



---

## **SURVEY RESULTS**



---

## EXECUTIVE SUMMARY

---

### Introduction

Computers have been a major resource in libraries for many years. From the first OPAC terminal to librarian-assisted DIALOG searching, the role of computers in service to library patrons has come a long way. Today, library public computers serve many different needs of patrons. They are OPACs; gateways to databases, e-books, e-journals, video, and audio content; information resources about the library and its many services; e-mail kiosks; and a destination where patrons find numerous software applications. Often, all of these resources are loaded on each public computer. These computers are fully networked and often configured for or attached to numerous peripherals. Patrons flock to them.

This environment presents a wide range of challenges to academic and research library staff and administrators. In an environment that demands more of the resources, the infrastructure, and the staff who work to keep public computing the stable and reliable door to all things digital in the library, how are libraries managing and supporting public computing to meet the needs and expectations of today's library user?

The focus of this survey was on the management of library public computing, i.e., those computers that are located in public spaces for use by patrons, as distinct from staff computers and servers. By jointly looking at the scale of the public computing operations, the staffing and organizational structure, budgets, upgrades, maintenance, security,

polices, and assessment, this survey pulls together and expands on issues covered in several previous SPEC Kits. SPEC Kit 281 *The Information Commons* (2004) indicated that only 22 of the 74 responding ARL member libraries had developed a specialized information commons computing area. SPEC Kit 275 *Laptop Computer Services* (2003) indicated that half of the 84 responding libraries were circulating laptops. SPEC Kit 277 *Library Public Access Workstation Authentication* (2003) examined this security practice which has changed significantly in the intervening four years. System wide library computing operations and staffing were examined by SPEC Kits 271 and 211, *Library Systems Office Organization* (2002 and 1995, respectively). Policies to address issues of access and use were included in SPEC Kit 218 *Information Technology Policies* (1996). The current survey brings these issues and others together to provide a comprehensive overview of public computing management.

### Background

This survey was distributed to the 123 ARL member libraries in July 2007. Sixty-nine libraries (56%) responded to the survey. The survey respondents were primarily library deans, directors, and heads of library information technology or library systems departments. All 69 respondents indicated that their library contains public computers that need support. Responsibility for the support, service, repair, and replacement of computers in public library spaces falls solely on library staff in 44 of

the responding libraries (64%). Support is shared with non-library staff in 21 of the libraries (30%); in four libraries (6%), the institution's central IT staff provides sole support. In none of the libraries is computer support contracted out or provided by a consortium's IT staff.

### **Staffing and Management**

Sixty-four respondents reported a total of 1005 professional, support, student, and other staff in library and campus units who provide public computing support. The total number of staff at each institution ranges from 2 to 82 with a mean of just under 16. At 55 of the responding libraries (86%), professional staff in the library IT unit provides public computing support. At all but four of these libraries the IT professional staff have additional assistance from support and student staff either within or outside the IT unit, or both; at 17 they also get assistance from librarians in other units, typically reference, circulation, and other public services departments. At the other nine libraries, public computing support is primarily the responsibility of support and student staff in the IT unit, with some assistance from other library staff. The main campus IT department is the primary source of support from outside of the library. In almost every case, IT professionals, support staff, and student employees support both public and staff computing, though at 25 libraries some staff is designated for public computing support only.

The person who has primary responsibility for managing and coordinating the public computing support operations is, not surprisingly, most often found in the Library Information Technology department. Other names for this department include Integrated Technology Services, Library Computing, or Library Systems. In a few cases, this person can be found in library reference or public services departments. Primary responsibility typically falls on the head or director of the library IT or systems department who in turn reports directly to the director of the library, the university librarian, or an associate university librarian. In nearly

half of the reporting libraries, it falls to a manager or specialist who in turn reports to the library IT or systems department head.

### **Public Computing Workload**

After gathering data on who is responsible for providing public computing support in the libraries, the survey asked what the staff is supporting. A significant amount of the workload is focused on desktop computers distributed throughout public spaces across multiple libraries. Forty of the 62 responding libraries (65%) indicated that computers take the greatest amount of staff's time to support; printers are a distant second (16 or 26%). Four (7%) reported that no type of equipment takes any more time than the others.

When considering the total number of units supported, these responses are not surprising. Across 61 institutions, staff support over 20,000 desktop computers, ranging from 40 to 1600 per institution with an average of 328. Forty-two respondents manage a total of 1,919 loaner laptops. These libraries manage between 2 and 202 laptops with an average of 46 laptops per institution. Only 27 respondents indicated that they still support OPAC only terminals, on average 37 terminals each. With all of these computers, printers are also necessary. Fifty-six libraries reported managing an average of 34 printers each. Forty-seven institutions reported supporting a range of other equipment, including various types of scanners and microfilm and microfiche readers. Printing systems, audio-visual equipment, PDAs, and photocopiers are also supported.

Public computing support is challenged not only by the number of pieces of equipment but also by the fact that the equipment is spread out across many different libraries. Sixty-one respondents (98%) reported that they have equipment in multiple buildings, eight on average, most likely at various branch libraries. One library reported having equipment in 31 different buildings. Some libraries also have public computers on more than one floor of a building, adding additional complexity to staffing and maintenance.

## Maintenance

With so many computers deployed across so many different locations, maintaining and upgrading hardware and the software on them is at times a daily task. Survey respondents schedule this work in a variety of different ways. Twenty-two libraries (35%) manage additions, updates, or changes to software applications by scheduling the work before each semester begins. Seventeen (27%) do it on an as needed basis; nine (14%) do it during holidays and breaks. More important changes and updates, such as Windows and anti-virus updates, are done much more frequently. At night, after hours is the time preferred by 18 libraries (28%). Slightly fewer do these critical updates either as needed or weekly (14 or 22% each) and 12 (19%) do so daily. Software upgrades on the other hand, are done much less frequently. Of the 61 libraries responding, 19 (31%) upgrade software once a semester and 6 (10%) upgrade just once a year. Fifteen of the libraries (25%) upgrade software when a new version appears. Others upgrade as needed, or at the request of faculty, staff, and students.

In order to actually make software changes, most of the responding institutions (36 or 57%) push the software changes out from a server. Eleven (17%) touch each computer with a fixed image, while three use a list of changes and modify each machine accordingly. The remaining respondents use a mixture of these methods to keep their software current. Software deployment applications are a popular utility used to facilitate deploying, changing, and updating software. Fifty-five institutions reported using one or more of these applications. Windows Active Directory is the most popular followed distantly by Novell Zenworks, Microsoft Systems Management Server, WinINSTALL, Altiris, Symantic Ghost, and custom scripting among other applications. Use of imaging software, another way to maintain computers, was reported by 57 libraries. The most popular imaging software is Ghost and DeepFreeze with the majority of respondents using some combination of one of these and Mac OS X Server.

Metering software is used to control access to software that limits the number of simultaneous users. Of the 22 libraries that reported using some form of metering software, the majority (13 or 52%) use Keyserve. A few use NetSupport, Citrix, Express Meter, or some locally written code. Twelve (52%) report that the library controls the metering of software. At nine institutions (39%) an external IT department controls the metering.

Unlike software that may be upgraded at least annually, the upgrade cycle on equipment is significantly longer. Of all of the public computing hardware maintained by the responding libraries, desktop computers are on the most regular replacement cycle. Twenty-one respondents (36%) reported that they upgrade or replace their desktop computers every three years, 26 (44%) replace them every four years. Printers, on the other hand, are replaced on a much less regular schedule. Of the 55 respondents, 23 do not have a regular printer replacement schedule and 16 replace them on an "as needed" basis. Only a few have printers on a regular two year (4 respondents), three year (6 respondents), or four year (6 respondents) schedule. There is also typically no particular replacement schedule for other equipment, such as scanners. For some libraries, available funding or equipment failure drive the replacement schedule.

Survey respondents were also asked what they do with equipment that has been retired. The most common procedure is to discard them to a recycling program. Computer manufacturers often run such programs and may reuse some materials while ensuring the rest are disposed of environmentally. Slightly more than half of the respondents cannibalize old equipment for parts. Roughly a quarter either rotate the machines to staff, sell them, or give them to charities. Many institutions reported that the equipment is sent to university surplus, often for sale or redistribution.

## Public Computing Budget

The availability of funding has already been mentioned as a key driver of the replacement schedule

of public computing equipment. Since FY 2005, just under half of the respondents have seen a mixed impact on their hardware, software, and staffing budgets. At these libraries some budget categories have increased, others have decreased, but most have stayed the same. Seventeen libraries report their budgets have remained the same across the board. A lucky 14 have had increases across the board. At several institutions, the budget does not include a line for computer replacement, instead that expense must be taken from the general operating budget. The situation is further complicated by the fact that some institutions must compete for student technology fee dollars in order to replace public computing equipment. On the bright side, two respondents commented that they have been able to purchase more hardware for the same or less money as prices drop.

### **User Technical Support**

At the other end of the public computing support spectrum is the direct support of the patrons who use the public computing equipment. The people who provide this support come from several different areas. When asked which staff are responsible for answering technical questions about library public computers, 41 (66%) responded that professional staff in the library IT department are responsible. At 26 of these libraries, librarians, and in most cases support and/or student staff, also answer users' questions. At 14 of the remaining 15 libraries support and/or student staff share that responsibility with the professional IT staff. At 15 other libraries user support falls on librarians with help from support and student staff. At only four libraries are support staff primarily responsible for user technical support.

A comparison of the responses to the questions on who provides equipment support and user support shows that in about a third of the cases it is the same staff. In 45% of the cases additional staff, typically in public services, help answer users' questions. In 24% of the cases user support falls to the higher-level staff in the group.

The survey asked which non-IT departments provide staff to answer users' technical questions. The departments most commonly mentioned include public services, reference, and circulation. Several respondents mentioned that the non-IT staff provide support primarily for applications-based questions and lower-level technical questions. When users need to alert library staff about public computing problems, in-person reporting is the most common approach. The majority of users report problems to the reference desk, significantly fewer report problems to the circulation desk. Only four libraries have a tech help desk. Several respondents clarified that users can report problems to any public service desk. Ten libraries take problem reports by e-mail or instant messaging and one has a Web-based help application. Since the reference and circulation desks receive most of the problem reports, it stands to reason that the staff at these two locations would be the ones who most frequently provide technical support to users.

To help manage and address public computer problems, about three-fourths of the responding libraries use helpdesk ticket tracking software. There is no consensus on which software is best. Sixteen use a locally developed system, five use Request Tracker, four use Remedy, and the rest use a variety of other software including NetSupport, JIRA, TrackIT, and Numara Footprints.

