

ORGANIZING DISTRIBUTED TECHNICAL SUPPORT

DISTRIBUTED SUPPORT IMPLEMENTATION COMMITTEE FINAL COMMITTEE REPORT

October 2000

ILLINOIS STATE UNIVERSITY



Committee:

Chris Andre, College of Applied Science and Technology
Steve Bell, Administrative Computing
Carla Birckelbaw, Computer Infrastructure Support Services
Jack Chizmar, Department of Economics and Committee Chair
Jody DeCremer, College of Fine Arts
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Scott Genung, Telecommunications and Networking Support Services
Dave Greenfield, Computer Infrastructure Support Services
Eric Hodges, Division of Finance and Planning
Jan Johnson, Milner Library
Peter Juvinall, College of Business
Doug Mock, Mennonite College of Nursing
Dean Plumadore, University Housing Service/Campus Dining Service
Robert Wazienski, College of Arts and Sciences

In May 1999, the Provost's Committee on Information Technology, in a report entitled *Organizing Information Technology: An Architecture that Supports Teaching and Learning*, recommended a model for implementing distributed computer technical support on the Illinois State University campus. This model was borrowed from successful implementations at Brigham Young University and Indiana University.

Recognizing information technology's strategic importance to the teaching and learning missions of Illinois State University, Associate Vice President for Technology, David Williams, appointed a committee in January 2000 to design the implementation of a distributed technical support model. In his charge, Dr. Williams challenged the committee to:

1. Develop a distributed technical support model that works for Illinois State University and takes advantage of support units already in place. Develop a traffic flow for handling help requests.
2. Define a map of computer desktop support expertise across campus and identify workable clusters of support at local or regional campus locations (within departments, buildings, colleges, units, etc.)
3. Create a communications system for interaction between local support units on campus and between the Campus Technology Support Group.
4. Define skill sets for technology support positions campus-wide and make salary range recommendations.
5. Evaluate help desk software used for tracking computer support requests campus wide.

The membership of the Distributed Support Implementation Committee consisted of technical support staff representing all of the Colleges (including Milner Library), Administrative Computing, Computer Infrastructure Support Services, Telecommunications and Networking Support Services, the Division of Finance and Planning, and the Division of Student Affairs. More specifically, the members of the committee were:

Chris Andre, College of Applied Science and Technology
Steve Bell, Administrative Computing
Carla Birckelbaw, Computer Infrastructure Support Services
Jack Chizmar, Department of Economics and Committee Chair
Jody DeCremer, College of Fine Arts
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OVERVIEW OF THE PLANNING PROCESS

The Distributed Support Implementation Committee was formed to make recommendations concerning how the distributed technical support model should be implemented. The Committee began its work by deciding to work on the first issue in Dr. Williams' charge as a committee-of-the-whole. The Committee further decided to begin work on issues 2-5 in sub-committees. Consequently, four sub-committees were formed. Each sub-committee made recommendations to the entire committee.

In his remarks to the Committee, Dr. Williams stated that various groups around campus would review the initial draft of the Committee's report for input. These groups would include ECAT, Associate Dean's Technology Committee, Student Technology Advisory Committee, the Provost's Advisory Committee and the President's Council. Input from these groups would be included in the Committee's Final Report. Dr. Williams requested a final report by June 1, 2000.

This Plan sets forth recommendations organized according to Dr. William's five-point charge. The recommendations focus on the design, development, organization, and application of distributed technical support.

The initial report of the Committee was completed June, 2000. The report was reviewed and discussed by the campus academic computer committee (ECAT), the Provost's Advisory Council, and the campus Vice Presidents. These constituencies approved the report in spirit with a few recommendations for change related to reducing the size of the primary committee (called the Technology Support Advisory Consortium (TSAC) latter in the report) that will manage the support network, carefully investigating security and legal issues involved with off-campus student technology support, working with each Dean and Vice President in restructuring their local support clusters.

Dr. Williams synthesized the feedback from these groups into a response to the committee (see Appendix 5). The committee reconvened in September and approved all of the recommendations with the exception of the membership of TSAC. The committee made a recommendation that one central network and host-based services staff person be added to the TSAC. The Provost considered the recommendation and proposed a compromise.

The final version of the report will serve as the benchmark for implementation. TSAC will be appointed and implementation will begin by November, 2000 with the goal of bring the distributed system online, as much as possible, by January 2000.

OBJECTIVES

The distributed technical support model set forth in this plan is motivated by three objectives:

- Improve the technical support provided to the faculty, staff, and students of Illinois State University.
- Provide faster and more accurate problem resolution that takes full advantage of all the resources available.

- Improve the tracking of computing problems, which leads to better management of available resources.

