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On the Horizon: The Future of the Help Desk

*I look to the future because that's where
I'm going to spend the rest of my life.*

—George Burns

The metaphor of the help desk “on the front line” suggests various other images. We may envision the help desk staff “in the trenches,” “dug in,” “under fire,” and so on. Unpleasant as these images may be, they can’t be far from the minds of most help desk staff after a shift on the phones during the first week of the semester—any semester. The stresses involved in help desk work encourage a focus on the here and now, keeping one’s head down, meeting the objective at hand, and just getting through the day.

Help desk leadership can’t rely solely on intelligence from the field, such as trends in demand gleaned from meetings with help desk staff and clients, or from the trouble ticket system’s logs. While information gained in this way may have tactical value, it does little to help inform long-range direction setting. Strategic information is required as well, and gathering that requires raising one’s head and scanning the horizon. This chapter identifies four cardinal points toward which our respondents are looking and summarizes what they—and we—see ahead of us.

The Client Community

One of our respondents’ chief concerns is the pace of increase in demand for help desk services. As we reported in Chapter 9, half of them told us that this is one of the primary

barriers to their improvement of help desk services. Some of this stems from technological developments, and we address that in the next section. But many of the signs of stress emerging from our survey results and interviews relate to changes in how the client community uses existing technology. Video projectors are not new, for example, but only in recent years (and not yet on all campuses) has every classroom been equipped with one. To name just a few examples, the PowerPoint presentation, the DVD video, and the live demonstration of online information resources have penetrated the curriculum to the point that often, if the classroom technology is not working, class is canceled. Several of our respondents reported making sweeping changes in help desk procedures (and sometimes technologies) to guarantee a 5- or 10-minute response to technology problems in the classroom, and we predict that more campuses will move in this direction soon.

Similarly, technology plays an increasingly pervasive role in the lives of the higher education IT help desk’s clients. For example, the proliferation of laptop computers allows more faculty, staff, and students to work off campus and outside of normal business hours. Distance-learning activities, as well, occur and require support at varied locations, around the clock, and—with the

increasing globalization of higher education services—in a variety of time zones.

The personal habits of college-age students have always had a strong after-hours component, but with today's highly available learning management systems and Internet research resources, serious technology-based academic work can occur at any time, day or night.

All these phenomena complicate technical support in several ways (distance from the client, off-campus network configurations, and the like), but the conventional help desk may have the most trouble with the need to offer technical support well beyond normal campus business hours. As we learned in Chapter 5, very few of our respondents offer 24 x 7 help desk support, although many of their clients are coming to expect that level of availability. Commercial Web sites reinforce this expectation by offering 24 x 7 availability of customer support services. In the foreseeable future, this trend will likely not only persist but also accelerate, and the help desk that wishes to remain relevant will need to address it.

The client community is changing, as well, in terms of its technological expertise. In a recent issue of its e-mail newsletter, *The Muns Report*, the help desk membership organization HDI published an article, "Service Desk 2010,"¹ that discussed likely future scenarios for help desks and related organizations. Among its many specific predictions, HDI foresaw customers becoming more knowledgeable and therefore placing more rigorous demands on service desk personnel. Our respondents and interviewees have seen this happening as well. Jeanna Reedy, manager of the IT help desk and IT labs at Sinclair Community College, observes, "Our help desk calls have been lasting three minutes; five years ago, it was one minute. The problems we run into now are harder. We have a self-service password reset now so we don't get as many of those simple calls anymore. But

the technology is driving the difficulty of the questions, too. Everything is so much more complicated."

The changes in the client community we've discussed so far have been incremental or evolutionary. At the moment the horizon is clear of the kind of revolutionary change in client behavior that came with the personal computer revolution of the 1980s, in which every computer user became an amateur system administrator, or the Internet revolution of the 1990s, in which networked information turned our computer screens into windows on the world. To date, client behaviors associated with the likeliest candidate for revolutionary change agent—social networking and other manifestations of Web 2.0—appear to have had only an evolutionary impact on the help desk. Of course, it is the nature of truly disruptive technologies² to be invisible to all but the most prescient of us until the moment they change our lives.

The Technology Environment

Driving many of the changes in the help desk client community are changes in technologies themselves. Often these changes derive from revolutionary advances in miniaturization that allow the integration of multiple technologies into complex, converged devices—for example, mobile telephones that also function as handheld personal computers. Other changes, particularly in software, have revolutionized IT device and application user interfaces, enabling the emergence of such potentially transformative technologies as online collaborative spaces and virtual worlds.

