
 5. Don’t know

5. Which of the following best describes your primary job responsibility?
 1. Information technology staff
 2. Library administrator or staff
 3. Teaching staff
 4. School district superintendent
 5. School principal
 6. Other school district administration staff
 7. Consultant
 8. None of the above (**TERMINATE**)

Now, we have some questions about the technology available at your entity (i.e., school, school district and/or library) and your entity’s use of that technology. For these questions, please specifically answer about the entities that have received E-rate funding in Funding Year 2008.

6. Which of the following technologies provide Internet connection/access for your entity?
Check all that apply.
1. Dial-up
 2. T1/DS-1
 3. T3/DS-3
 4. Fiber optic
 5. Cable
 6. DSL
 7. Satellite
 8. Wireless
 9. Other
 10. Don't know
7. Indicate which of the following best describes the average speed of the Internet connection to your entity.
1. Greater than 200 Kbps to less than 768 Kbps
 2. Greater than or equal to 768 Kbps to less than 1.5 Mbps
 3. Greater than or equal to 1.5 Mbps to less than 3 Mbps
 4. Greater than or equal to 3 Mbps to less than 6 Mbps
 5. Greater than or equal to 6 Mbps to less than 10 Mbps
 6. Greater than or equal to 10 Mbps to less than 25 Mbps
 7. Greater than or equal to 25 Mbps to less than 100 Mbps
 8. Greater than or equal to 100 Mbps
 9. Don't know
8. In your opinion, what is the minimum bandwidth speed needed to adequately meet the educational objectives of your entity?
1. Greater than 200 Kbps to less than 768 Kbps
 2. Greater than or equal to 768 Kbps to less than 1.5 Mbps
 3. Greater than or equal to 1.5 Mbps to less than 3 Mbps
 4. Greater than or equal to 3 Mbps to less than 6 Mbps
 5. Greater than or equal to 6 Mbps to less than 10 Mbps
 6. Greater than or equal to 10 Mbps to less than 25 Mbps
 7. Greater than or equal to 25 Mbps to less than 100 Mbps
 8. Greater than or equal to 100 Mbps
 9. Don't know
9. What is the current availability of wireless Internet access provided by your entity?
1. Available for both staff, students and/or patrons
 2. Available for staff only
 3. Not available for anyone, but plan to make it available for some within the next three years
 4. Not available for anyone, and no plans to make it available
 5. Don't know

ONLY ASK QUESTION 10, IF QUESTION 9 EQUALS "1" OR "2":

10. What type of wireless equipment are your staff, students, and/or patrons currently using to access the Internet at your school or library? Check all that apply. **(ROTATE RESPONSE OPTIONS 1-4)**
1. Laptops, Netbooks or PCs
 2. Tablet PCs
 3. Smartphones or Personal Digital Assistants (PDAs), such as a Blackberry or iPhone
 4. E-books or wireless reading devices, such as a Kindle
 5. Other
 6. Don't know

11. Based on current usage and educational objectives, please indicate whether the current Internet connection for your entity...
1. Completely meets your needs
 2. Mostly meets your needs
 3. Sometimes meets your needs
 4. Rarely meets your needs
 5. Does not meet your needs at all
 6. Don't know

ONLY ASK QUESTION 12, IF QUESTION 11 EQUALS "2", "3", "4" OR "5":

12. What is the primary reason that the current Internet connection does not meet some or all of your needs? Check all that apply. **(ROTATE RESPONSE OPTIONS 1-5)**
1. Lack of capacity to serve multiple users
 2. Connection speed is too slow
 3. Frequent interruptions of service
 4. Inadequate internal wiring and connections
 5. Wireless networks can not provide coverage to all facilities
 6. Other
13. Do any of the following issues prevent your entity from obtaining and using the high-speed, broadband Internet access that you think is necessary to meet your entity's needs? If so, check all that apply. **(ROTATE RESPONSE OPTIONS 1-8)**
1. Service too costly
 2. Installation too costly
 3. Lack of availability of broadband
 4. Inadequate local area network (LAN) services/internal networks and wiring
 5. Outdated computers and equipment
 6. Lack of training and technical support
 7. Inconsistent service/frequent outages and down time
 8. Physical structure or layout of building(s)
 9. Other
 10. No barriers prevent our entity from obtaining and using high-speed broadband Internet
 11. Don't know

More specifically, please indicate whether the current Internet connectivity for your entity **Completely Meets, Mostly Meets, Sometimes Meets, Rarely Meets** or **Does Not Meet At All** your needs for each of the following. **(Rotate Questions 14 to 22)**