For most libraries, addressing public computing problems is an on-going challenge that keeps library IT staff busy every day. When asked how frequently library IT staff has to address a public computing problem, seven (11%) reported that they respond more than five times a day, 22 (36%) address problems between two and five times a day, and 10 (16%) just once a day. The remaining 21 libraries address problems less often than once a day.

### **Public Computer Use Policy**

To ensure appropriate use of the public computer equipment, 61 respondents have a policy in place that is aimed at users. When asked whether the

library developed the policy or whether they use one created by their institution, 29 (48%) reported that they follow the institution-wide computer use policy, 23 (38%) developed their own document in accordance with the institution-wide policy, and nine (15%) developed their own public computer use document. At most institutions, the policy was developed by the university or central IT department. Within the library, developing the policy is most frequently the responsibility of the library administration, the public services department, or the library IT department. When asked how frequently the policy is reviewed for updates and revisions, all but a handful said that it is reviewed on an “as needed” basis. Only seven review it annually and two review it each semester.

### Security

Security, as it relates to protecting the public computing infrastructure and also the users of the resources, has become a critical concern for all who support computing. When asked whether users are required to login to public computers to access applications and the network, 28 of the respondents (46%) said that users only have to login to some of the public computers, 15 (25%) require logins for all of their computers, and 18 (30%) do not require a login at all. Four years ago, 67 ARL member libraries answered a similar question in SPEC Kit 277: *Library Public Access Workstation Authentication* (2003). Their responses then were: 15 required some logins (22%); 7 required all logins (11%); 45 required no logins (67%). Thirty-nine institutions replied to both surveys. Eighteen still have the same login policy (6 yes, some; 4 yes, all; 8 no). Twenty now require more logins. Ten of these changed from no to yes, some; six from no to yes, all; and four from yes, some to yes, all. Only one has changed from yes, all to yes, some.

For those libraries that now require a login to use a computer, 20 (46%) will provide a guest login to people who are not affiliated with the institution. Sixteen (36%) just direct these patrons to the few machines that do not require a login. Some in-

stitutions will do both, while others are completely closed to unaffiliated people.

When asked if public computer users are allowed to install any software on a machine, 46 (74%) said that they are not. Sixteen (26%) do allow users to install software that complies with the library or institution’s computer use policy. The software cannot require either an administrative login or a reboot. In most cases, the computers are set up to wipe away the installation when rebooted.

Although libraries have computer use policies in place and most require users to login and not install software, public computer support staff still have many security concerns. Even with imaging software, viruses, spyware, and malware remain a major concern. People hacking into the network, using the public computers to hack into other systems, and attempting to access or steal confidential or personal information are also of concern. Low-tech malicious acts like theft and vandalism of equipment are also still a problem.

### Public Computing Assessment

Given the amount of time, effort, and resources committed to developing and maintaining a high quality computing environment, many libraries turn to assessment measures to determine how successful they are at meeting patrons’ needs. When asked if the library assessed user satisfaction with public computing, more than half (35 or 59%) said that they did. Six have not but are planning for a user assessment. Of the 35 that have done an assessment, 28 (80%) assessed hardware, 27 (77%) assessed software, and 18 (51%) assessed the technical support provided. Several respondents indicated that they have used LibQUAL+® to gather assessment information.

Twenty-five respondents do not track the use of public computers, seven don’t now but are planning for usage tracking. Of the 27 who do track the use of public computers, 17 (63%) track user logins, nine (33%) use software and scripts to track desktop activity, and five (19%) take physical head counts of users.

Based on these assessments of public computing usage, survey respondents were asked to rank typical user issues. Thirty-nine of the 55 respondents felt that the number of computers is a common issue for users. The availability of software applications and technical support are moderate issues for 39 respondents; wireless connectivity is a moderate issue for 33. One respondent indicated that the number and speed of printers was also an issue of concern for users. For most respondents network speed is rarely an issue.

## Conclusion

Several respondents to this survey commented that the management of public computing is a complex collaborative effort often involving people both within and outside the library. It includes technically skilled staff and professionals as well as non-technical people who are dedicated to providing high quality service. It involves maintaining, upgrading, and protecting hundreds of pieces of equipment often distributed across many buildings. As a result, the level and quality of public computing supports varies from hour to hour and building to building.

At present, it appears that demand will continue to grow and will require each library to provide more equipment and support. A follow-up question sent to the survey respondents found that 90% (36 of 40) have seen a steady increase in the demand for public computing over the last five years. A few report that demand has stayed about the same. No one reported a decrease. In addition to the increase in demand for desktop public computers, several respondents mentioned that the greatest demand has been for laptops, wireless access, and laptop infrastructure (electrical outlets, docking stations). This growth in laptop utilization may be due in part to institutions building more flexible spaces within their libraries, which means public computing must go with the students instead of the students going to the public computing. Some respondents noted that although more students own laptops, they often prefer to use those that the

library provides. This preference has also been observed in a study of students at the University of Rochester. (Foster and Gibbons, 2007)

Managing public computing is a challenge and will continue to be even as some libraries plan to shift the management of all or most of the public computers out from under the auspices of the library IT department and into the hands of the campus IT department. Although not asked by the survey, the issue of campus and library IT support centralization (or lack of it) was evident in many responses.

While researching ARL member institution's Web sites, it became clear that in many cases little or no information about library public computing is readily available and there is very little consistency in how the information is presented to the user; it varies from institution to institution and even library to library within an institution. Although some library sites have "computing" somewhere on that page, in many cases only a site search and further browsing leads one to this information. In some library Web sites it was not possible to find any substantive information on what a library offered in the way of public computing.

In preparing and researching this work, the authors discovered that there are things being done at some institutions that really stand out, though not addressed specifically in the survey. For example, Case Western Reserve University uses RSS and a blog approach to update their users on new and changing features of their public computing environment. There were enough of these innovations that "flew below the radar" of the survey results that the authors felt that it was appropriate to look at all of the ARL member library sites — not just those of the respondents — for these "notable innovations." This led to finding many remarkable innovations, such as North Carolina State University's real-time workstation availability, Brigham Young University's computer reservation systems, The University of Kansas' search interface which locates hardware and software across campus (including library locations), and also their



unique approach to providing individualized technical assistance known as “Desktop Coaching.”

Since in so many cases computing needs have blurred the lines between the library and its campus, the authors discovered instances where a library’s parent institution really went the extra mile to engage students about their public computing policies, such as the University of Delaware’s entertaining and student-friendly “Responsible Use of the Campus Network: A Student Handbook” and the University of Virginia’s “Responsible Computing Video.” Although not created by libraries, these two are among the more innovative approaches the authors encountered for getting the word out to the students who use the libraries at these institutions. Please refer to the Selected Resources section titled “Notable Innovations” for a list of these exceptional efforts by ARL member institutions.

The management of public computing continues to evolve in ARL libraries. This evolution depends to a great degree on local budgeting and staffing considerations as well as on the structure of IT management in the libraries and their parent

institutions. Although staff support is similar in many of them, the processes employed differ. The wild card in the overall picture usually relates to rising or falling trends in the computing behavior of library users, whether faculty, students, or others. Some libraries accommodate new kinds of assignments by the faculty they serve, for example by providing access to multimedia production facilities, poster printers, and so forth. In such libraries the nature of class assignments is driving the nature of the computing environments. Many respondents noted that seemingly every generation of students is increasingly tech-savvy, bringing with them a continuous stream of new and changing expectations. Like other areas of the survey, just how these expectations are met varies from place to place, sometimes even within the same institution. As some have noted, “A basic philosophical issue for libraries is the extent to which we should move in the direction of the users and how much we should expect users to move in our direction.” (Thomas & McDonald, 2005) The results of this survey show that managing public computing continues to be complex task with a diverse set of challenges.



---

## SURVEY QUESTIONS AND RESPONSES

---

SPEC Survey on Managing Public Computing was designed by **Michael Cook**, Head of Public Computing, Albert R. Mann Library, Cornell University, and **Mark Shelton**, Leader, Media Services, at Brown University. These results are based on data submitted by 69 of the 123 ARL member libraries (56%) by the deadline of August 13, 2007. The survey's introductory text and questions are reproduced below, followed by the response data and selected comments from the respondents.

---

The focus of this survey is the management of library public computing, i.e., those computers that are located in public spaces for use by patrons, as distinct from staff computers and servers. The survey authors have seen dramatic growth in public computing and its demands for support and related services in their libraries and want to know if this is happening elsewhere. Wireless computing permeates their libraries, each semester library users are more tech-savvy than before, and the demand for expertise on all technical fronts is rising quickly. This environment presents a wide range of challenges to academic and research library staff and administrators. In an environment that demands more of the resources, the infrastructure, and the staff who work to keep public computing the stable and reliable door to all things digital in the library, how are libraries managing and supporting public computing to meet the needs and expectations of today's library user?

This survey is designed to provide a snapshot of the current state of public computing in ARL libraries and to gather information on the scope of the services provided and the practices applied to manage and support public computing. The survey seeks to determine:

- The scale of the library public computing operation—number of libraries, number of public computers and printers, etc.
- Staffing & organizational structure—how many and what kind of staff are involved, which staff are responsible for supporting public computing, what support services they provide, what other library technology responsibilities they have, which staff are the first to be approached by users with technology questions, problems, and support needs, etc.
- Budgeting & upgrades—have budgets for public computing changed in any way over the past two years? How frequently are upgrades done to computers and software?
- Security & maintenance—do users log in to use computers and/or the network? Are computers secured using imaging software or other techniques? What kinds of network security are used to combat viruses, file sharing, etc.?
- Policies—are there policies in place for public computing? How current are the policies? How are these created?
- Assessment/measurement of success—does the library conduct surveys, focus groups, etc. to determine outcomes of the introduction of new services, hardware, software, etc.? Are usage statistics gathered? How are complaints handled?

## BACKGROUND

---

1. Is library staff responsible for installing, repairing, servicing, or otherwise providing support for computers that are located in public spaces for use by library patrons? N=69

Yes, library staff has sole responsibility for public computing support	44	64%
Yes, library staff shares public computing support responsibility with non-library staff	21	30%
No, public computing support is the responsibility of our parent institution's central IT unit staff	4	6%
No, public computing support is contracted out	0	—
No, public computing support is provided by our consortium's IT staff	0	—

## PUBLIC COMPUTING STAFF

---

2. For each category of staff below, please indicate how many individuals provide **public computing support**. Enter a whole number. N=64

	N	Min	Max	Mean	Median	Std Dev	Individuals
Professional staff in library IT unit	55	1	14	3.95	3.0	2.97	217
Support staff in library IT unit	42	1	16	4.42	3.0	3.81	186
Student employees in library IT unit	39	1	14	2.82	2.0	2.22	110
Support staff in units other than IT	25	1	26	7.24	3.0	7.44	181
Librarians in units other than IT	18	1	23	6.44	3.0	7.32	116
Student employees in units other than IT	16	1	33	9.56	4.5	10.53	153
Other staff category	11	1	10	3.82	3.0	2.93	42
Total Number of Staff	64	2	82	15.70	11.5	14.75	1005

Please specify other staff category.