ASSUMPTIONS

Technical support includes both reactive and proactive assistance to users as they utilize information technology to accomplish professional, organizational, and instructional tasks. Distributed technical support provides technical support to faculty, staff, and students through local support units that are distributed throughout the campus, education and tools that help end-users to support themselves, and a strong centralized support function acting as a lever to facilitate the first two elements. A distributed technology support model should identify a range of services, including hardware/software development and maintenance, data management, web development and management, and workstation management. These services will support the effective implementation of technology in teaching and learning by:

- providing education and training,
- providing a clearinghouse of ideas, technologies, and practices,
- identifying technology resources (including human resources, online help and knowledge databases, on-demand help services, and unit-level support services), and
- encouraging communication links across all university units.

The recommendations in this report are based on the following assumptions:

1. Faculty, staff, and students are more likely to invest the time to learn new software and hardware if they know that they can get prompt and effective help when they encounter a computing problem.
2. Support is best provided through a combination of local unit and campus-level services. However, to avoid redundancy, University-wide coordination and oversight is needed.
3. Support services and products should be flexible enough to adapt to changing technologies and the needs of individuals and units.
4. Support staff are better able to support faculty, staff, and students if the products serviced are standardized across the university.
5. All technical support staff must acquire a customer service focus. The users' perceptions must guide delivery of technical support. The support staff person must develop a relationship with the user and understand that, while the user may know that s/he has a problem, s/he may not always know what the problem is.

THE FIVE NATURAL LAWS OF COMPUTING SUPPORT

Providing support to a campus of 24,000+ users is a formidable task due to the diversity in computing experience level, need, and location of the University's members. Experience here and elsewhere suggests that there are five "natural laws" of computing support. According to Stone (1996), five natural laws of computing support are:

1. The local support unit technician will take responsibility for facilitating the resolution of the computing problems of the faculty, staff, or students that they support.
2. Each faculty member, staff member, and student will be given a **single** phone number that s/he can call whenever s/he experiences **any** technical computing problem.
3. A support person will be available during "normal working hours" and can be reached by an on-campus user within 15 minutes.¹ The problem should be resolved as soon as possible.
4. Support staff should have allegiance to the unit (department, building, college, vice presidential area) that they support. Allegiance requires that the members of the support unit have a voice in hiring, supervising, and evaluating support staff members.
5. The support team should channel information concerning computing standards and guidelines, changes in the network, computing events, available computing services, and support and training issues between the user and the campus-based services.

Attending to the five natural laws of technical support builds trust between the end-user and the support person. As a result, according to Stone, complaints from users that used to be so common "seem to vanish if these five natural laws are followed."

Every facet of the model proposed below is built on these five natural laws.

ISSUE 1

Develop a distributed technical support model that works for Illinois State University and takes advantage of support units already in place. Develop a traffic flow for handling help requests.

An effective technical help system must be built on a sense of trust. When a user seeks help with a computing problem, s/he must believe and trust that his/her local support technician will take responsibility for solving his/her problem.

The following distributed technical support model envisions a collegial and collaborative relationship between computer users and local support unit technicians. It envisions the creation of a support

¹ The issue of "normal working hours" will have to be adjusted to fit student lifestyles. For example, technical support to students could be available between the hours of noon until 9 pm during weekdays (excluding Fridays) and from 6 pm to 10 pm on Sunday evenings.

process that is based upon professional development and self-sufficiency. It envisions a sharing of technical support responsibilities between local support units (distributed throughout the campus), campus-level support, and vendor support. The model borrows liberally from the distributed support models developed and deployed successfully by Indiana University and Brigham Young University.²

A support structure that instills a sense of trust, one that will not be circumvented by the user, has a number of important features. The model identifies whom a user should call when s/he experiences a technical problem. Experience, both here and elsewhere, suggests that lists of telephone numbers of support people do not work. A distributed computing support model matches every faculty and staff member with a mutually exclusive "support unit" served by a team of support professionals, hereafter called Unit Computing Specialists (UCS).

The flow of a computing problem through the distributed computing support model is illustrated in the flowchart shown in Figure I. The process begins when a user has a computing problem. The user either picks up the phone and dials a **single number** that s/he has previously been assigned or enters his/her problem through a web-based form. This single number and/or web-based form connects the user to a UCS, a computing technician in his/her support team.

The UCS assigned to cover the phones/web form that day answers the call. If the UCS is busy dealing with the computing problem of another user, the user leaves a voice mail message describing his/her problem and whether it is an emergency situation. **A UCS will be available during published working hours and can be reached by an on-campus user within 15 minutes.**³ Both the user and the UCS understand that the UCS **will take responsibility** for facilitating the resolution of a faculty or staff member's computing problem.