	Completely Meets	Mostly Meets	Sometimes Meets	Rarely Meets	Does Not Meet At All	Don't know/Not Sure	Don't have this need
14. E-mail	1	2	3	4	5	6	7
15. Video conferencing	1	2	3	4	5	6	7

16. Streaming video	1	2	3	4	5	6	7
17. Voice over IP (VoIP) service	1	2	3	4	5	6	7
18. Web browsing and Internet research	1	2	3	4	5	6	7
19. Electronic databases	1	2	3	4	5	6	7
20. Learning applications, such as educational games, homework or tutoring	1	2	3	4	5	6	7
21. Online learning management systems (e.g., Blackboard)	1	2	3	4	5	6	7
22. Online testing and assessment applications	1	2	3	4	5	6	7

Now, we have some questions for you specifically about the Internet applications available within your entity. For these questions, please specifically answer about the entity for which you have received E-rate funding.

ONLY ASK QUESTIONS 23-32, IF QUESTION 2 EQUALS “1”, “2” OR “5”:

Please tell us whether your students, teachers and school administrative staff regularly use or access these applications online, and, if not, when does your entity anticipate making these resources available? (**Rotate Questions 23 to 32**)

	Currentl y have access	Plan to make available within the next 12 months	Plan to make available within the next 12 to 24 months	Plan to make availabl e in more than 24 months	Don't plan on making availabl e	Don't know
23. Electronic textbooks	1	2	3	4	5	6
24. Professional development courses	1	2	3	4	5	6
25. Instructional planning materials and curriculum resources	1	2	3	4	5	6

26. School and student assessment data and results	1	2	3	4	5	6
27. Digital library or museum collections, including online subscriptions to periodicals and other primary source resources	1	2	3	4	5	6
28. Distance learning or video conferencing	1	2	3	4	5	6
29. Online applications that students use in the classroom	1	2	3	4	5	6
30. E-mail	1	2	3	4	5	6
31. Online testing and assessment applications	1	2	3	4	5	6
32. Online learning management systems (e.g., Blackboard)	1	2	3	4	5	6

ONLY ASK QUESTIONS 33-42, IF QUESTION 2 EQUALS “3”, “4” OR “5”:

Please indicate whether the library’s staff or patrons regularly use or access these applications online, and, if not, when does your entity anticipate making these resources available? (**Rotate Questions 33 to 42**)

	Currentl y have access	Plan to make available within the next 12 months	Plan to make available within the next 12 to 24 months	Plan to make availabl e in more than 24 months	Don’t plan on making availabl e	Don’t know
33. Licensed databases, such as Lexis/Nexis and other online subscriptions	1	2	3	4	5	6
34. Reference materials	1	2	3	4	5	6
35. Online instructional courses and tutorials, such as practice exams for the GED or other certification exams	1	2	3	4	5	6

36. Online job search, resume builders or job application filing	1	2	3	4	5	6
37. Digital special collections (e.g., letters, postcards, documents, etc.)	1	2	3	4	5	6
38. E-books	1	2	3	4	5	6
39. Video conferencing	1	2	3	4	5	6
40. Homework resources	1	2	3	4	5	6
41. Audio content (e.g., music, audio books, etc.)	1	2	3	4	5	6
42. Video content (e.g., streaming video, video clips, etc.)	1	2	3	4	5	6

ONLY ASK QUESTION 43A, IF QUESTION 2 EQUALS “1”, “2” OR “5”:

43A. Of the following resources or applications listed below, which do you consider **most** essential to the operation of your school or school district? Please select up to three. **(ROTATE RESPONSE OPTIONS 1-10)**

1. Electronic textbooks
2. Professional development courses
3. Instructional planning materials and curriculum resources
4. School and student assessment data and results
5. Digital library or museum collections, including online subscriptions to periodicals and other primary source resources
6. Distance learning or video conferencing
7. Online applications that students use in the classroom
8. E-mail
9. Online testing and assessment applications
10. Online learning management systems (e.g., Blackboard)
11. Other

ONLY ASK QUESTION 43B, IF QUESTION 2 EQUALS “3”, “4” OR “5”:

43B. Of the following resources or applications listed below, which do you consider **most** essential to the operation of your library? Please select up to three. **(ROTATE RESPONSE OPTIONS 1-10)**

1. Licensed databases, such as Lexis/Nexis and other online subscriptions
2. Reference materials
3. Online instructional courses and tutorials, such as practice exams for the GED or other certification exams