1	University IT is responsible for the printers networked to the public computers.
1	Intern in IT.
1	Graduate students working at the Library Information Desk. We have 8 to 12 graduate students working 1 person at a time.
2	Campus Academic Computing also provides staff to support some public workstations; not sure how many but your question doesn't allow that answer so we are guessing 2 FTE. The librarians and other staff numbers are approximate FTE.

2	Two "other staff" not directly responsible for public machines.
3	A variable number of students and/or civil service support staff in a variable number of units perform some types of public computing support to varying degrees. An average number over a year's time would be around 3 FTE but could range from 0 to 6. The number of student employees in the IT unit also varies over the year from 2-8 individuals.
4	(none specified)
5	Support staff in UNIVERSITY IT unit = 4. Students employees in UNIVERSITY IT unit = 1. We have 2 labs that are jointly sponsored and staffed by the library and the University IT unit.
6	The University's central computing division, Academic Information and Communication Technology (AICT), operates a number of computer labs within various campus libraries and has responsibility for about 200 workstations in the Knowledge Common, which is also in a library building. The library's public computers at the one rural campus of the University are managed by the rural campus's central IT staff. Library staff are responsible for the remaining 300+ public workstations in eight libraries on or near the main campus. All printing from public workstations, whether in AICT labs or elsewhere in the libraries, is managed by yet another campus unit, the "ONEcard" office.
7	University Publications Services and University Health Sciences Library (part of the Libraries).
10	I'm counting an unspecified number of staff at the campus IT level who provide networking and server support that, in turn, supports both staff and public computing.

3. If staff in a unit(s) other than IT provides public computing support, please identify that unit(s).  
N=32

Librarians	Support staff	Student employees	Unit
			Academic Computing and Communication Center.
1	2	2	Academic Computing Service (non-library). Staff in our individual libraries.
			Campus Computing (ITaP) and School of Management Computing.
	2	2	Catalyst Client Services (a division of University Computing & Communications that manages general access student labs and most of the Libraries public workstations). Printing is managed by University Publications Services — 2 staff, 2 students. These staff also provide support for student printing in non-library spaces. Health Sciences Library is part of the University Libraries but manages its own public computing and printing — 1 staff, 2 students.
	1		Circulation.
18	23	2	Circulation, Reference, Periodicals, Brady Art Gallery, Global Resources Center, Special Collections, VA Campus & Eckles Libraries.
	3		Copy Services, Reference.
	7	1	Digital Library Technology.
3			Electronic resources librarians in public services units.

Librarians	Support staff	Student employees	Unit
	1		Engineering Library.
5	21		Gateway Services, Scholarly Resources.
			General Information Services provides lab assistants, who do not support the computers, but answer technical/software related questions asked by students.
19			General Reference and Readers' Services staffs.
4	8	1	Imaging Services provides public printing and copying from the computers.
	3	5	Learning Commons, Research and Information Services, Digital Media Laboratory, Branch libraries.
	3		Medical Center Library IT staff, one person. College of Law IT provides support for that college including the Law Library. Library AV department maintains 40 laptop computers that circulate to students. Agriculture Library provides a staff member for computer support. Student Computing Services runs computer labs on campus too, one of these is in the main library and supports 88 computers not included in my computer counts.
	11	12	Onsite Services.
	1		Printers in library public clusters are maintained by our Central IT department.
1	14	18	Public service units: reference, circulation, Scholar's Lab, 11 branch libraries.
15	4	6	Public services staff (Reference) and Access services staff (Circulation).
	11	31	Public Services, Academic Computing.
1			Reference.
10	2	3	Reference.
		3	Reference and Instruction Division.
23	17	33	Reference, Access Services, Special Collections, Engineering Library, Heath Sciences Library, Journalism Library, Math Library, Geology Library, Veterinary Medicine Library.
3			Reference, Undergraduate Library.
2	2		Regional campuses.
1	1		Research Services.
1			Sinclair Library (formerly Undergraduate library), Science/Technology Reference, Special Collections, Access Services.
			Staff in the campus Information Systems & Technology Department provide support for wireless and network connectivity.

Librarians	Support staff	Student employees	Unit
1	6		The one librarian noted in "Librarians in units other than IT" is located in Reference. The six staff noted in "Support staff in units other than IT" are located in Reference, Access & Delivery Services, the Media Center/Studio, Special Collections, the Music Library, and the Ag Library.
			We have public computing in 7 libraries throughout the system. Depending on the question and time of day, public service staff in any of these areas may be asked for assistance.

4. Do these individuals only support public computing or do they also support staff computing?  
N=64

	N	Support Public Computing Only N=25	Support Public and Staff Computing N=64
Professional staff in library IT unit	54	2	52
Support staff in library IT unit	45	—	45
Student employees in library IT unit	40	4	36
Support staff in units other than IT	28	10	18
Librarians in units other than IT	20	9	11
Student employees in units other than IT	18	11	7
Other	12	4	8

## PUBLIC COMPUTING MANAGEMENT

5. Please enter the title of the individual who has primary responsibility for managing/coordinating public computing operations, the library department/unit in which this individual is located, and the title of the position to which this individual reports. N=64

Title of the individual	Library department/unit	Reports to
Technology Operations Manager	Information Technology Services, Libraries	Technology Operations Manager
Head of Reference and Instructional Services	Reference	AUL Public Services
Co-leader Integrated Technology Services	Integrated Technology Services	Co-Leader ITS
Manager of Desktop Services	IT Department	Project Manager/Customer Service Manager

Title of the individual	Library department/unit	Reports to
Library PC Support Manager	Systems	Head of Systems
Manager, Administrative and Desktop Systems	Integrated Library Systems	Head, Integrated Library Systems
Public Computing Coordinator	Public Services (includes reference services)	Head of Public Services
Associate University Librarian, Information Technology	Library Information Technology (LIT)	University Librarian
Library Systems Coordinator	Systems	Assistant University Librarian
Lead IT User Support Analyst	Systems	Assistant Dean for Systems and Technical Services
Associate Dean of Library I.T.	Library IT	Dean
Director, Office of Libraries Technology	Libraries Information Technology	Dean, University Libraries
Information Technology Manager	Systems Administration and Support	Information Management and Systems
Director of Library Systems	Library Systems	Dean of Libraries
Director of Digital Library Infrastructure	Digital Lib. Technology, unit of Central Computing (ITS)	Senior Director, Digital Library Technology
Senior Computer Systems Administrator	Information Technology	Associate Dean for Information Technology
Assistant Manager of Systems Services	Systems	Associate Dean for Support Services
Associate Professor & Systems Librarian	Library Technology Services	Professor & Head, Library Technology Services
IT Manager	Library Information Technology Systems	Director, Library Information Technology Systems
(1) Program Operations Specialist; (2) Catalyst Help Desk Manager	(1) Libraries ITS; (2) Catalyst (not part of Libraries)	(1) Head, Web Services; (2) Director, Catalyst Client Services
Network Systems Administrator [Library]	Systems Department	Manager, Library Systems Support Services
Manager, Customer service	Technology	Head, Technology
Library Systems Operations Manager	Library Information Technology Division/ Library Information Systems Department	Library Information Systems Manager
User Services Coordinator	Library Systems and Information Technology	Assistant University Librarian, Systems and Information Technology
Help Desk Manager	Systems Department	Systems Department Head
Director of IT	IT & Technical Services	AUL for Information Technology & Technical Services
Programmer/Analyst III	Systems Department	Computing Resource Manager I/ Head, Systems Department



Title of the individual	Library department/unit	Reports to
Analyst Programmer 2	Technology Team	Chief Technology Officer
Information and Computer Services Manager	Onsite Services	Coordinator of Onsite Services
Public Workstation Coordinator	ITS	Support Services Team Leader
Department Head	Library Systems Support Department	Assistant Director for Library Computing Systems
Sr. Manager, IT - Head, Information Systems Support	Information Systems Support	Director of Administrative Services
Public Services Technical Coordinator	Systems	Head, Systems Department
Assistant in Technology and Research	Systems	Associate Director for Technology and Research
Head, Network Operations and Computer Support	Systems	Assistant University Librarian for Systems
Manager, Systems Support	Library Information Technology Services	Associate Chief Librarian, Information Technology Services
Head	Desktop Network Services	Assistant University Librarian for Information Technology
Systems administrator	Main library	Director of Libraries
Manager of Library IT Workstation & Network Support	Library IT	Associate University Librarian for Information Technology Planning & Policy
Information Technology Officer	Information Technology Division	Dean of the Library
LAN Administrator III	Research Services	Digital Services Librarian
Digital Technology Development Librarian	Library & Learning Technologies	Associate University Librarian (Library & Learning Technologies)
Manager, Technical Support and Networked services	Libraries Electronic Technology & Services	Associate Director Information Services & Systems
Coordinator Library Systems and Web Management	Library Systems and Web Management	Director of Libraries
Head of Desktop Support Services	Library Information Technology	Associate University Librarian for Library Information Technology
Head, Library Technology Services	Library Technology Services	Director of Libraries
Computer Specialist	Computing Operations & Research Services (CORS)	Director, CORS
Manager, Desktop and Networking Unit	Library Systems	Head, Library Systems
Associate Department Head	Information Technology	Head, Information Technology
Coordinator, Desktop and Lab Services	Information Technology Division	Assistant University Librarian for Information Technology