The UCS fields the initial call by:

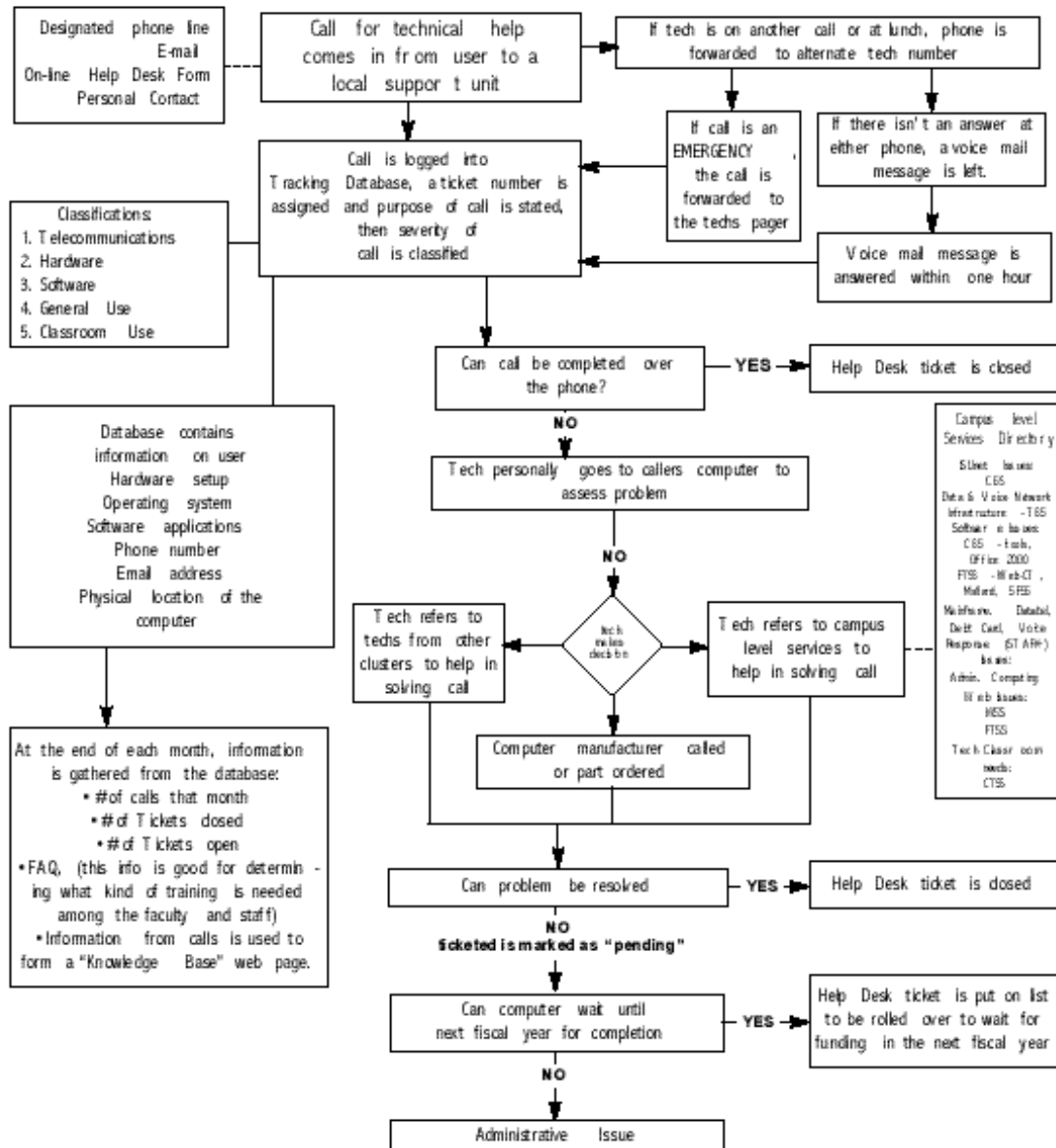
- Answering with courtesy and concern.
- Collecting and **immediately** logging all data pertinent to the problem in a Tracking Database that assigns a "ticket number" to the problem.
- Assigning a priority status based on the severity of the problem.
- Assigning the call to the proper personnel within the local support unit.
- Providing the caller with follow-up information within 30 minutes of the initial call. At minimum, the user is told when someone will begin working on his/her problem.

²Indiana University calls their distributed support model the Leveraged Support Model; Brigham University calls theirs the Networked Support Model. In both models, support responsibilities are shared among central staff and unit staff.

³ Again, published working hours for students may not seem "normal" to the rest of us and will have to be adjusted to fit student lifestyles.

Figure 1

TECHNICAL HELP SUPPORT PROCESS*



*user is notified at every "Yes" or "No" decision

The UCS makes every attempt to resolve the problem within his/her support unit. However, not all problems can be solved within the support unit. In the distributed support model, the UCSs in each support unit are expected to form alliances with UCSs in other units and should be, in essence, supported with the experience of other support staff. The model defines multiple support levels, each with trained support professionals who deal with ever more complex support problems. This linking of collective knowledge of all support people creates a network of computing support. Consequently, if an UCS determines that the computer problem cannot be solved within his/her unit, the UCS decides the next course of action by choosing from among the following three alternatives:

- The UCS contacts an UCS from another local support unit.
- The UCS contacts a vendor for information and/or to order a part.
- The UCS contacts campus-level technical support.