4. Online job search, resume builders or job application filing
 5. Digital special collections (e.g., letters, postcards, documents, etc.)
 6. E-books
 7. Video conferencing
 8. Homework resources
 9. Audio content (e.g., music, audio books, etc.)
 10. Video content (e.g., streaming video, video clips, etc.)
 11. Other
44. Which areas of your entity's technology infrastructure need the most improvement during the next two years. Please select up to three. **(ROTATE RESPONSE OPTIONS 1-10)**
1. Local Area Network (LAN) (internal wiring)
 2. Local Area Network (LAN) equipment (switches, hubs)
 3. Computers and desktop equipment
 4. Wide Area Network (WAN) circuits
 5. Wide Area Network (WAN) equipment (routers, switches)
 6. Server software applications (e.g., increasing the number of user access licenses for software)
 7. Server hardware, operating systems and storage solutions
 8. Technical support staff capacity and knowledge
 9. Staff training and support
 10. Content management systems
- 45- 46. Which of the following applications does your entity already use or do you believe that your entity will implement or expand over the next two to three years? Check all that apply. If none apply, select None of the Above. **(ROTATE RESPONSE OPTIONS 1-5)**

	Q45 Already Using	Q46 Will implement or expand
Interactive white boards	1	1
Electronic textbooks	2	2
Using cell phones to access the Internet	3	3
Using handheld devices, such as PDAs, Smartphones or cell phones, for administrative purposes	4	4
Using handheld devices, such as PDAs, Smartphones or cell phones, for academic or educational purposes	5	5
Other	6	6
None of the above	7	7

Now, a general question for you about the E-rate program.

47. What are the most critical services for your school, school district, or library that is currently funded under the E-rate program? Please select up to three. **(ROTATE RESPONSE OPTIONS 1-8)**
1. Landline telephone service (including VoIP, Centrex, or other telephone equivalent)
 2. High speed telecommunications circuits for WANs, distance learning, etc.
 3. Cell phone service
 4. Internet access
 5. Internal connections
 6. E-mail
 7. Web hosting
 8. Basic maintenance of internal connections
 9. Other
 10. Don't know

Now, we have some questions for you about the services that your entity funded under the E-rate program in Funding Year 2008. Please note that some of the questions in this section may require you to refer to your E-rate records or consult with others within your school, school district, or library to obtain the necessary information to respond to the questions.

As a reminder, we are surveying a representative sample of E-rate beneficiaries for feedback on the program. We will report the results of this survey in summary form only, thus no information will be included that could be used to identify individual respondents.

48. What is your entity's current E-rate discount rate?
1. 90%
 2. 80%-89%
 3. 70%-79%
 4. 60%-69%
 5. 50%-59%
 6. 40%-49%
 7. 30%-39%
 8. 20%-29%
 9. Don't know
49. What was the last funding year that your entity **received** funding under the E-rate program? **(Drop down menu of years)**
1. 2009
 2. 2008
 3. 2007
 4. 2006
 5. 2005
 6. 2004
 7. 2003

- 8. 2002
- 9. 2001
- 10. 2000
- 11. 1999
- 12. 1998
- 13. Don't know

50. In Funding Year 2008, what was your entity's committed amount of E-rate funding?
- 1. Less than \$10,000
 - 2. \$10,001 to \$50,000
 - 3. \$50,001 to \$100,000
 - 4. \$100,001 to \$200,000
 - 5. \$200,001 to \$500,000
 - 6. \$500,001 to \$1 million
 - 7. \$1 million to \$2 million
 - 8. More than \$2 million
 - 9. Don't know

51. What is the total amount of E-rate funding your entity has received or expects to receive for the following services in Funding Year 2008? Please enter responses in whole dollar amounts. Please enter zero if your entity received no funding for the service. You may refer to your E-rate records or consult with others within your school, school district, or library to assist you with responding to this question.

\$	Telecommunications services (Go to Q52A)
\$	Internet access (Internet, Web-hosting, E-mail, etc.) (Go to Q52B)
\$	Internal connections (Go to Q52C)
\$	Basic maintenance of internal connections
999999999.	Don't know (Go to Q53)

- 52A. Approximately what percentage of your Funding Year 2008 E-rate funding for telecommunications services went to the following services? **(Responses must add up to 100 percent)**

- 1. Landline telephone service, including local, long distance, Centrex
- 2. Cell phone service
- 3. PBX systems
- 4. Interconnected VoIP
- 5. Digital transmission (for example, DSL, ATM, wireless, satellite, T-1, DS-1, T-3, DS-3, fiber optic, broadband over power lines, frame relay, ISDN)
- 6. Paging services
- 7. Other services

- 52B. Approximately what percentage of your Funding Year 2008 E-rate funding for Internet access went to the following services? **(Responses must add up to 100 percent)**

- 1. Dial-up Internet access
- 2. Wireless Internet access
- 3. Internet access via DSL

4. Internet access via cable modem
5. Internet access via fiber
6. Internet access via other wireline technologies, including T-1, etc.
7. Email
8. Web hosting
9. Interconnected VoIP
10. Other services

52C. Approximately what percentage of your Funding Year 2008 E-rate funding for internal connections went to the following services and equipment? **(Responses must add up to 100 percent)**

1. Servers (including installation and related charges)
2. Software and software licenses
3. Other services

Finally, we have a few questions for classification purposes.