Title of the individual	Library department/unit	Reports to
Director, Library Systems	Systems	Dean of Libraries
ITC (Information Technology Center) Coordinator & Assistant Director	Library Systems	ITC Coordinator reports to Assistant Director; Assistant Director reports to Director
Systems Analyst	ULS-Information Systems	Systems Analyst
Unit Computing Manager	Technical and Automated Services/ Systems Department	Head of Systems Department
Head, Library Systems Department	Library Systems	Assistant Director, Division of Library Systems and Technical Services
Head, IT Services	IT Services Department	Associate University Librarian, Digital Library Programs & Services
Senior Operating Systems Specialist	Digital Library Systems	Associate Director for Digital Initiatives
Head of Library Systems	Library Systems Department	Dean of Libraries
Head, Library Systems	Library Systems	Assistant Dean for Public Services and Outreach
IT Manager	Library Computing	Library Computing Director
Manager, Library Information Technology Services	Library Information Technology Services	Associate University Librarian (Planning & Services)
Manager of Workstation Infrastructure	Integrated Library Technology Services	Manager of Web, Workstation & Digital Consulting Services
Chief Technology Officer	Systems Department	Deputy Director
Manager of Library Network Support	Director's Office Systems Department	Acting VP for Libraries

## PUBLIC COMPUTING WORKLOAD

6. Please indicate how many pieces of equipment the public computing staff is responsible for supporting. Enter a whole number. N=62

Type of Equipment	N	Minimum	Maximum	Mean	Median	Std Dev	Pieces
Desktop computers	61	40	1600	328.51	267.0	243.11	20,039
Printers	56	1	350	33.89	14.0	57.66	1,864
Loaner laptops	42	2	202	45.69	30.0	52.08	1,919
OPAC only terminals	27	5	200	36.55	18.0	49.09	987
Other equipment	48	1	400	35.78	12.5	66.65	1,646

Please describe the other equipment and indicate how many pieces are supported. N=47

1	Flatbed scanner
1	Scanner
4	Scanners
4	Projectors
4	Scanners
5	We do not have any OPAC only terminals.
5	1 flatbed scanner; 4 microform reader/printers
5	Public scanners (supported by Catalyst); most student access to scanners is provided by general access computer labs (also supported by Catalyst).
5	Scanners
5	Scanners
6	Scanners.
6	Microform digitizer/scanners, scanner
6	5 scanners; 1 microfilm scanner
7	Microform Readers are supported by the library system. There are 6 Digital Film Viewers, and one old Minolta MS 6000 film viewer. An aspect that might be unique to us is that the library does not maintain its own public printing. Public printing is done by an outside vendor whose contract is negotiated through the Student Computing Services—a unit outside the library system.
9	GoPrint debit printing PayStations, public use flatbed scanners. NOTE: OPAC-only are PCs, not dumb terminals.
10	Wireless; scanners
10	Scanners
10	10 scanners, 5 assistive technology workstations, 4 video access monitors, and 4 presentation rooms
10	Servers, scanners, wireless routers
10	Scanners
11	GoPrint print cost recovery system, 11 PayStations
12	Flatbed Scanners
12	2 microfilm readers; 10 flatbed scanner
13	Microfiche readers with attached printers
13	10 public accessible scanners; 3 microform reader/printers (integrated with workstations)
15	Scanners, CD-ROM burners, microfiche scanners
19	Scanners; We are in the process of re-configuring our public computing. These numbers will be accurate at the start of our fall term.
19	7 CD + special; 6 microfilm scanners; 2 other scanners; 4 group study
20	Image and book scanners, projectors, document cameras
20	20 public scanners; 3 microform converters; 2 film scanners; 9 various DVD equipment. Some of this equipment is provided by University IT for our 2 collaborative lab spaces.

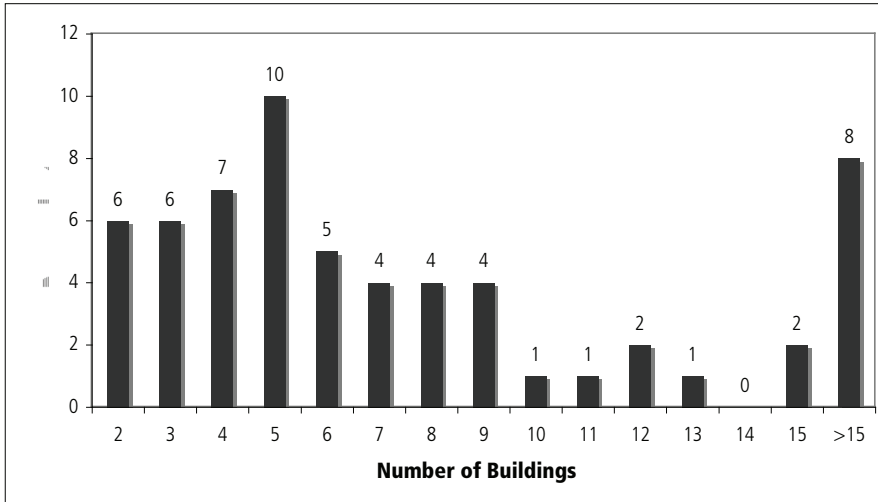
20	Audio-visual equipment (projectors, plasma screens, DVD players, VCRs, other A/V management equipment)
25	Note - The campus Office of Information Technology provides support for ninety desktop computers, fifty-four loaner laptops, seven printers, and the twenty-five pieces of "other equipment." This equipment is all located in the Information Commons. Library IT provides support for five OPAC terminals, one-hundred ninety desktop computers, eleven loaner laptops, and twenty-four printers. The "other equipment" is as follows: 6 headphones; 5 USB zip drives; 5 USB floppy drives; 5 optical mice; 1 trackball mouse; 3 USB scanners
25	Photocopiers
26	7 portable hard drives; 6 scanners; 4 editing video decks; 3 multi-format monitors; 2 multi-format VCR players; 4 multi-format DVD players
26	12 patron print system printing stations; 10 scanners; 3 microfilm scanning stations; 1 flatbed map scanner
27	2 scanning stations; 2 microform readers attached to networked computers; 7 electronic text center computers; 3 special language computers; 1 disability station; 12 creativity lab computers
35	Scanners, video editing equipment, etc.
43	7 self-service checkouts; 12 networked photocopiers; 12 staff PDAs; 12 LCD projectors
50	26 scanners; 12 digital microform readers; 1 video conference unit; 6 microfiche readers; 5 plasma displays
65	Other equipment number reflects various types of scanning equipment, both staff and public use. The other numbers reflect total hardware for public use, staff use, and two teaching labs. Public use only numbers are 325 public computers, 20 public loaner laptops, and 31 public printers.
92	40 digital copiers; 40 Omega terminals; 12 Kiosk Guest Printing System
112	110 desktop computers in library instruction rooms; 2 public access scanners. NOTE: An additional 67 public desktop computers will be deployed for Fall Quarter 2007.
113	10 scanners; 80 light pens; 15 microfiche reader/printers; 7 servers; 1 plotter
150	MP3 players, video cameras, cameras, scanners (15), A/V production stations, 41 digital cameras, 34 digital camcorders, 60 audio/visual devices
160	Barcode scanners and flatbed scanners
400	400 SunRay appliances and 5 servers
UA	Other equipment number is unavailable. Includes card readers for public pay-for-print system, network switches, network media converters, wireless network antennas.

**7. Does public computing staff support equipment in just one library building or in multiple buildings? N=62**

Multiple buildings	61	98%
One library building only	1	2%

If you selected "Multiple buildings" above, please indicate the total number of buildings supported. N=61

**Number of Buildings Supported**



Minimum	Maximum	Mean	Median	Std Dev
2	31	8.05	6	6.28

8. Please indicate which kind of equipment requires the greatest amount of public computing staff's time to support. N=62

Public computers	40	65%
Printers and printing support	16	26%
None more than any others	4	7%
OPAC only computers	1	1%
Scanners	0	—
Wireless/network access	0	—
Other	1	1%

Please describe the other kind of equipment.

"Desktop computers."

## MAINTENANCE PROCEDURES

---

9. How frequently does public computing staff change/update/add applications software (excluding Windows updates, anti-virus definitions updates) on public computers? N=63

Before each semester	22	35%
As needed	17	27%
Over breaks & holidays	9	14%
Annually	4	6%
On demand	2	3%
Monthly	1	2%
Quarterly	1	2%
Other	7	11%

Please describe the other software updating frequency.

"Annually and on demand for plug-ins such as Acrobat/Flash."

"At least once a year, between quarters as need arises."

"Can be weekly at times."

"On demand if urgent, otherwise over break, summer, and holidays."

"Push out updates as needed."

"Twice a year on average."

"Weekly."

10. How frequently does public computing staff change/update/add such things as Windows updates, anti-virus definitions updates, etc. on public computers? N=63

Night only, after hours	18	28%
Weekly	14	22%
As needed, on demand	14	22%
Daily	12	19%
Monthly	1	2%
Over breaks & holidays	1	2%

Weekends only	0	—
Other	3	5%

**Please describe the other software updating frequency.**

“Automatically.”

“Programmed.”

“Updates are scheduled to run automatically, but frequently some workstations miss the update or don’t update correctly and have to be updated manually.”

**11. What procedure does public computing staff use to make changes to the software on public computers? N=63**

Push software changes from a server	36	57%
Touch each computer with a fixed image	11	17%
Touch each computer with a list of changes	3	5%
Other	13	21%

**Please describe the other procedure.**

“All of the above.” (2 responses)

“Either push software from server or touch each computer with a fixed images, depending on the application.”

“Ghost image for major changes; push software for minor changes.”

“Ghosting & local installs.”

“Libraries ITS touches each computer with fixed image; Catalyst pushes changes from server.”

“Mixture of PUSH and TOUCH.”

“OS and virus updates are pushed from a server, all other software changes are done by touching each computer with either a fixed image or a list of changes depending on the scenario and changes being made.”

“Push changes from SUS server for Windows & anti-virus updates; Touch each computer with fixed image for other software updates.”

“Some applications can be pushed while others need to be touched.”

“Touch once per year with image changes and push out updates as needed.”

“We use a combination of all three depending the type of update.”

“Windows Auto Update.”

12. If a software deployment application is used to deploy/update/change software, what system/software is used? Check all that apply. N=55

Windows Active Directory	40	73%
WinINSTALL	4	7%
Netsupport	2	4%
PC-Duo	0	—
Sitekeeper	0	—
InstallAnywhere	0	—
ANSA	0	—
EMCO	0	—
Other	29	53%

Please describe the other software deployment application.

- Microsoft SMS (6 responses)
- Novell ZenWorks (6)
- Altiris (4)
- Symantec Ghost (4)
- Custom scripting (3)
- LANDesk (2)
- Admin Studio Install Shield
- Apple Remote Desktop
- Centurion's Cornerstone
- Installer scripts
- Login scripts, batch files
- Trend Micro (vendor supplied remote software application)
- Shavilik
- Wise package studio
- WinBatch



13. If imaging software is used to maintain hard disk images, what system/software is used? Check all that apply. N=57

Ghost	45	79%
DeepFreeze	27	47%
Mac OS X Server	10	18%
PCR-Dist	1	2%
Other	16	28%

Please describe the other imaging software.