The same principles upon which local support is built should be applied to campus-level support. Whenever a UCS decides that s/he must contact a campus-level support unit concerning a computing problem, s/he will do so using a **single** number or Web-form. In particular, we recommend the creation of a **single** "back phone" number, hereafter called UCS Hotline, known only to UCSs. The UCS Hotline will be operated and supported by the University Help Desk for the purpose of directing problems to the appropriate campus-level support unit. Calls from UCSs to UCS Hotline would receive the highest priority. When all of the University Help Desk operators are busy, UCS Hotline calls will be forwarded to the Help Desk Manager. University Help Desk hours would be extended into the weekends and evenings, when appropriate, to ensure that adequate support coverage is available.

It is the responsibility of the University Help Desk to guarantee **immediate** response to a UCS calling the UCS Hotline number. Likewise, it is the responsibility of central support units to maintain after-hours support through on-call rotations among campus-level support staff. Fulfilling these responsibilities will guarantee that a UCS will receive an immediate response through the University Help Desk operator who can direct the problem to the appropriate campus-level support unit where a campus-level computing specialist, hereafter CCS, **will share responsibility** for resolving of the computing problems of a UCS. The CCS will, based on the severity of the problem, either address the problem immediately or queue the problem for the next business day. In any case, a member of the affected campus-level support unit will periodically call the UCS Hotline to report progress and estimates of downtime. The University Help Desk will broadcast this information back to UCSs using communications systems already in place, including the CTSS Voice Mail tree, local phone trees, and listservs.

Finally, the UCS should channel information concerning computing standards and guidelines, changes in the network, computing events, available computing services, and support and training issues between the user and the campus-based services.

Student Technical Support

The University should work toward the twin goals of providing full Internet connectivity and a basic level of support and training for all students. To help students become full partners in using information technology to enhance learning, the University must provide appropriate Internet applications, create a student technology support center, and assure that the infrastructure appears seamless across boundaries of units, colleges, university, and community.

Students should have their own computing support system as part of the distributed technical support model. We recommend a model that melds the principles that govern local support for faculty and staff outlined above with the Residential Networking Program (ResNet) currently employed by Student Technology Support Services to provide support to students in the residence halls. The model would identify whom a student should call when s/he experiences a technical problem.

Students pose a unique challenge in planning a support model. They are highly mobile and, in the course of a single day, use computers (and, potentially, need support) in computer labs, in classrooms, at Milner Library, at walk-up stations, and at home. There was general agreement among the Committee members that the University should not create an entirely new Help Desk solely for students, thereby replicating the University Help Desk currently in place. However, just as will be true for faculty and staff, students should have their own **single** number to call when they experience a computing problem. Therefore, we recommend the formation of a single support unit called the Student Help Desk that would support **all** students. Students would call the Student Help Desk for all of their first level support needs.

The Student Help Desk would be a separate phone line within the University Help Desk dedicated solely to students. The University Help Desk currently has the infrastructure in place to support students and has responsibility for developing and supporting I-Tools. The Help Desk should focus on availability during student "working hours" by expanding hours of operation during evenings and weekends.

A concept of a Student Help Desk is congruent with every one of the five natural laws of technical support:

1. In the same way that a UCS takes responsibility for the computing problem of a faculty member, a Student Help Desk analyst will **take responsibility** for a student's computing problem and facilitate its resolution.
2. Every student would have a **single** number to call when they experience any computing problem. Migrating calls that formerly went to ResNet to the Student Help Desk should eliminate any remaining confusion over where a student should call whenever s/he experiences a computing problem. Furthermore, it would greatly improve tracking capabilities.
3. The University Help Desk (and thus, the Student Help Desk) operates during hours similar to student "working hours" and can generally be **reached within 15 minutes**.
4. A Student Help Desk dedicated solely to student support and staffed by students would have a natural **allegiance** to its user base.

5. A fundamental concept of the proposed distributed support model is the notion that the University Help Desk will act as the communication channel for outages, central support, etc. both to local support units and end users. A Student Help Desk located within the University Help Desk would have direct access to information that it could **channel** to students as necessary.

To augment this system, we recommend that the Student Help Desk dispatch Student Computing Specialists, hereafter referred to as SCSs, to solve computing problems where on-site assistance is needed. The network of SCSs would work in coordination with Student Technology Support Services initiatives already in place and be divided by geographical regions of the campus. All student calls (including those that formerly went to GET-ARCC) would go to the Student Help Desk, where analysts would dispatch SCSs into the field as necessary and enter all support calls into the University's tracking database.

SCSs must have a general knowledge of computers on all platforms and must express a genuine interest in learning about networking technology. SCSs will provide connectivity troubleshooting and Internet application support to students using Internet connections. SCSs should be trained extensively prior to the academic year on support issues involving Internet connectivity and I-tools installation and application support.