53. Is your entity currently in a network with any local, regional or state government entities?
1. Yes
 2. No
 3. Don't know
54. For the purposes of the E-rate program, is your entity considered urban or rural?
1. Urban
 2. Rural
 3. Both urban and rural
 4. Don't know

ONLY ASK QUESTIONS 55 TO 57, IF QUESTION 2 EQUALS "1", "2" OR "5":

55. How many students are currently enrolled at your school or in your school district?

Number of students

99999. Don't know

56. Approximately, how many students are there per computer at your school or within your school district? Please round response to nearest digit.

Number of students per computer

99999. Don't know

57. Are students allowed to bring a laptop to your school or in your school district to utilize the school or school district's Wi-Fi?

1. Yes
2. No
3. Only during certain times
4. Do not have Wi-Fi
5. Don't know

ONLY ASK QUESTIONS 58 AND 59, IF QUESTION 2 EQUALS “3”, “4” OR “5”:

58. How many registered borrowers are currently served by the branch library or library system receiving E-rate funding?

Number of registered borrowers

99999. Don't know

59. How many people live in the service area currently served by the branch library or library system receiving E-rate funding?

Number of people live in the service area

99999. Don't know

60. If your entity uses an outside consultant to assist you with the E-rate process, what is the annual cost of those services?

1. Less than \$1,000
2. \$1,001 to \$5,000
3. \$5,001 to \$15,000
4. \$15,001 to \$50,000
5. \$50,001 to \$100,000
6. \$100,001 to \$500,000
7. \$500,001 to \$1 million
8. Greater than \$1 million
9. Use a consultant, but don't know amount
10. Don't use a consultant

Please feel free to provide any additional comments here.

Those are all the questions we have. Thank you for participating in this survey.

Business Broadband Capability Survey Results November 2010 Summary of Results

The Federal Communications Commission's survey of 3,506 American managers, owners or IT directors at businesses with 5 or more employees finds that nearly all businesses report having at least one broadband Internet connection (95%).

- For those businesses with 11 or more locations, 86% report all of their offices have Internet access.
- 95% of all businesses report having a broadband connection to at least one location.

Businesses subscribe to a range of technologies, with most businesses reporting DSL (73%) or dedicated line connections (15%). Small businesses (defined as companies with five to 25 employees) are more likely to have DSL connections and less likely to have dedicated lines than their larger counterparts:

- 76% of small businesses compared with 50% of largest businesses (defined as businesses with over 501 employees) have DSL.
- 12% of small businesses compared with 42% of largest businesses connect via dedicated lines (a T-1, DS-3, OC-3 or other type of dedicated internet connection).

Similar to residential consumers, almost half (54%) of businesses do not know their purchased Internet connection speed.

The survey also queried businesses about their satisfaction with their broadband service and future plans to upgrade:

- 63% of businesses report that they are very satisfied with their current service.
- For those businesses planning to upgrade their service, running new applications and improving communication with customers were the most cited reasons for doing so.

The survey asked respondents about barriers to getting a faster Internet connection:

- Most businesses (85%) were not planning to upgrade their service in the next 12 months, citing adequacy of their current connection, a skepticism that increased speed would improve productivity and concerns about cost as the major reasons not to upgrade.
- Cost of service was a barrier to upgrading for 50% of businesses: 30% cited it as a major reason, while 20% cited it as a minor reason.

Respondents were asked about their common uses of broadband. The most cited purposes were buying products or supplies, researching and advertising online.

Finally, businesses were asked about their monthly spending on various telecommunications services:

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- Overall, the median for spending on broadband was \$125 per month, while the mean was \$2,198.
- The median for small business spending on broadband was \$95 per month.
- Medium-sized businesses (defined as companies with 26 to 100 employees) spent a median of \$150 per month, with large businesses spending \$600 per month and the largest businesses surveyed spending a median of \$950 and a mean of \$93,573.

In December 2009 through January 2010, the Federal Communications Commission contracted with Princeton Survey Research Associates International to conduct a survey of 3,056 managers, owners or IT directors at businesses throughout the United States. The survey included questions about businesses' use of the Internet and various types of broadband technology in terms of availability, speed and cost. The sample consisted of 2,025 interviews with small businesses (5 to 25 employees), 744 interviews with medium businesses (26 to 100 employees), 412 interviews with large businesses (101 to 500 employees) and 325 interviews with the largest businesses (501 or more employees). Below is a summary of key results.