Higher education has unique characteristics with regard to technological change. The evolution of the technology environment in the governmental and commercial sectors often proceeds at a moderate pace, being driven by business decisions about "what is necessary" and guided by centralized IT

management with absolute control over technology purchases. In higher education, however, technological evolution seems to be driven more by “what is possible,” and technology purchases are often controlled loosely, if at all. In the academy there is little if any lag time between the emergence of a new technology and its adoption, official or unofficial, on campus. The help desk’s challenge is to keep up with this rapid pace of technological change.

One specific challenge for the help desk is that new technologies come onto the scene more rapidly than old ones can be retired, which sometimes requires difficult choices. At Dartmouth College, Vice President for Information Technology Ellen Waite-Franzen cites this example: “Dartmouth is not a BlackBerry campus; we are a flavor-of-the-month campus.” While that level of flexibility is part of a strong customer service ethic, Waite-Franzen acknowledges that “in the future, we might have to choose services for which we provide premium support; others may receive less comprehensive support.”

Priscilla Alden, assistant vice chancellor for ITS user support and engagement at UNC–Chapel Hill, cites the transition from Windows XP to Vista as another example of the stresses technological change places on the help desk. “Self-service will eventually replace human intermediation for most repetitive, routine help desk functions, freeing the help desk to address more difficult problems. But that process will take more than three years.” Change and increasing complexity extend well beyond operating systems, of course, to integrated enterprise resource planning systems, learning management systems, and portals, not to mention the latest generations of personal productivity applications.

Dean Williams, director of client services at the University of Vermont, reinforces the point with an example from the classroom, where personal entertainment technologies are finding a place. “Most of the pervasive

use of iPods or music players is recreational currently,” Williams says. “As academic uses of audio and video increase, support for those devices will rise to a new level when it impacts students’ academic success.”

Technological change per se is nothing new in higher education; it is something our help desks have faced for decades. But the current drive toward integration of technologies and applications has advanced past the expectations of many help desk staff, and responding to it is changing the help desk’s role. John Underwood, help desk manager at North Dakota State University, summarizes the situation this way: “Today the help desk has to look more at how the components of integrated systems fit together—not just at applications, but how clients interact with it all. It’s not unusual for us to bring three or four specialists together to solve a problem. The new role of the help desk is to get everyone talking together.”

Emerging Web 2.0 technologies such as blogs, wikis, trackback, podcasting, and videoblogs, and social networking tools like MySpace and Facebook³ may have a short-lived social and recreational popularity among college-age students, but they are already being harnessed for instructional and research purposes in meaningful ways. They seem poised to become revolutionary, transformative tools, and they are in our midst right now. That they are often hosted off campus has mixed implications: While off-campus hosting may reduce the support burden on the central IT systems managers and, to a lesser extent, on the campus help desk, it takes potentially important curricular tools out of their control, posing risks to system longevity, stability, and the security of sensitive information.

Mobile technology is the area that HDI predicts will have the greatest impact on the help desk between now and 2010.⁴ Currently a lack of standards stymies broad academic adoption of mobile computing technologies such as PDAs and smart-

phones, though of course those devices are becoming essential gear for most college-age students. Institutions such as the University of Cincinnati⁵ have developed services for campus-provided cell phones, but projects to press students' smartphones into academic service are still on the horizon.

HDI made two other predictions about mobile technologies: that service desk agents themselves will increasingly use wireless devices to serve clients, especially when dispatched to provide services at remote sites, and that help desk staff will need to be equipped with the technologies their clients are using. Both predictions are relevant to higher education, but the latter will be especially challenging, given most institutions' complete lack of influence on the personal mobile technologies their students bring to campus.

While the emergence of mobile communication technology was more gradual than that of many other disruptive technologies, no one walking across a campus between classes could disagree that the mobile telephone has revolutionized how students (as well as most faculty and staff) communicate with one another. The recent emphasis campus administrations have put on obtaining students' mobile telephone numbers for use during emergencies indicates that the institution increasingly sees value in having a two-way radio in essentially everyone's pocket. Harvesting that benefit for purely academic purposes now seems only slightly below the horizon.