The Committee acknowledges the potential liability and security issues involved in sending SCSs into students' rooms, especially to off-campus sites, but feels that these concerns should not overshadow the benefits of providing this type of service. It is recommended that a walk-in service be implemented first for off-campus students, and that legal and security issues be studied for the future implementation of service directly to student off-campus residences.

Another key issue in providing quality field service is the adherence of SCSs to support of the minimum standard configurations for machines on campus, as expressed in the *Student Computer Buying Guide*, available around campus and online at <http://www.ilstu.edu/ctsg/stss>. Through the new Virtual Computer Resource Center being created in the Student Technology Support Services area, students will be offered aggressive pricing through various vendors for preferred campus workstation and laptop configurations.

The committee also discussed at length which department should have primary responsibility for student technical support. There was general agreement that Student Technology Support Services, under the reorganization of campus computing, is the appropriate unit for student support.

Finally, the University should provide support for distance education students by creating a process that ensures that they can:

- activate their ULID,
- reset their password when they are forgotten, and
- contact the Student Help Desk through an 800-number when they have a connectivity problem.

Standards and Guidelines

Because Illinois State University is a diverse community, it operates a very diverse computing environment. Support structures are most efficient for end-users, SCSs, and UCSs when the amount of technology complexity is minimized. The key to high quality support is standards. However, because of Illinois State University's diversity, it will be difficult to limit technical support to those users who use "standard" equipment and software. While a UCS should attempt to support non-standard applications or products when possible, the user must accept a greater degree of responsibility for supporting him/herself when s/he deviates from University hardware and software standards. In general, support should be targeted to the hardware and software used by the majority of the University's users.

Following the model at Indiana University, we recommend an approach that encourages "supportable behavior" on the part of end-users. We should encourage the use of certain pervasive software by continuing to acquire site-licenses for it and then making the software freely available. We should encourage the use of "standard" hardware by negotiating volume discounts with leading vendors that provide better prices for the "standard" hardware than for less supportable options. Finally, we should continue to encourage responsible and informed use of pervasive technology by providing "free" education to our end users.

ISSUE 2

Define a map of computer desktop support expertise across campus and identify workable clusters of support at local or regional campus locations (within departments, buildings, colleges, units, etc.)

Appendix 2 provides a directory of the current local support personnel. Appendix 3 provides a detailed list of technical personnel by FTE count and department, as well as counts of PCs and nodes where they were available. The list is separated by college or vice presidential area. The question marks represent units that either are not sure of their technical support or are "orphans", i.e. faculty or staff members who currently are not supported by a college or VP area local support team. It also needs to be stressed that CISS covers many areas that should be turned over to local support in place of central support. Many of these should be treated as "orphans" as well. Appendix 4 provides an attempt at visually mapping these support clusters on campus to better illustrate support relationships.

As stated earlier, a distributed computing support model matches **every** faculty and staff member with a mutually exclusive "support unit" served by a team of support professionals. Consequently, we recommend that every "orphan" be assigned to a home, i.e., his/her own local support team. As the data in Appendix 3 and 4 make clear, support is currently organized along college and vice president area lines. Consequently, we recommend that "orphans" as well as many CISS supported areas be assigned to new or existing support units using this same organizing principle.

As "orphans" are assigned to new or existing support units, thought should be given to the optimal size of support units. We believe that larger support units are more optimal than smaller units. Larger support units offer a number of benefits:

- It is easier to provide a wide range of services.
- There is a deep level of UCS backup.
- UCSs can focus on (and master) technologies, i.e. they can specialize, making internal redundancy available.
- It is possible to use human and monetary resources more efficiently.
- Career path/promotional tracks can be developed within support units.
- The administrative (college or vice presidential) area's technology strategy can be more easily and consistently implemented.

These benefits are balanced against the single cost that users may have a wider variety of UCSs addressing their computing problem. Consequently, it may be more difficult for a user to build a relationship with a single UCS.

On balance, we believe that larger support units offer more benefits and fewer cost than smaller support units. Therefore, we recommend that:

- As new support units are created, they are larger rather than smaller.
- Respecting the organizing principle of creating local support units along college and vice presidential area lines, the Technology Support Advisory Consortium (see Issue 3 below) study the configuration of current support units and recommend consolidation of smaller into larger support units as necessary.

ISSUE 3

Create a communications system for interaction between local support clusters on campus and between the campus-level support units

Appendix 1 shows the results of a survey of the members of the Distributed Support Implementation Committee concerning the communications methods and device that they currently use or would like to use. The data indicate wide variation in communication methods and devices, with non-academic support units having the most sophisticated communications devices. The data support the following observations and recommendations:

1. Support unit to user communication needs to be broadened to include every user in the support unit. In addition, UCSs should make every effort to avoid "techspeak" jargon. Use of web page announcements has been effective and should be encouraged. Printed bulletins should continue to be used.