I. Internet and broadband adoption by businesses

Nearly all businesses surveyed reported having some type of Internet access: 98% with a single location have Internet access, 87% with 2 to 10 locations have access at all locations and 86% of those firms with 11 or more locations have access at all locations.¹ The majority of businesses (95%) report having some type of broadband connection; and adoption varies little across business size or number of locations.

Exhibit 1.

Percent of businesses adopting broadband by various characteristics	
	Adopters
Small	95%
Medium	96
Large	95
Largest	94
Minority- or Women-owned business	94
One office / location	95
Two or three offices / locations*	96
Four to 10 offices / locations*	96
11 to 50 offices / locations*	93
More than 50 offices / locations*	92
Results based on businesses reporting access to the Internet via DSL, cable modem, mobile broadband card or cell phone, consumer fiber optic connection, fixed wireless or another type of dedicated line connection.	
*Report access at at least one location.	

Connection types

Businesses across the country use broadband to access the Internet, to connect multiple locations in private networks, and to connect to points of presence of their voice and data services providers. For businesses with only one office or location, DSL-enabled phone lines are the most

¹ Based on companies that answered affirmatively the question "Does your company have access to the internet... or send and receive e-mail?"

popular means for connecting to the Internet, with 57% of all businesses with one location reporting this type of connection. The next most likely type of broadband connection for businesses of all size with one location was a cable modem, with 34% reporting this type of connection, followed by a mobile broadband connection (23%). This pattern is similar across business size, except for large businesses where DSL, cable and mobile wireless connections are still the most common, but there is little variation in the proportions (*see Exhibit 2*).

Exhibit 2.

Percent of businesses with Internet connection types, businesses with one office or location					
	Small	Medium	Large	Largest	Total
A dial-up telephone line	9%	6%	4%	9%	8%
A DSL-enabled phone line (ADSL AND SDSL)	58	51	35	76	57
A cable modem	34	34	36	20	34
Satellite (including VSAT)	4	6	8	1	5
A mobile broadband wireless connection for your computer or cell phone	22	25	39	20	23
A consumer fiber optic connection, such as FIOS	6	11	12	10	7
Fixed Wireless (such as WiMAX)	8	12	10	6	8
Another type of dedicated internet connection	9	17	26	12	10
n=	1,570	416	110	34	2,130

The survey also allowed businesses with more than one location identify up to five connection types. For businesses with more than one location, the results are different than above: cable connections are the most common across all types (70%), followed by DSL connections (51%) and dedicated connections (29%). Smaller businesses are more likely to have DSL connections than larger businesses, and vice versa for dedicated lines. Further, the larger and largest firms have a slightly broader mix of technologies by which they access the Internet, as shown in Exhibit 3.

Exhibit 3.

Percent of businesses with Internet connection types, businesses with more than one office or location					
	Small	Medium	Large	Largest	Total
A dial-up telephone line	4%	2%	5%	4%	4%
A DSL-enabled phone line (ADSL AND SDSL)	54	49	46	46	51
A cable modem	68	75	65	81	70
Satellite (including VSAT)	3	5	6	5	4
A mobile broadband wireless connection for your computer or cell phone	12	9	16	16	12
A consumer fiber optic connection, such as FIOS	4	4	8	9	5
Fixed Wireless (such as WiMAX)	8	3	4	10	6
Another type of dedicated internet connection	18	39	52	43	29
n=	421	322	299	287	1,329

Across all businesses, the majority get access from one provider, with 20% saying they subscribe through multiple providers.

II. Speeds

Most businesses, like residential consumers, cannot identify the speed they subscribe to—54% of all respondents answered “don’t know”. The remaining respondents reported a wide variety of connection speeds, with small businesses less likely to report faster speeds than other business sizes.

Exhibit 4.

Subscribed speeds (among businesses with Internet access)			
	Overall	Small	All other businesses
64 Kbps to less than 1.5 Mbps	12%	12%	11%
1.5 Mbps to less than 3 Mbps	7	7	9
3 Mbps to less than 6 Mbps	6	5	10
6 Mbps to less than 10 Mbps	3	3	4
10 Mbps to less than 25 Mbps	3	3	5
25 Mbps to less than 100 Mbps	2	2	2
100 Mbps or greater	5	4	5
None	1	1	1
Don't know	54	56	47
Refused / No answer	8	9	7

III. Satisfaction with Internet service

Attitudes towards broadband service suppliers do not vary greatly by company size, with approximately 95% of all businesses reporting being very or somewhat satisfied with their Internet service.