- Altiris (4 responses)
- Novell ZenWorks (3)
- Apple Remote Desktop (2)
- Ardence
- Carbon Copy Cloner
- Centurion's Cornerstone
- PartitionMagic
- PowerQuest Image Center
- Proquest Drive Image Pro
- radmind
- Remote Installation Services
- Windows PE WAIL Tools
- Windows Sys Prop

14. If metering software is used to control the number of simultaneous users of some licensed software, what software is used? Check all that apply. N=22

Keyserve	13	59%
NetSupport	1	5%
Other	9	41%

**Please describe the other metering software.**

"Application specific and LANDesk."

"Citrix."

"Done by software vendors, allowing a limited number of connections to servers."

"Express Meter."

"In-house written CDROM license manager."

"Local code in PERL and BATSCH."

"Microsoft SMS."

"Sassafras."

"Shares on CD titles."

**15. If metering software is used, who controls the metering of software? Check all that apply. N=23**

The library	12	52%
External IT department	9	39%
A college, unit, or department other than IT department	0	—
Other	5	22%

**If you selected "Other" above, please describe who controls the metering software.**

"Access and Excel."

"Citrix."

"In the Fine Arts Library, the College of Fine Arts IT department."

"Libraries IT Department."

"Vendors."

16. Please indicate how often equipment is scheduled for upgrade or replacement. Check one choice in each row. N=61

Type of Equipment	N	No regular schedule	Every 2 years	Every 3 years	Every 4 years	Other time period
Desktop computers	59	9	—	21	26	3
Printers	55	23	4	6	6	16
Loaner laptops	46	13	—	16	11	6
OPAC only terminals	34	12	—	7	9	6
Other equipment	37	21	—	2	2	12
Total number of responses	61	32	4	29	32	24

Please specify the other time period. N=28

"Approximately 1/3 of the laptops are replaced every year."

"As maintenance records dictate."

"As needed."

"As needed, whenever possible."

"As requested/needed per funding availability. Still expanding public computing so not routinely replacing."

"As soon as warranty expires we wait for the equipment to need repairs."

"Every 5 years."

"Ideally, computers would be replaced every 5 years as the manufacturer warranty expires. However, budget constraints prevent this from happening on a regular basis."

"Libraries ITS upgrades as budget permits, most of the current ITS PCs are 5 to 6 years old; Catalyst upgrades every 3 years (its funding comes from Student Technology Fee)."

"Loaner laptop program does not yet have an upgrade or replacement schedule."

"Loaner laptops: not enough information or experience to judge upgrade or replacement cycle."

"Most of our public printers are owned by the University's Printing and Copying Services, not by the library, so we don't maintain or replace them."

"New equipment gets replaced roughly every 3 to 5 years."

"No OPAC only terminals available. Printers as fund permit. Loaner laptops not available yet."

"OPAC (Web only) terminals are replaced approximately every 5 years; 2 to 4 new printers are purchased approximately every 2 years and are placed in locations with the highest volume printing; replaced printers are then bumped to areas doing a lower volume of printing; scanners are replaced as needed."

"OPAC only terminals are repurposed staff and public computers."

"Printer and scanners replaced when either obsolete or failure rate too high for good service. Often more than 5 years."

"Printers and other equipment upgraded as needed."

"Printers and photocopiers are replaced every 5 years."

"Printers are replaced as needed."

"Printers are replaced as needed. Monitors are replaced every four years."

"Printers replaced when beyond repair; often this is far more than 4 years."

"Public hardware is replaced as funds become available."

"Replacement schedules have been proposed but never funded."

"Variable — depends upon funding."

"We do not have OPAC only terminals. Printers — every year. Other equipment as needed or on demand."

"We have been on a 3-year leasing schedule for about 10 years. Last year we began getting our computers on a 4-year leasing schedule."

"We purchase 5-year warranties, but try to replace sooner. Funding does not permit strict adherence to any upgrade schedule."

## 17. How frequently is software on public computers upgraded? N=61

Once a semester	19	31%
When new versions appear	15	25%
Once a year	6	10%
Upon request of faculty	1	1%
Upon request of students	0	—
Other	20	33%

**Please describe the other software upgrade frequency.**

- "As needed." (3 responses)
- "As needed for security reasons, otherwise over breaks, recess, summer."
- "As required by various factors — usage, hardware, funding."
- "Before term (if) new software or upgrade image is required."
- "Both Libraries ITS and Catalyst rely on staff input to determine upgrades. Because Catalyst funding is from an annual call for proposals from the student technology fees, upgrades never occur more than yearly."
- "Combination of new versions appearing, request of faculty, primarily librarians."
- "Combination of staff/student/faculty request and periodic check/notification of new software."
- "Combination of when new versions appear and upon request mostly from faculty, sometimes from students who need specific functionality for online classes."
- "Depends upon many factors — when new versions are available, if patrons or faculty request, if licenses expire, how it falls into professional staff workload, how it coincides with breaks."
- "Evaluated quarterly and updated when necessary."
- "It depends on nature of issue, but at least once a year."
- "Once a year, although may change as needed per selected faculty requests."
- "Several apply, including new versions, upon request of students and/or faculty."
- "Upon request of staff."
- "Usually on request from librarians, faculty or students — it depends."
- "Varies depending on the need and location."
- "When a critical mass of new versions appear; when new applications are identified; depending on need for specific application."
- "When new versions appear and on request of students and faculty."

**18. What happens to retired equipment? Check all that apply. N=62**

Discarded to recycling	35	57%
Used for parts for existing computers	32	52%
Used for staff computing	17	27%
Sold to students/public	14	23%

Given away to charitable causes (i.e., elementary schools, etc.)	14	23%
Discarded	7	11%
Given back to agencies/departments/units that funded them	4	7%
Other	25	40%

**Please describe the other options.**

"De-accessioned to the university's warehouse."

"Given back to company they were leased from OR given to other departments on campus (if they were purchased)."

"Given to campus surplus sales. They manage the disposition of retired computers which can include selling to the public."

"Given to other units on campus."

"Given to other university departments, based on campus policy."

"It is surplus according to state regulations."

"Libraries ITS PCs are used as long as possible and discarded to University Surplus for resale; Old Catalyst PCs are either given to Libraries ITS to replace even older Libraries PCs or discarded to University Surplus for resale."

"Must be surplus according to state regulations."

"Our computers are on a leasing cycle and we purchase them at the end of lease on a dollar buy-out. The lease and buy-out are all done on the library's budget. We offer and transfer ownership of many, if not most, of the computers to other campus units and departments that have expressed a need. We also keep about 30 old computers for parts and for expansion needs and special projects. The remainder of the computers must go to the university surplus department because individual units on campus are not allowed to sell or transfer assets outside of the university."

"Redeployed."

"Redistributed to library student workers."

"Sent to central campus surplus unit for re-use elsewhere on campus."

"Sent to central stores on campus where the determination is made on disposition."

"Sent to surplus property for resale or discarded."

"Sent to the university's equipment redistribution services."

"Sent to university surplus."

"Sent to University Surplus Department which sells old equipment to the general public."

"Sent to university surplus for recycling or resale."

- "State auction of surplus equipment."
- "State law requires us to surplus equipment."
- "Surplused to other units in need."
- "Surplused to main campus computing department."
- "Surplused to other departments."
- "Transferred ownership to other campus units."
- "University surplus program."

## **USER TECHNICAL SUPPORT**

---

19. Which public computing staff is responsible for answering users technical questions about library public computers? Check all that apply. N=62

Professional staff in library IT unit	41	66%
Librarians in units other than IT	41	66%
Support staff in library IT unit	36	58%
Support staff in units other than IT	32	52%
Student employees in units other than IT	27	44%
Student employees in library IT unit	24	39%
Other	8	13%

Please describe which other staff has this responsibility.

- "Computing Center staff and students."
- "Most staff at all public services desks answer 'basic' technical support questions."
- "Professional staff in units other than IT."
- "Publications Services Staff answer some questions about networked printing."
- "Support staff from university IT working collaboratively in two labs in the library."
- "These answers depend on the type of technical question being asked."
- "User support for public computers is generally provided in departments/areas where public workstations are located; rather than by staff in the Systems Department which provides technical support of the workstations."
- "Usually, circulation or reference desk staff."

20. If staff in a unit(s) other than IT provides technical support, please identify that unit(s). N=40

"Access Services and Public Services employees."

"All librarians and staff working library (non-Information Commons) public service desks will answer technical support questions if they are able. If they cannot provide the answer they will contact Library Technology Services for assistance. The Information Commons service desk is staffed by IT support personnel from the campus Office of Information Technology. All technical support questions asked at service desks in the Information Commons are referred to them."

"All public services units."

"All units at one time or another, to one degree or another are called upon to answer technical questions about public computers. All reference departments have CD-ROM products that run on single-user workstations and tech questions center on that equipment but other support questions, esp. printing and connection/Web page display issues may be, and are to differing levels, handled by each reference and circulation unit in both libraries."

"Catalyst Client Services (desktop); Health Sciences Library (part of University Libraries but they manage their own public computing operation); Publications Services (printing)."

"Circulation."

"Circulation, Reference, Periodicals, Special Collections, Global Resources, Brady Art gallery."

"Directorate separate from the library, Computing and Communications Services — their IT Help Desk (situated in the library main building)."

"Employees at desks in the branch libraries field initial questions."

"Gateway Services; Scholarly Resources."

"General Reference and Readers' Services librarians in the library's Information Commons; public service staff in library's branches."

"Learning Commons Office of Information Technology."

"Librarians and staff in public services units provide application-specific support for users (e.g., MS-Office, RefWorks)."

"Most often reference, information literacy, and media resources."

"Public service library staff (professionals, support, students) in all 12 buildings handle simple technical support."

"Public Services."

"Public Services."



"Public Services (i.e., reference, circulation/access services, periodicals, public services student tech rovers.)"

"Public Services (reference) and Access Services (circulation) staff."

"Public Services Division."

"Public Services provides lab support."

"Public services staff (from both circulation and reference) are the first point of contact for library users having problems with public workstations and other devices such as printers. These staff provide the support that they can then call upon IT staff for technical problems they cannot resolve."

"Public services units (Reference, Access Services, Library Instruction)."

"Reference & Information Services; reference and circulation desks in branch libraries."

"Reference (including chat reference), Circulation."

"Reference and Access Services departments field first level questions."

"Reference and Circulation."

"Reference and Instruction Division."

"Reference Department."