2. User to support unit communication is limited by the users' convenience. Use of electronic media is limited but should be expanded. Phone and email are the preferred methods and continue to be used, although web page forms and the newer paging and cellular systems should augment them. Every local support unit should be equipped with a minimum set of communications devices. That set should include a dedicated local pager and access to a cell phone.
3. Training should be provided to UCSs concerning what and how to communicate and over what mediums.
4. UCSs express a desire to influence or otherwise control communication from users. This desire is seen in the multiple statements about filtering user calls for the purpose of ranking the severity of the user's computing problem. There is a consensus for increasing the quality of user to UCS communication. Increased use of web-based resources should be encouraged.
5. UCSs would like to enhance communication between the support units and the campus-level support groups. A majority of those surveyed express a desire to be able to contact campus-level support via a single number.
6. UCSs have little faith in the current university 8-HELP communication channel. UCSs express a clear need for reform and a desire for additional communications resources, whether they be listservs or FAQs.

Figure 2 presents a model for enhancing and clarifying the relationship between the local support units and campus-level support units. Our model envisions the creation of a Technology Support Advisory Consortium (TSAC), where representatives of local support units and campus-level support units will interact.

Campus-level support units, arrayed across the top of the figure, already appear to be organized according to the following functional clusters:

ISUnet

Central Server—Computer Infrastructure Support Services (CISS)
 Data and Voice Network Infrastructure—Telecommunications and Network Support Services (TNSS)

Software

I-tools—CISS
 Office 2000, SPSS— Faculty Technology Support Services FTSS
 Web-CT, Mallard— FTSS

Mainframe Applications, Datatel, Debit Card System, Voice Response (STAR+)
 Administrative Computing

Web

Departmental, Unit, or Institutional Support—Institutional Web Support Services (IWSS)
Individual Faculty and Staff Support—FTSS or local faculty support units such as LILT or ORAT

Technology Classrooms
Support—CTSS

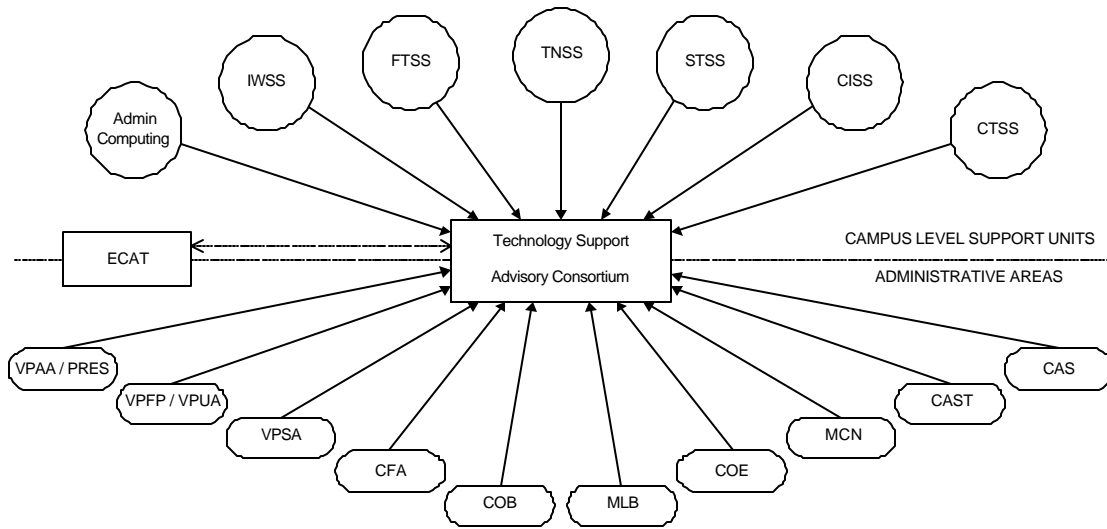
Student Technical Support
Support—Student Technology Support Services (STSS)

To insure that the TSAC is "lean and mean", we recommend that the membership of the TSAG be limited to the smallest membership possible while still guaranteeing representation of all campus constituencies. The solution of two permanent ex-officio members from CTSG was a compromise solution to the recommendation made by this committee to the Associate Vice Presidents report of September, 2000. Consequently, we recommend that TSAC consist of the following membership:

- 7 members who represent the senior or lead UCS for the following academic areas: COB, COE, CON, CFA, CAS, CAST, and Milner
- 1 Senior UCS to represent VPFP and VPUA
- 1 Senior UCS to represent VPSA
- 1 Senior UCS to represent VPAA and the President's Office
- 1 Director of Student Technology Support Services (representing all student support activities on campus)
- 1 Representative for CTSG and Co-chair (The Distributed Support Coordinator and the manager of the campus Help Desk)
- Two permanent ex-officio (non voting) representatives from CTSG as appointed by the Associate Vice President for Information Technology. These two position will likely represent networking and host-based services concerns.
- Various campus experts may be invited to meetings as their input is needed related to specific campus computing issues.
- A 2nd co-chair will be elected from the support areas represented.

Membership will change at the discretion of the primary administrator representing each unit on TSAC or when a members job duties change.