Support Tools and Methodologies

The technologies the help desk uses to provide support for IT users are many. Naturally, as HDI has pointed out, those tools must begin with the supported technologies themselves; help desk staff must be not just familiar but also accomplished in their use if they are to assist others. If HDI perceives this

as a significant, future-oriented issue in the commercial and governmental sectors—where most of their client base operates and where close control of the institutional IT environment is usually a fairly simple policy matter—it must be doubly significant in higher education, where such control is rare.

Our survey respondents told us that integrated software suites for managing the help desk are fairly pervasive among higher education help desks. Also common are Web-based tools such as support document repositories and knowledge bases for both help desk staff and client use. But both of those populations used some technologies only rarely. For at least two of them—large-screen video command centers for help desk staff and intelligent, “learning and adapting” FAQ systems for help desk clients—current implementations may be few, but planned implementations promise to multiply their penetration into the higher education market severalfold in the next few years.

An example from the University of Delaware makes clear the importance of the large-screen video command center in managing explosive growth in the use of classroom technologies, one of our points from the Client Community section above. As Frank Eastman, campus IT associate II, describes, “Two years ago we investigated control system programs to control the media in the classroom. A vendor approached us with their software that monitors, controls, and supports the equipment in the classroom via the network. Consequently, we outfitted the 150 centrally managed classrooms with, first, an IT camera that is focused on the screen to visually see the sources going through the video projector; second, an IT phone so the faculty member can call directly to our call desk without leaving the room to find a landline or to use his/her cell phone; and third, the vendor's control software. All the classrooms' controls are standardized, so

no matter what room the faculty member teaches in, the controls are the same. We discovered that in the first one or two semesters that this system was operational, we were able to respond and resolve 50 percent of the calls immediately.”

Also poised to become many times more pervasive than at present are interactive, text-based communication modes between the client and the help desk. Internet-based instant messaging is now the most pervasive of these support methods, with almost 7.0 percent of respondent institutions using it. If implementations planned and under way are successful, its penetration will increase eight-fold, to about 57 percent, in the foreseeable future. Chat rooms and cell phone-based text messaging, each used by about 3.0 percent of respondent institutions’ help desks, should increase to 40.8 percent and 32.4 percent penetration, respectively, in the same time frame. Chat-based customer service features are available on many high-profile direct marketers’ Web sites and have led the current generation of central IT help desk clients to expect that service option there as well.

At the University of Alberta, where the development and deployment of user self-service tools has been a priority,⁶ chat has been a popular addition to the support modes available on the help desk’s home page. According to Alberta’s Brian Acheson, director, central systems and support, “The use of chat wasn’t ‘forced upon’ the users; it was developed with the knowledge that chat was becoming a popular method of communication, and it was an addition to the varied methods of contacting our help desk. All of our other help desk functions remained available. Nonetheless, chat adoption by the campus community has skyrocketed!”

Other support technologies our respondents and interviewees told us were on the ascendant in their environments were tools for remote control of clients’ desktops, automated tools for pushing software updates

to clients’ workstations, and disk cloning technologies, such as Ghost, which simplify the rebuilding of compromised systems. All of these technologies promise to save the help desk time and effort and provide a more seamless client experience.

Our findings suggest that two support methodologies have potential for substantially changing if not revolutionizing the nature of IT support on campus. The first of these is outsourcing, which we discussed in some detail in Chapter 5 of this report. According to David Gregory, chief information technology officer at Colgate University, outsourcing can be transformative, if not revolutionary, in allowing the university’s own help desk personnel to concentrate on more strategic, higher-level problem solving. Gregory’s advice to institutions thinking about outsourcing is, “Outsource your nonstrategic services and focus your staff on what is strategic to your institution. Offer high-value services that essentially support and further the mission of the institution. Frankly, any skilled technical operator can answer tier-one help line calls. It’s important to get your local support staff trained to assist faculty and staff with their specific problems. Those are the strategic problems.”

The other potentially transformative support methodology is the use of IT service management databases. Nearly 4 in 10 of our respondent institutions already use asset management databases; if planned and in-progress implementations are all successful, this percentage should rise to 45.8 percent in a few years—1.2 times current usage. Only about 2 in 10 respondents now use configuration management and customer relationship management databases, but again, if planned and in-progress implementations all succeed, they will grow to 2.3 times current usage. The IT service management (ITSM) literature puts great store in these tools and their ability to impact the quality of service the client receives.