"Reference Librarians are often first point of contact for public computer questions. May not be actual technical questions but more informational in nature."

"Reference Librarians working at the desk answer basic questions and then refer higher level requests via our ticket system. Central IT help desk students help provide evening support and offer similar services."

"Reference, Special Collections, Heath Sciences Library, Engineering Library, Math Library, Geology Library, Journalism Library, Veterinary Medicine Library."

"Reference, Undergraduate Library, departmental libraries."

"Research and Information Services, Learning Commons, Digital Media Laboratory, Branch libraries."

"Research Services Librarians and technical support staff, Information Desk graduate students

Service desks in libraries and online help team."

"Service providers at reference desks assist with questions from public lab areas."

"Staff from our individual libraries and campus academic computing staff."

"Student Computing Services runs a computing help desk."

"This is not technical support. This is application support and other similar questions (like printing). General Information Services has student lab assistants to answer questions. There is a difference at our library."

21. How do users most commonly alert library staff about public computing problems? N=62

In person at Reference desk	32	52%
In person at Circulation desk	8	13%
In person at tech help desk	4	7%
Via e-mail to staff	6	10%
Via online bulletin board	0	—
Via physical bulletin board	0	—
Other	12	19%

**Please describe the other options.**

"At closest public services desk."

"At the nearest public service desk whether it is Reference, Circulation, a branch library, or the Information Commons."

"At the Reference Desk AND at the Circulation Desk."

"Combination of in person at reference desk, in person at circulation desk and via e-mail to tech staff support address."

"In person at any public services desk."

"In person at our multiple service desks — not limited to just one type or location."

"In person at reference desk and at circulation desk."

"In person at Reference desk, Circulation desk, and via e-mail to staff."

"In person at the Information Desk."

"Plan to offer chat/IM starting fall term."

"Sometimes they tell us in person. Sometimes they go through the Web-based help application."

"Three ways: in person at Reference desk; in person at circulation desk, and via e-mail to staff."

22. Does your library use a helpdesk ticket tracking software to assist in managing, addressing, and reporting public computer problems? N=62

<b>Yes</b>	45	73%
<b>No</b>	17	27%

If yes, which help desk ticket tracking software is used? N=44

Remedy	4	9%
Netsupport	2	5%
JIRA	2	5%
HelpStar	0	—
Other	36	81%

Please describe the other tracking software.

Locally developed system (16 responses)

Request Tracker (5)

Numara Footprints (2)

TrackIT! (2)

Bugzilla, with some modifications

Epicore

Heat

Infra Enterprise

Microsoft SharePoint Services

One or Zero

OTRS (open source)

Perfect Tracker

PHP helpdesk

Service Desk Express

Web Help Desk by MacsDesign Studio

23. On average, how frequently does library IT staff have to address a public computing problem?  
N=61

More than 5 times a day	7	11%
Between 2 and 5 times a day	22	36%
About once a day	10	16%

About once every two or three days	11	18%
About once a week	5	8%
Less often than once a week	3	5%
Other	3	5%

**Please describe the other frequency.**

"Libraries ITS has few problems, about once a week; Catalyst responds to problems between 2 to 5 times a day."

"Most problems are addressed by the Computing Center."

"With over 400 computers, we are constantly working on making them better."

## **PUBLIC COMPUTER USE POLICY**

---

**24. Has your library developed a policy document aimed at users of public computers or does it follow an institution-wide computer use policy? N=61**

Library follows an institution-wide computer use policy	29	48%
Library has developed its own public computer use document in accordance with an institution-wide computer use policy	23	38%
Library has developed its own public computer use document	9	15%

**25. Who has primary responsibility for developing this policy? N=60**

"A committee representing multiple library units was charges by the Library Director to develop this policy."

"Academic Information and Communication Technologies, Office of Information Systems Security."

"Assistant Dean, Learning Commons."

"Associate Director for User Services, Associate Director for Digital Initiatives."

"Associate University Librarian for Public Services and Collections."

"Associate University Librarian, Information Technology and Systems, in consultation with Library Leadership Team, and with final approval by the University Librarian."

"Campus administrators, reviewed by Legal Council."

"Campus computing in consultation with representative management groups."

"Campus ITS."

"Campus IT and legal counsel."

"Central campus computing services."

"Central IT."

"Central IT."

"CIO, Campus ITS Department."

"Dean."

"Developed by university-wide committee and adopted through university governance."

"Director, Library Systems, in consultation with library administration and library department heads."

"Done by committee with ITS taking the lead."

"For PCs managed by the Libraries, the policy is developed by stakeholders and approved by the Dean's Cabinet; For PCs managed by Catalyst Client Services, they rely on institution-wide computer use policies."

"Information Technology Department develops policy but University Board of Trustees has to approve it."

"Institution."

"Institutional IT group."

"IT Department and staff in public services."

"IT manager in conjunction with senior management group."

"Library Administration."

"Library administration in consultation with IT unit and public service librarians."

"Library Administration, IT Department."

"Library Computing Director."

"Library director council."

"Library Information Technology."

"Library IT staff in consultation with public services staff."

"Library management."

"Manager of IT Security for the campus."

"Members of the Library ITS Support Services Team."

"Office of Library IT."

"Public Computing Working Group — advisory group that assists in suggesting public computing changes, etc."

"Public Services."

"Public Services Division."

"Public Services management staff."

"Public services with consultation of Information Technology."

"Public services, reference, and IT professional staff."

"Reference staff."

"Reference, Instruction & Outreach Group (RIO), composed of the library's public services departments."

"The Computing Center."

"The library-wide Public Services Executive Committee (PSEC), with input from the library-wide Public Services/ Public Computing Advisory Committee (PCAC)."

"The Public Services Access Council."

"The University IT Department."

"The university's central IT department."

"The university's Office of Information Technology (OIT)."

"These are a combination of university and Information Technology Services (ITS) policies. The latter are developed through a university group that includes participation from faculty and staff in campus units outside of Information Technology."

"University CIO and Institutional IT Policy Committee."

"University Committee on Information Systems & Technology (UCIST)."

"University computing office."

"University Computing Services."

"University Information Systems & Services (ISS) department, The Library Administrative Group, and Public Services Staff."

"University IT department."

"University of California Office of the President."

"University Security Committee."

"University Technology Services."

"Vice President for Information Technology."

26. How often is the policy reviewed for updates/revisions? N=51

As needed	32	63%
Unknown	9	18%
Annually	7	14%
Once each semester/2x per year	2	4%
Still an interim policy	1	2%

**PUBLIC COMPUTING BUDGET**

---

27. Has the library budget for public computing increased, decreased, or stayed the same since FY 2005? N=60

	N	Increased N=31	Decreased N=16	Stayed the Same N=41
Hardware	60	27	11	22
Software	60	24	5	31
Staffing	59	19	8	32

**Selected Comments from Respondents**

“Budget is allocated each year, dependent on overall library budget.”

“Extra staff paid for with FEMA disaster funds, so not an increase to library’s ‘real budget.’”

“Hardware needs increased because of Microsoft Vista.”

“Library expenditures have been reduced because more equipment is now purchased through the campus technology fee process. Students pay a technology fee which goes into a central fund at the campus level. Each year the library, along with other departments on campus, submit proposals for a portion of this money to be used for purchasing student-use technology (mostly computers, but can also be software, cameras, and so on).”

“Major university allocation for public computing in FY 2006, enabling replacement of approximately 65 percent of all public workstations and approximately 30 percent of monitors. With the lowest-end workstations replaced, this represents a major upgrade in public computing. A laptop pilot program was financed from endowment funds in FY 2007. In FYs 2007 through 2009, a university allotment will support replacement of additional public workstation monitors and the purchase of laptop computers for public checkout. Staffing: Loss of one Systems Librarian position in FY 2006. (Unit head retired, position filled through transfer.)”

"One-time money increased."

"Over the last several years, with the implementation of a preferred computer vending program for the campus, and the general reduction in computer prices, we have managed to provide more computers at less expense."

"Public computers are purchased through a student technology fee fund. The libraries compete with other entities on campus for the technology fee money."

"Public computing funds are augmented by the patrons Pay-for-print system in addition to the standard department budget. On occasion, donors fund special equipment such as a lab for patrons requiring special accessibility for FY 2008."

"Staff budget increases due to annual raises."

"The library does not have a budget line specifically for public computing, which is usually funded through a combination of student fees and library gift funds. Amount spent per year varies. Technical support staffing in the Systems Department has remained the same since 2005, staff supporting selected service desks has increased."

"The library doesn't provide replacement hardware for most public workstations since they are maintained by the Computing Center and funded by the CIO's office."

"The response above is for Libraries ITS. Catalyst, which relies on Student Technology Fee funding, reports its budget for hardware and software have both increased, but staffing has remained the same."

"The same dollars are able to buy more hardware equipment. Thus, the public computing footprint has grown a bit over time, even with similar funding year-to-year."

"There is no line item for public computing; we take money from the operations budget."

## SECURITY

---

28. Are users required to login to public computers to access applications and the network? N=61

<b>Yes, for some public computers</b>	28	46%
<b>Yes, for all public computers</b>	15	25%
<b>No</b>	18	30%

If yes, how are users who don't have an institutional ID accommodated? N=44

They are provided a guest login	20	46%
They are directed to computers that don't require login	16	36%
Other	8	18%



Please describe the other accommodation.

**Yes, for some public computers**

"92% of computers require university ID with remaining limited Internet access."

"Both, but ones that don't require login are OPAC only."

"Some computers do not require login; we also offer guest logins."

"There are a few machines (mostly OPAC only) that do not require any login. Other general use computers are controlled by WatchDog software which requires library staff to assign users a WatchDog account."

"They are directed to computers that don't require login or they are loaned a SunRay smart card."

**Yes, for all public computers**

"Separate community access terminals with a different login software system."

"The library is closed to the general public; all eligible patrons are required to have a university ID to access applications and the network."

"We have three machines that do not require login, and they are directed to those."

**29. Are public computer users allowed to install any software on the machines? N=62**

<b>Yes</b>	16	26%
<b>No</b>	46	74%

**If yes, please describe what is permitted. N=15**

"Although almost anything can be installed on non-OPACs, a few technological and policy constraints do exist. Users must abide by university's computer use policy, which prohibits malware, for example. Also, the network is configured to not serve Web pages and the like from workstations."

"Any software not requiring administrative privilege can be installed. Deep Freeze removes any changes upon daily reboot."

"Anything can be installed but is removed automatically on reboot."

"Anything that complies with the computing use policy."

"Anything that does not require a reboot of the computer will work."