Exhibit 4.

How satisfied businesses are with current Internet service, overall	
Very satisfied	63%
Somewhat satisfied	32
Not too satisfied	3
Not at all satisfied	1
Based on businesses with Internet access (n=3,459)	

IV. Plans to upgrade service

Overall, most businesses (85%) surveyed stated no plans to upgrade service over the next 12 months, while 11% indicated a service upgrade was likely in the next 12 months. The largest businesses surveyed were more likely to be planning an upgrade than their smaller counterparts: 18% of the largest businesses compared with 17% of large businesses, 13% of medium businesses and 10% of small businesses. The survey asked the 11% who were planning to make upgrades about the major and minor reasons for buying higher bandwidth, and asked those not planning to upgrade about potential reasons why they were not upgrading.

Exhibit 5.

Reasons why businesses are interested in getting a faster Internet connection				
	Major reason	Minor reason	Not a reason	Don't know / refused
An increasing number of employees	19%	30%	49%	3%
Running new applications	56	24	19	*
Increasing communication with customers	54	22	23	2
Increasing pressure from competitors	15	27	56	2
Any other MAJOR reason not yet mentioned?	22	1	57	21
Based on businesses who plan to get a faster connection in the next 12 months (n=416)				

Exhibit 6.

Reasons why businesses are not interested in getting a faster connection, by business size						
		Small	Medium	Large	Largest	Overall
Current connection is adequate	Major reason	78%	76%	72%	83%	78%
	Minor reason	8	7	13	7	8
A faster connection would not help the company's productivity	Major reason	35	32	31	23	34
	Minor reason	19	21	22	23	20
Company is reducing the number of employees	Major reason	5	2	3	2	4
	Minor reason	9	9	11	11	9
The cost to upgrade is too expensive	Major reason	31	27	33	23	30
	Minor reason	18	26	27	21	20
An internet connection upgrade is not available where the company is located	Major reason	15	14	11	7	15
	Minor reason	12	10	11	6	11
Based on businesses who do not plan to get faster connection in the next 12 months (n=2,893). Note. Respondents were asked to respond if the issue was a major reason, a minor reason or not a reason. Table totals will not add to 100%.						

Businesses most commonly cited that their current connection was adequate, followed by concerns about additional cost and the feeling that a faster connection would not aid the company's productivity.

Those businesses that did report wanting a faster connection in the next year were primarily interested in running new applications and communicating better with their customers.

V. Strategic Purposes

Respondents were asked to report on whether or not their business currently uses the Internet for some common business purposes. The most commonly reported purpose was using the Internet for business-to-business purchases of products or supplies (84%), followed by conducting research (74%). For those purposes, participation varied little depending on business size, while other purposes, like selling products or services through the company's website and advertising or promoting the company online, were more common for larger businesses than small or medium-sized businesses.²

² Please see appendix for question as asked in survey.

Exhibit 7.

Businesses who use the Internet for various strategic purposes, by size					
	Small	Medium	Large	Largest	Overall
To advertise or promote the company	58%	66%	73%	74%	60%
To conduct research	73	77	79	79	74
To sell products or services through the company's website	32	40	44	52	35
To buy products or supplies	84	87	87	84	84
To watch video	44	49	59	54	46
To bill or invoice customers	38	41	47	45	39
Based on businesses with Internet access (n=3,459).					

VI. Spending on various telecommunications activities

The survey also asked respondents about the average monthly bills for some of the services they reported their company having. Unsurprisingly, larger businesses reported spending more than small and medium businesses, but the range of responses even within business categories varied considerably.

Exhibit 8.

	Small		Medium		Large		Largest		Overall	
	<i>mean</i>	<i>median</i>	<i>mean</i>	<i>median</i>	<i>mean</i>	<i>median</i>	<i>mean</i>	<i>median</i>	<i>mean</i>	<i>median</i>
Telephone service not including cell phones	\$1,047	\$300	\$1,358	\$600	\$4,688	\$1,500	\$90,410	\$3,000	\$4,433	\$400
Company-issued cell phones including Blackberries or iPhones	\$436	\$300	\$1,310	\$650	\$4,959	\$1,500	\$38,719	\$2,500	\$2,806	\$450
Broadband Internet access service	\$265	\$95	\$476	\$150	\$1,390	\$600	\$93,573	\$950	\$2,198	\$125
Mobile broadband Internet access service, such as Aircards	\$161	\$79	\$287	\$150	\$2,118	\$400	\$1,984	\$750	\$1,386	\$150

Appendix A. Selected questions and topline results

Q3a. Does your company have access to the internet... or send and receive e-mail?