Figure 2



TECHNOLOGY SUPPORT ADVISORY CONSORTIUM

- Consists of representatives from key department-level support units and from selected central-level computing areas
- Plans and implements large technology projects on campus
- Provides coordination between local and campus-level support
- Serves as a resource for local support units regarding complicated technical issues
- Coordinates with ECAT on campuswide technology issues
- Formulates overall security strategy for network support system
- Reports to the Associate Vice President for Information Technology



CAMPUS LEVEL SUPPORT UNIT

- Provides campus-wide services and supports the local support units



ADMINISTRATIVE AREAS

- Serves as first point of contact for end-user
- Represents a common computing strategy (i.e. College, VP, etc.)
- Provides unit administration (i.e. Dean, VP, etc.) with a cohesive plan for supporting end-users and implementing technology
- Contains internal support redundancy
- Provides desktop support, unit-level services, and tailored training
- Negotiates after-hours support with Campus Help Desk
- Refines and implements security procedures

Unit Coordinators represented on TSAC would have the responsibility of communicating support unit needs from his/her administrative area to the TSAC and carry information from the TSAC back to the support units in his/her administrative area.

The TSAC would be an ongoing functional group that deals with present and future issues related to providing technical support. TSAC reports directly to the Associate Vice President for Information

⁴ Note that this recommendation explicitly states that the person representing the local support units in each administrative area shown in Figure 2 should not be the administrator to whom the Unit Coordinators report and that each College and Vice Presidential area will be represented by one Unit Coordinator.

Technology. The TSAC will conduct research and plan for large technology projects on campus that relate to support issues. It will also serve as a resource for local support units regarding complicated technical issues. Finally, it will coordinate with ECAT on campus-wide technological issues.

The clustering of technology support units shown in Figure 2 will address proactive and reactive communication among and between local and campus-level support units. Proactive communication is served through the creation of the TSAG, which will foster interactive communication related to planning, operational issues, and coordination of activities. Reactive communication is served by defining channels of communication for notifying and resolving problems between end-users and their local support unit and between the local support unit and campus-level support units.

We recommend that the TSAC be co-chaired by the Distributed Support Coordinator (see below) and a yearly rotated elected member from the TSAC.

The University 8-HELP Desk

The University 8-HELP Desk will continue to play a critical role in a distributed support model. As discussed above, the University 8-HELP Desk will act as the point-of-contact through a single UCS Hotline number when UCS decides to escalate a computing problem to a campus-level support unit. Furthermore, each local support unit will negotiate a Service Level Agreement with the University 8-HELP Desk for a desired coverage level. After hours or on weekends, when a user calls his/her **single** phone number, the call will be transferred to the University 8-HELP Desk. As discussed above, the University 8-HELP Desk, through the Student Help Desk, will continue to be the first point-of-contact for all students. University 8-HELP Desk tracking software will be used to track after hour and weekend calls from users and all computing problems that UCSs escalate to campus-level support units. UCSs may also choose to utilize the central tracking software as the tracking software for their local support unit. Finally, the University 8-HELP Desk will continue to provide support for I-tools on individually owned faculty and staff computers.⁵

Distributed Support Coordination

The position of Distributed Support Coordinator should be created to coordinate the distributed support model. To foster self sufficiency of UCSs and collaboration of UCSs with campus-level support, the Coordinator will track support issues, analyze tracking data, create support guidelines, create a central "knowledge base" and on-line help services, provide and coordinate training classes for UCSs, and provide information and alerts through meetings, a newsletter, and a Web site. Possible titles of training classes include:

⁵ "I-tools" are a collection of commonly used Internet applications supported by the University through a site license. CISS distributes I-tools in CD format or through direct on-line download.

- Understanding basic techniques for technology consulting.
- Delivering technology training.
- Assessing hardware and software needs.
- Assessing training and support needs.
- Understanding campus-level technical support.
- Providing customer service.

Other classes will be developed to explicate issues that arise through analysis of tracking data.

The Distributed Support Coordinator's group will focus on supporting UCSs. This group will provide support to UCSs for services and technologies already in place, investigate new and emerging technologies that affect the desktop and working environments, and find ways to provide analysis and recommendations to UCSs on the implications of technological changes.

The Distributed Support Coordinator's group will also build online support tools that will be available to UCSs and to end-users. One such tool is the knowledge base referenced above. The knowledge base will be repository of thousands of publications and answers to technology-related questions. The knowledge base should be queriable. UCSs and users should be able type in a subject area, or even a text question, and receive back documents and answers containing references to keywords in their queries. As the end users are better able to support their own needs, they rely less on UCSs for pedestrian support issues and thus, free UCSs for more detailed technical activities related to improving the information technology environment within their support units.

We recommend that the current position of Campus Help-Desk Manager be expanded to include the duties of the Network Support Manager.

ISSUE 4

Define skill sets for technology support positions campus-wide and make salary range recommendations.