"Browser plug-ins."

"Catalyst PCs are authenticated and allow student to install any type of software. When they log out Deep Freeze returns the image to its original state. PCs managed by Libraries ITS are unauthenticated and tightly locked down, and no installation of software of any kind is allowed."

"On multimedia machines and laptops for checkout, legal downloads are permitted, which are erased after the user logs out."

"Once the computer is rebooted, it is reset to the original state."

"Selected public workstations require a campus login and password in order to load software when using a DVD, CD, or USB drive."

"Separate partition is available for users to write to."

"The library has two computers used for patron loaded software. One of the computers is connected to the Internet."

"Users can install software on check-out laptops."

"Users can install software, which is then deleted nightly when workstations are re-imaged. Campus acceptable use policy requires users to have licensed copies of software."

"Various, this activity is not monitored."

30. What is the biggest security concern for public computers? N=55

Biggest Security Concern	Additional Comments on Security.
Abuse of university computer use policy. Very few known breaches.	
Anonymous e-mail, gaming.	
Bootling from USB devices.	
Bot-nets, key loggers.	
Computers in remote areas of the libraries can be (and are) compromised. Working in low traffic areas, users have broken into the operating system and installed applications, which can infect other machines on campus and compromise the university's network.	Since December 2006, Library Systems has improved its ability to automatically apply version upgrades to its Symantec AntiVirus client on workstations. This is an important campus-wide security issue. In some cases, staff must perform the upgrades manually, which takes a lot of time and effort (in part, to locate the workstations that need to be upgraded). The Libraries in Pullman will be instituting public laptop checkout for the first time in fall 2007; Library Systems are carefully reviewing the security issues involved in this service. To access the university network from these laptops, users will have to log on to VPN client software, using their university Network ID. Once the laptop checkout service is implemented in the fall, the answer to the security question above will be: "Yes, for some public computers."
Concern about whether we applied the group policy correctly.	
Data theft and accounts not being logged (auto) in time.	
Downloaded malware.	Requiring authentication before public computer use based on a university-affiliated ID. Some past problems have included users sending threatening messages from public machines.
E-mail.	
Ensuring the integrity and confidentiality of the public user's session. This means: protections from trojans and viruses; ensuring user data is not left behind; encryption methods where possible.	
Hacking and theft.	
Hacking into staff network.	
Hosting or acting as a server for inappropriate and/or illegal material.	Being a public library, encouraging public use while being concerned about IT security is a difficult path.

Biggest Security Concern	Additional Comments on Security.
Keeping them free of virus, and maintaining patron confidentiality.	
Key loggers, anonymous e-mails, spiders, public machines becoming an attack vector for other campus systems.	
Libraries ITS' biggest concern is misbehavior by users (for example, threatening anonymous e-mails); Catalyst staff's biggest concern is damage caused by viruses.	Libraries ITS notes that security-related concerns during the past few years have led them to reassign almost a full FTE to address general network security problems and prevention of problems. Security is one of the top priorities for university computing administrators in general.
Maintaining a stable environment for the next user.	
Malicious internet software.	Public devices are locked through policies.
Malicious software, i.e., viruses, trojans, etc.	
Network intrusions.	
Network penetration/security threat to take down machines or network.	We are moving away from "restrict all" security schema, as there are more things our patrons have to do. We started to employ Deep Freeze security software with minimal restrictions via Windows Security Policy to allow maximum usability of public PCs.
Network-based trojans/worms.	All public computers are on private address space for an additional layer of security.
No overt concerns.	Potential use of USB keyboard dongles serving as key-stroke recorders is theoretically possible, but currently deemed a low risk. Before network edge router rules were set several years ago (ACLs), file sharing was a huge security and liability concern.
Online banking, keystroke loggers, trojans, malware.	Policies are set to prevent malicious software from being installed and each workstation reboots nightly to clear and reset.
Operating System security. They all run Windows.	Computers are well secured with Microsoft profiles and policies.
Our workstation infrastructure is relatively secure; our biggest concern usually involves public users wanting to devote hours to game playing.	
People not signing off and leaving their personally identifiable information exposed.	
Physical theft and damage.	
Physical removal of hardware.	

Biggest Security Concern	Additional Comments on Security.
Physical security (theft or vandalism).	
Protecting public computers and library network from malicious use.	
Protecting student information (e.g., papers, resumes, etc. left on machines; forgetting to log off.) Machine and network security (e.g., attempts to circumvent computer and network protection measures.) Potentially illegal use of machines (e.g., child porn, file sharing of copyrighted material, e-mail threats to individuals, identity theft.)	Currently, we use a combination of Active Directory Group Policies and scripting to remove user information.
Security and some complaints from patrons about the use of other patrons' use of visiting Web sites that they may deem inappropriate.	
Security breaches.	
Security breaches for hardware, software and network attacks, including unauthorized access for workstations which require login id and password.	Inappropriate downloads from licensed resources.
Security/virus attack.	
That someone will intentionally or unintentionally release dangerous code onto the libraries' network through a public workstation or a public network connection.	
That user information will be exposed or stolen.	Tightening security is a constant part of desktop support.
That users might exploit security holes in installed software applications.	Use of DeepFreeze has minimized security concerns; a reboot restores the workstation to its original image.
The ability to install software.	I have a philosophy of insecurity and view how insecure we are.
Theft of components: mice, Internet cables, etc.	PCs are locked down physically with cables and combo locks. PCs are also locked down with software including Windows Group Policy settings, DeepFreeze, use of a VPN, and a library firewall system.
Theft of hardware.	
Theft of personal information from users of public computers.	
Theft of small peripheral devices.	
Thefts and hacking.	
Unauthenticated users sending harassing e-mails from library public computers.	
User's data storage and e-mail.	Unauthorized use of networked resources.

Biggest Security Concern	Additional Comments on Security.
Users utilizing our equipment in attempts to hack into other systems.	Our computers are protected by DeepFreeze. They are also configured to automatically reboot when every user logs off (or after a set idle time). Both of these help ensure that any changes made to the systems, or any personal information left by users, are wiped out between each use.
Using the computers for illegal activities.	
Viruses.	
Viruses.	
Viruses and Spyware.	
Viruses, bots, other malware programs.	
Viruses, illegal file sharing.	Privacy control (delete history/documents after logoff).
Viruses.	
	We are changing to authentication for public workstations in the Fall. Visitors who don't already have an logon will be given their own logon specific to public computers in the library.

## PUBLIC COMPUTING ASSESSMENT

31. Has your library assessed users' satisfaction with public computing hardware, software, and/or technical support? N=59

<b>Yes</b>	35	59%
<b>No</b>	18	31%
<b>No, but planning for user satisfaction assessment is under way</b>	6	10%

If yes, what aspects were assessed? Check all that apply. N=35

Hardware	28	80%
Software	27	77%
Technical support	18	51%
Other	10	29%

**Please specify the other aspect that was assessed.**

"2006 in-house User Satisfaction Survey: 'Computer Workstations' and 'Printers.' 2007 LibQUAL+® Survey: 'Ready access to computers/internet/software.'"

"LibQUAL+®."

"LibQUAL+® perceived levels of service quality expected and received from library employees."

"Licensed resources."

"Overall usability."

"Service quality assessment surveys including LibQUAL+® and staff Quality Council."

"User satisfaction with public computer services."

"User spaces."

"Via LibQUAL+®."

**32. Does your library track the use of public computers? N=59**

<b>Yes</b>	27	46%
<b>No</b>	25	42%
<b>No, but planning for usage tracking is under way</b>	7	12%

**If yes, what method is used to track usage of public computers? Check all that apply. N=27**

Track user log-ins	17	63%
Track desktop activity via software, scripting, etc.	9	33%
Make physical head counts of users	5	19%
Extrapolate from library entrance counts	0	—
Other, please describe	6	22%

"A network-based count of public laptop connections to the wireless network."

"Catalyst tracks total number of logins and number of unique logins in each library location by quarter."

"LANDesk reports, OPAC reports of computer checkout."

"Number of pages visited through library Web site; number of databases accessed and how often."

"User logins are tracked only for the purpose of identifying users at a later date if a security breach is discovered."

"We only track log-ins for computers in one library's info commons."

33. Based on your assessment results, please rank the following items on a scale of 1 to 5 where 1 is rarely an issue and 5 is a common issue for users of public computers. Select N/A if an item has not been assessed. N=55

	N	Rarely an issue	2	3	4	A common issue	N/A
Number of computers	55	7	7	9	13	17	2
Available software applications	55	10	13	17	9	4	2
Network speed	55	33	10	3	4	1	4
Wireless connectivity	54	12	16	11	6	3	6
Technical support availability	54	10	16	22	1	—	5
Total number of responses	61	40	38	39	25	21	6

### Additional Comments on Assessment N=11

"Assessment is done by the university's IT unit, but public computing is also included in our routine user satisfaction surveys."

"Individual units have conducted head-counts when requested by administrators during busier times. General patron surveys have also included public computing-related issues and our feedback boxes often contain related issues, such as appeals for more public computers."

"Limited tech support is available evenings and week-ends."

"Number and speed of printers also an issue; number of printers and print release stations increased after 2006 survey; wireless printing (PrinterOn) implemented in 2007."

"Students often comment on the limited number of laptops available during high use time periods."

"Technical support is not provided for applications not licensed by us which leads to issues for some users of public computers."

"The issue regarding number of computers available varies by unit in question."

"The library was a LibQUAL+® participant in 2002 and 2006, and obtained assessment data on its computing equipment through that process. (For example: local question on 'Ready access to computers/Internet/software.')

"These comments often refer to campus lab devices, not library devices."



"These answers are based on our LibQUAL+® survey, which covers much more material than computer use."

"Wireless networking is a campus-wide system run by institutional IT group."

## **ADDITIONAL COMMENTS**

---

### **34. Please enter any additional information regarding the management of public computing at your library that may assist the authors in accurately analyzing the results of this survey.**

"Academic Computing provides networking services and support for the Libraries and technical support for one library lab. However, the Libraries are responsible for most support for public computing. We see a continued need for professional IT staff that can support more powerful computing environments and professional level multimedia content creation software. The new crop of students coming in are demanding more sophisticated software, and a lot of them do not require any type of basic support. They are asking assistance with very sophisticated projects like gaming environments, online interactive professional portfolios, and product development for marketing and film classes."

"Currently, the public computers only offer Web access, but other applications will be added in the future."

"Library machines will be migrating management of all login public computers to university IT department management; this constitutes the vast majority of machines."

"Most intensive support on the public side goes to maintenance and updating of the research database products on the old CD-ROM network. This is a format that isn't going away fast enough!"