Again, the only revolutionary support tools on the horizon are embedded in Web 2.0. Because these tools are highly user-centered, the campus may sacrifice a good deal of control in adopting them. A technical support wiki, for example, built by the help desk but expanded and edited by the client population, could become an effective self-service supplement to help desk assistance; but it could also become a maintenance nightmare if help desk staff take responsibility for the accuracy and appropriateness of its content.

While none of our interviewees mentioned such a project under way, we look forward to the day when the campus help desk has a branch office in Second Life and student avatars, with bit-for-bit accurate virtual representations of their laptop computers under their arms, walk into it for technical support.

Management Practices

The final direction in which we look for predictions about the help desk's future is toward practices in place for organizing and administering IT organizations. As we have maintained throughout this report, the service framework and body of practices lumped under the term *IT service management*, largely based on the U.K. Office of Government Commerce's IT Infrastructure Library, looks to be the standard for the early part of the 21st century, at least.

However, as we pointed out in Chapter 9, in our pool of qualitative interviewees the frequency of formal ITSM implementations was quite rare, with only New York University reporting a formal ITIL implementation project—a very successful one—under way.

The reasons ITSM projects are underrepresented in higher education are complex. Jack Probst, executive consultant for Pink Elephant, a firm that specializes in ITIL implementations, offers the following explanation: "I am aware of only about a dozen universities that are in the throes of implementa-

tion. The higher education environment is a very difficult one to implement ITIL within because of the fragmented governance structures that exist relative to technology use and deployment. And to make matters worse, IT normally has its hands tied when dealing with the administration, academics, and researchers. They basically have to figure how to respond as quickly as the academics would like (which is usually yesterday) and do so without damaging the environment."⁷

The situation Probst describes cries out for a new method of bringing best practices in IT service management to higher education. It is a market niche that, as far as our research can determine, has not yet been effectively filled. Perhaps when several more implementations like NYU's are completed and their successes are documented and shared with peer institutions, demand for higher education-specific ITSM implementation methods will stimulate the market to respond.

Summary

We have seen how the future of the help desk may be affected by both evolutionary and revolutionary changes in four areas:

- ◆ the client community's needs, expectations, and behavior;
- ◆ change—and the pace of change—in technology itself;
- ◆ evolution in the tools and methodologies the help desk uses to assist its clients; and
- ◆ more speculatively, the potential for change in central IT management practices that could impact help desk services.

Our vision of the future comes from many sources, and the overall image strikes us as something like what a dragonfly must see through its multifaceted eyes—a jaggy, pixilated view of something we will comprehend much more fully when we are closer to it and some of its component sub-images converge.

Despite this lack of continuity in our view of the future, our overall impressions are clear enough to share. The findings we have shared in this report suggest that while its clients value the central IT help desk as a stable source of support, constant churn in the IT industry ensures that client expectations will continue to broaden and deepen while help desk resources, if they increase at all, do so at a much slower pace. The particular challenge of the central IT help desk is to adapt rapidly to fast-paced technological change while providing its clients with a reliable, seamless, and comfortable support environment. All good help desks will do this; the best will make it look easy.

Endnotes

1. Ron Muns, "Service Desk 2010," *The Muns Report* 6, no. 16 (2007), <http://www.thinkhdi.com/publications/munsReport/viewMunsReport.aspx?munreportid=192>.
2. The term *disruptive technology* applies to a technology that eventually supplants the existing equivalent technology. A contemporary example might be the in-progress, widespread replacement of incandescent light bulbs with more energy-efficient compact fluorescents.
3. Bryan Alexander, "Web 2.0: A New Wave of Innovation for Teaching and Learning?" *EDUCAUSE Review* 41, no. 2 (2006): 32–44.
4. Muns, "Service Desk 2010."
5. Frederick H. Siff, "Mobility and Higher Education: Not Just the Next Big Thing" (Research Bulletin, Issue 22) (Boulder, CO: EDUCAUSE Center for Applied Research, 2006), available from <http://www.educause.edu/ecar>.
6. Don Spicer and Judy Pirani, "University of Alberta: Using Online Help Desk Tools to Enhance Client Service and Department Operations" (Case Study 9) (Boulder, CO: EDUCAUSE Center for Applied Research, 2007), available from <http://www.educause.edu/ecar>.
7. Jack Probst, e-mail message to author, October 10, 2007. Quoted with the sender's permission.