Based on those with single location (n=2,110)

- 98 Yes
- 2 No
- 0 Don't know
- * Refused/No answer

Q3b. Thinking about all of your company's locations in the United States, how many have internet access: none of them, only some, or all of them?

Q3bb. Does only one office or location have internet access, two to four offices or five to nine offices?

Based on businesses with two to ten office locations (n=1,101)

- 1 None
- 12 Some
- 7 Only one location
- 4 Two to four locations
- 1 Five to nine locations
- 87 All of them
- * Don't know/Refused/No answer

Q3c. Thinking about all of your company's locations in the United States, how many have internet access: none of them, only some, or all of them?

Q3cc. What percentage of the offices have internet access... 1 to 25 percent, 26 to 50 percent, 51 to 75 percent, or 76 to 99 percent?

Based on business with 11 or more locations (n=295)

- 1 None of them
- 12 Only some
- 1 1-25% of the locations
- 4 26-50% of the locations
- * 51-75% of the locations
- 7 76-99% of the locations
- 86 All of them
- 1 Don't know/Refused/No Answer

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Q4. How does your office connect to the internet? Do you now use **[INSERT ITEM in ORDER]** to connect to the internet?

Based on businesses that have one office that has internet access (n=2,130)

	<u>Yes</u>	<u>No</u>	<u>DK</u>	<u>Ref./No answer</u>
a. A dial-up telephone line	8	82	1	9
b. A DSL-enabled phone line (ADSL AND SDSL)	57	37	2	5
c. A cable modem	34	56	2	7
d. Satellite (including VSAT)	5	84	2	10
e. A mobile broadband wireless connection for your computer or cell phone	23	67	1	9
f. A consumer fiber optic connection, such as FIOS	7	82	2	9
g. Fixed Wireless (such as WiMAX)	8	80	2	9
h. Another type of dedicated internet connection	10	79	1	9

Q4.3 Now thinking of all your offices that have internet access... How do they connect to the internet? If different offices use different types of connections, please tell which types of connections are the most common in your company. **[PRECODED OPEN END; ACCEPT UP TO 5 ANSWERS]**

Based on businesses that have multiple locations and have internet access (n=1,329)

- 4 A dial-up telephone line
- 51 A DSL-enabled phone line (ADSL AND SDSL)
- 30 A cable modem
- 4 Satellite (including VSAT)
- 12 A mobile broadband wireless connection for your computer or cell phone
- 5 A consumer fiber optic connection, such as FIOS
- 6 Fixed Wireless (such as WiMAX)
- 28 T-1/Multiple T-1s
- 2 DS-3/Multiple DS-3s
- * OC-3 /12/48
- 2 Other (**SPECIFY**)
- 2 Don't know
- * Refused/No answer

ADOPT. Company has adopted Broadband Internet Connection

- 95 Yes Adopter
- 4 Not Adopter
- 2 Dial-Up
- 2 No Internet Access
- 1 Not classified

- Q5. Does your company obtain its internet access from only one provider or does your company use more than one internet provider?

Based on businesses with internet access (n=3,459)

- 80 Only one
- 19 More than one
- 1 Don't know
- * Refused/No answer

- Q6. What is the bandwidth that (**INSERT IF SINGLE LOCATION:** your company/**INSERT IF MULTIPLE LOCATIONS:** your office or location) currently has for its primary downstream connection to the Internet? [**INTERVIEWER NOTE:** “KBPS = Kilobits per second” and “MBPS=Megabits per second”]

Based on businesses with internet access (n=3,459)

- 2 64 Kbps
- 5 128 Kbps to less than 768 Kbps
- 5 768 Kbps to less than 1.5 Mbps
- 7 1.5 Mbps to less than 3 Mbps
- 6 3 Mbps to less than 6 Mbps
- 3 6 Mbps to less than 10 Mbps
- 3 10 Mbps to less than 25 Mbps
- 2 25 Mbps to less than 100 Mbps
- 3 100 Mbps to less than 622 Mbps
- 2 622 Mbps or greater
- 1 None
- 54 Don't know
- 8 Refused/No answer

Q7. Overall, how satisfied are you with your current internet service at your office or location...very satisfied, somewhat satisfied, not too satisfied or not at all satisfied?

Based on businesses with internet access (n=3,459)

- 63 Very satisfied
- 32 Somewhat satisfied
- 3 Not too satisfied
- 1 Not at all satisfied
- * Don't know
- * Refused/No answer

Q18. Now I'm going to read a list of reasons why some businesses are interested in getting a faster connection to the Internet. For each, please tell me if this is a major reason, a minor reason, or not a reason for your company. **(First/Next)...(INSERT; READ AND RANDOMIZE).**

READ FOR FIRST ITEM, THEN AS NECESSARY: Is this a major reason, a minor reason, or not a reason your company is interested in getting a faster internet connection?