"One very important aspect of public computing at our library was not easily addressed in the survey questions so I would like to speak to that here. We have recently built an Information Commons in our library. As of the end of Spring 2007 it contained 90 public computers and 54 loaner laptops reported in the totals for question 5 and explained separately in the comments to question 5. Our Information Commons is currently undergoing an expansion so this number will be even higher beginning in the fall of 2007. The Commons is a collaborative project between the library and the campus Office of Information Technology (OIT); support for public computing in this area of the library is handled exclusively by OIT. Most answers to the survey questions therefore reflect only the public computers supported by the library's own IT group (Library Technology Services)."

"Public printers are managed by the university's Printing and Copying Services unit. We have two collaborative computer lab spaces managed by the library and University IT. We also have a lab space managed by University IT which is not included in the responses to this survey."

"Support for public computing on the campus is a collaborative but complicated endeavor. There are four main players involved: 1) Libraries ITS supports 165 non-authenticated Libraries workstations. These stations have a tightly controlled image and no software can be loaded on them. They provide access to library resources and the Web, but have no productivity software, such as MS Office. 2) In 2002 the Libraries began a joint venture with a university partner organization, Catalyst Client Services, to provide more powerful computing

services for students within library units. Catalyst, which also manages the general access computing labs, manages 260 'Access Plus' PCs, all located within library units. Funding for equipment has come from the Student Technology Fee but the Libraries has contributed to Catalyst staffing costs. 3) University Publication Services, which has long managed library photocopying services, began managing networked and fee-based public printing services several years ago. There are public printers in all Libraries units. 4) The Health Sciences Library, which is part of the Libraries system, maintains its own public workstation and printing operations. This arrangement has been successful but with so many people involved it can get complicated. Effective and timely communication has been critical and things have derailed when it's been absent. Several working groups have been established over the years to try to facilitate open communication and coordinate activities. While the Libraries doesn't loan laptops, staff also can issue temporary university NetIDs to visitors with their own laptops. These provide campus access to Web, e-mail, and licensed databases."

"The campus IT service runs two computer labs, one in each library, that provide Internet access and a greater range of software applications with debit printing. Both the library and the IT labs charge the same price for printing. Campus IT maintains the wireless network in the building; library purchases the wireless access port equipment."

"The University Library is composed of 20 libraries, many operating with independent public computing funds and support. This survey response was focused on the response of one of two or three of the larger library public computing service areas, and includes the system's largest library. We did this to not only ensure a better alignment between reported support staff numbers and the supported equipment listed, but also to prevent diluting or averaging the other support-related questions as would be necessary the more units we tried to include. Please note that there is a large amount of variability in the degree of public services and IT integration throughout the library system."

"There is a student computing services (SCS) unit on campus which runs a number of computer labs aimed specifically at providing services to students. They do have a computer lab in the main library which provides 88 computers specifically for student use, but I have not included these computers in any of my counts, nor their staff, processes of support, or mode of operation in my answers. However, they do represent a significant means of access and service for our students. It is mainly the activities of this unit (SCS) that creates a technical environment that doesn't require library computers to be as dynamic in relation to the installation of software. We are also increasing mutual involvement with SCS on other projects — like an information commons — where we have joint responsibility for the services. So the computers provided and the management of them is becoming intertwined."

"These response are in reference to the PCs maintained by library staff. There is another group of 70 PCs in the library maintained jointly with the central IT group."

"Until late summer 2005, the Libraries IT staff was responsible for managing all library public computers. At that point, the reporting line for the six desktop and network support positions was changed from the Libraries to the Office of Information Technology (OIT). However, the position responsibilities remained the same and the physical location of those staff members did not change. As Assistant Director of Information Technology and Technical Services, I closely coordinate with one of the six positions (the coordinator) and his manager at OIT. We have weekly conference calls to discuss issues and priorities, expenditure approvals, etc. The Libraries retained the budget for the positions and for computing equipment, services, etc. We transfer funds to OIT on a monthly basis to cover their expenses on behalf of the Libraries."

"We have a shared responsibility with campus staff in some library-based computer clusters and we manage others on our own. So it is difficult to answer some of your questions about number of staff involved in supporting public computing here."

"We spend little time on a day-to-day basis managing public workstations. Given we are undergoing a large renovation, the most frequent complaint about the machines is that they are dirty due to construction dust."

## SURVEY FOLLOW-UP QUESTION

---

During analysis of the survey responses, and reinforced by the article "Are Computers in Libraries on the Wane?" (<http://chronicle.com/wiredcampus/index.php?id=2489>) in the Chronicle of Higher Education, the survey authors realized they needed to ask one more question. An e-mail was sent to the survey respondents with the question below.

Over the last five years, would you say that user demand for public computing at your institution has increased, decreased, or stayed about the same? N=40

Increased	36	90%
Increased in certain locations, decreased in others	1	3%
Decreased	0	—
Stayed about the same	3	7%

### Selected Comments from Respondents

"Public computing use in the Libraries has increased to some extent, but there is some evidence that public computing use has decreased across campus. So it depends on what you mean by 'your institution.'"

"It has increased in certain locations, decreased in others."

"Although the % of personal PCs that students bring to campus has gradually increased over time, our library continues to receive requests from patrons for more computers. One reason is our library is located centrally on campus and has become a popular stop-over and meeting place for students. Even though we have added more PCs, the convenience has meant greater user demand and we never seem to have enough PCs."

"I would say that demand in our libraries for public computing has increased somewhat over the last five years. However, alongside this modest increase, demand for wireless access accompanied by electrical outlets has increased greatly."

"Student computers in our public areas are always in use. There has never been a problem with equipment sitting idle! Of particular note is the voracious appetite students have for laptops they can check out. It seems that no matter how many more we make available, there is always need of a few more."

"Our networked computers, where students log in and can access their student accounts and printing

allocations, as well as our laptop loan program, are two of our most heavily used services at the library.”

“Without question, without reservation, over the last 5 years the demand for public computing has INCREASED.”

“I would say that demand for public computing at the university continues to increase.”

“This is a difficult question to accurately answer. It appears that we have a lower demand for public computers, but we have added additional public laptop computers in the last five years. It could be that use has shifted from the desktop computers to the laptops.”

“Over the last five years, we have added a significant number of additional PCs that are available to students. Those machines are fairly heavily used.”

“We are anticipating that it will decrease over the next several years, because approximately 75% of students are now coming to campus with laptops.”

“Demand for PCs-in-general increased between 2002–2005, demand for wireless and laptop docking ports surfaced and increased between 2005–07. Anecdotally, it looks to me like desktop PC demand is slowly decreasing as more students bring their own equipment to the library.”

“1. I’d definitely say that the demand for wireless access and electrical outlets to support laptops has increased significantly over the last 5 years. I’m inclined to say the demand for actual physical public computers has stayed about the same, but that is just my gut feeling—no data to back it up. Also, it may have been affected by our allowing the public to use the machines, but not having any productivity software like Word on the machines. I suspect CATS may have experienced an increase in demand. They might have data based on logins.

2. I’m not sure about empirical data, but given what I’ve observed, I would say it has increased (based on Reference librarians struggling to find available computers).

3. There’s no real distinction being made in the question about public computing. Does that mean PCs we provide or access we provide including wireless and the simple electrical outlet? Our informal studies show that many students don’t want to carry their laptops so they depend on our hardware. Computer use in the library has increased because we are the central location on campus and are the preferred building for users to come to (based on a fairly narrow anthro study, including, and most importantly, for social contact which shouldn’t be minimized as a reason to use the library. (Like an old commons). It isn’t hard to understand given [the university’s] limited space for computing resources and we are the major provider of central (not dispersed) IT resources, unlike labs. We also have added MS Office, although I can’t say based on statistics if that has increased usage of PCs, but I think that it will over the long run. There’s no real way to capture usage beyond anecdotal to point to the following as reasons for increases. Both hardwire and wireless:

- Adding wireless access
- Adding MS Office
- Most seat availability
- Hours
- Positive public service

My hunch is that if we were to add more PCs we would have the students there waiting to use them. So after this long-winded and anecdotal feedback, I still would say check the Increase line.”

"It has been consistently high demand, with some increase from high to higher. (Science Librarian) The current number of public laptops is roughly double what it was five years ago: 30 then to 50 today. (Our IT guy.) Staff in the main library also report increases in demand for public computing. This also applies to laptops. The students don't want to carry their laptops around; they want to borrow ours."

"Feedback from our patrons has been very consistent that they desire more public computers, particularly ones that are focused on productivity (in contrast to simple OPACs). In our largest library, we're adding public computers, mostly in the form of additional free public loaner laptops, and expect demand for the library's public computers in general to continue to increase.

FWIW, here's what I've seen regarding demand for public computers over time. At first we thought that as students acquired computers in their residence hall rooms and apartments, demand would go down for the campus's public computers. Demand went up during that period instead. Then we thought that as students got laptops, demand would go down for public computers. Alas, demand has continued to increase! It turns out that our mostly generic but robust and functional public computers, conveniently available in appealing environments, represents a large utility to our library's patrons."

## RESPONDING INSTITUTIONS

---

University at Albany, SUNY	University of Louisville
University of Alberta	McMaster University
Arizona State University	University of Manitoba
Boston College	University of Massachusetts, Amherst
Boston Public Library	University of Miami
Brigham Young University	University of Michigan
University of British Columbia	University of Missouri
Brown University	University of Nebraska–Lincoln
University at Buffalo, SUNY	University of New Mexico
University of California, Davis	University of North Carolina at Chapel Hill
University of California, Irvine	North Carolina State University
University of California, Riverside	Northwestern University
University of California, San Diego	Ohio State University
University of California, Santa Barbara	University of Oklahoma
Case Western Reserve University	Oklahoma State University
University of Chicago	University of Oregon
Colorado State University	Pennsylvania State University
University of Connecticut	University of Pittsburgh
Cornell University	Purdue University
University of Delaware	Rutgers University
Duke University	Smithsonian Institution
University of Florida	Southern Illinois University Carbondale
Florida State University	Syracuse University
George Washington University	University of Tennessee
University of Georgia	University of Texas at Austin
University of Guelph	Vanderbilt University
University of Hawaii at Manoa	University of Virginia
Howard University	Virginia Tech
University of Illinois at Chicago	University of Washington
University of Illinois at Urbana-Champaign	Washington State University
University of Iowa	University of Waterloo
Iowa State University	Wayne State University
Johns Hopkins University	University of Western Ontario
Kent State University	Yale University
University of Kentucky	