Based on businesses who plan to get faster connection (n=416)

	<u>Major reason</u>	<u>Minor reason</u>	<u>Not a reason</u>	<u>DK</u>	<u>Ref./No answer</u>
a. An increasing number of employees	19	30	49	1	2
b. Running new applications	56	24	19	*	*
c. Increasing communication with customers	54	22	23	0	2
d. Increasing pressure from competitors	15	27	56	1	1
e. Any other MAJOR reason that I haven't mentioned (SPECIFY)	22	1	57	4	17

Q19. Of the reasons you listed, which would you say is the MOST IMPORTANT reason for getting a faster Internet connection...**(INSERT. READ ITEM IN SAME ORDER IF =1 in Q18)**

Based on businesses who plan to get faster connection (n=416)

- 8 An increasing number of employees
- 31 Running new applications
- 27 Increasing communication with customers
- 3 Increasing pressure from competitors
- 11 Other **(SPECIFY)**
- 14 No major reasons
- 8 Don't know
- 0 Refused/No answer

Q20. Now I'm going to read a list of reasons why some businesses are NOT interested in getting a faster connection to the Internet. For each, please tell me if this is a major reason, a minor reason, or not a reason for your company. (First/Next...) **(INSERT; ALWAYS READ item a FIRST AND THEN RANDOMIZE)**

READ FOR FIRST ITEM, THEN AS NECESSARY: Is this a major reason, a minor reason, or not a reason your company is not interested in getting a faster internet connection?

Based on businesses who do not plan to get faster connection (n=2,893)

	<u>Major reason</u>	<u>Minor reason</u>	<u>Not a reason</u>	<u>DK</u>	<u>Ref./No answer</u>
a. Current connection is adequate	78	8	13	1	*
b. A faster connection would not help the company's productivity	34	20	43	1	2
c. Company is reducing the number of employees	4	9	83	1	3
d. The cost to upgrade is too expensive	30	20	46	1	3
e. An internet connection upgrade is not available where the company is located	15	11	68	3	3
f. Any other MAJOR reasons that I haven't mentioned (SPECIFY)	1	1	77	5	16

Q21. Of the reasons you listed, which would you say is the MOST IMPORTANT reason for NOT getting a faster Internet connection...**(INSERT. READ ITEMS IN SAME ORDER)**

Based on businesses who do not plan to get faster connection (n=2,893)

- 62 Current connection is adequate
- 7 A faster connection would not help the company's productivity
- 1 Company is reducing the number of employees
- 13 The cost to upgrade is too expensive
- 8 An internet connection upgrade is not available where the company is located
- * Other (**SPECIFY**)
- 8 No major reasons
- 1 Don't know
- * Refused/No answer

Q22. Now I would like to ask about the bills for some of the services you said your company has. (First,/Next,) how much is the company's monthly bill for... **(INSERT; READ ITEMS IN ORDER)?**

	Less than <u>\$250</u>	<u>\$251-</u> <u>\$500</u>	<u>\$501-</u> <u>\$750</u>	<u>\$751-</u> <u>\$1000</u>	<u>\$1001</u> or <u>more</u>	Don't have	<u>DK</u>	Ref./No <u>Answer</u>
a. Telephone service, NOT including cell phones	27	22	6	4	7	1	24	9
<i>Item b based on businesses that have company issued cell phones (n=2,228)</i>								
b. Company-issued cell phones... including Blackberries or iPhones	29	19	7	6	10	1	18	11
<i>Item c based on businesses that have company issued broadband internet access or if Adopter (n=3,391)</i>								
c. Broadband Internet Access	44	7	2	2	4	3	26	12
<i>Item d based on businesses that have company issued mobile broadband, such as Aircards (n=840)</i>								
d. Mobile Broadband, such as Aircards	43	8	1	2	3	5	24	15

STRATEGIC PURPOSES...

Q23. Next... Please tell me if the employees at your company NOW USE the internet to do any of the following business activities. Do employees now use the internet... **(INSERT; READ AND RANDOMIZE)?**

Based on businesses with internet access (n=3,459)

	<u>Yes, use internet to do this</u>	<u>No, do not use internet to do this</u>	<u>DK</u>	Ref./No <u>answer</u>
a. To advertise or promote the company	60	39	*	*
b. To conduct research	74	25	*	*
c. To sell products or services through the company's website	35	65	*	*
d. To buy products or supplies	84	15	*	*
e. To watch video	46	53	*	1
f. To bill or invoice customers	39	60	*	1