This issue is extremely complicated; the Committee could not reach a resolution of this issue in the time allotted. A new committee to study this issue will be appointed by the Associate Vice President for Information Technology in late Fall, 2000.

ISSUE 5

Evaluate help desk software used for tracking computer support requests campus wide.

This issue is also extremely complicated; the Committee could not reach a resolution of this issue in the time allotted. There are a number of reasons why service events should be logged in a Tracking Database:

- Each service event yields information about the effectiveness of technology. Every service event not logged cannot be referenced in the future.
- Logging service events will provide the only reliable data concerning technology performance, thus enhancing the value of the support unit and justifying staffing, equipment, and budget requests.
- Logging service events will help pinpoint system development weaknesses, identify problems patterns across the campus. and permit an assessment of service quality.
- Tracking data will identify training needs and drive decisions concerning staff development.
- Tracking data will help prevent lower level service events from escalating into serious events that cause users to question the support unit's knowledge and effectiveness.
- Tracking software will aid communication between local support units.
- Tracking software will ensure feedback to end-users.

However, the Committee could not agree on the question of whether problems should be tracked centrally.

We recommend that CTSG working with TSAC expand this issue to include building a knowledge base of problems unique to the Illinois State University campus, providing automatic electronic feedback to request for support from end-users, and creating links to databases of user and machine profiles reports. We further recommend that the Help Desk Manager invite vendors to make presentations to the campus community concerning features of their software and eventually create a RFP.

QUICK STARTS

A "quick start" is an action that can be started quickly, although, not necessarily, concluded quickly. The Committee offers the following list of quick starts to Associate Vice President Williams for his perusal and consideration. The list does **not** connote an implied ranking of the recommendations presented in this report.

1. Implement the distributed support model outlined in Figure 1 above. The model is built on local support provided through distributed support units throughout the campus, education and tools that help end-users to support themselves, and a strong centralized support function acting as a lever to facilitate the first two elements. (Units responsible: AVPIT, TSAC, and Network Support Coordinator.)
2. Create the Technology Support Advisory Consortium (TSAC) shown in Figure 2. Limit its membership to one representative from each campus-level support unit and selected representation from Unit Coordinators from each administrative area depicted in Figure 2. (Units responsible: AVPIT in collaboration with VPs.)

3. Match every faculty and staff member with a mutually exclusive "support unit" served by a team of UCSs. Ensure that every "orphan" is assigned a home, i.e., his/her own local support team. As new support units are created, encourage the creation of larger support units. (Units responsible: TSAC and key university administrators.)
4. Respecting the organizing principle of creating local support units along college and vice presidential area lines, study the configuration of current support units and recommend consolidation of smaller into larger support units as necessary. (Unit responsible: TSAC)
5. Assign a **single** phone number and web-form to every user. This number/form will connect the user to his/her support unit. Instruct end-users that they should use this number/form for **every** computing problem they encounter. (Units responsible: TNSS, TSAC, UCSs, and STSS.)
6. Create a **single** "back phone" number, to be called the UCS Hotline, that connects UCSs to the University 8-Help Desk. Train UCSs to use this number to escalate any computing problem to a campus-level support unit. Ensure that UCS calls to this number will take priority over other 8-HELP calls. Create a system to cover these calls to ensure **immediate** response to a UCS calling the UCS Hotline. (Units responsible: TSAC, CISS, and TNSS.)
7. Create a separate phone line (the Student Help Desk) within the University 8-Help Desk dedicated solely to students and market that information to the student population. Migrate current ResNet calls to the Student Help Desk for dispatching field representatives as necessary. Continue expansion of ResNet program to off-campus housing, using a "Swat Team" approach. (Unit responsible: STSS and the University Help Desk.)
8. Ensure that distance education students can activate their ULIDs, reset their passwords, and contact the Student Help Desk through an 800-number when they have a computing problem. (Units responsible: TNSS, STSS, and Extended University.)
9. Encourage "supportable behavior" on the part of end-users by acquiring site-licenses for certain pervasive software and then making the software freely available, negotiating volume discounts with leading vendor that provides a more competitive price for the "standard" technology, and continuing providing "free" education to our end-users. (Units responsible: ECAT, FTSS, STSS.)
10. Define a minimal set of communications devices for every support unit. (Unit responsible: TSAC.)
11. Provide every local support unit with this minimal set of communications devices. (Units responsible: Deans and VPs)
12. Create the position of the Distributed Support Coordinator, who will head the Distributed Support Coordination Group. Expand the current position of Campus Help-Desk Manager to include the duties of the Network Support Coordinator. (Unit responsible: CISS.)

13. Create a separate committee to define skill sets for technology support positions campus-wide and make salary range recommendations. (Units responsible: AVPIT, VPs, and Deans.)

14. Expand the issue of evaluating help desk software used for tracking computer support requests to include building a knowledge base unique to the Illinois State University campus, providing automatic electronic feedback to requests for support from end-users, and creating links to databases of user and machine profiles; direct the Help Desk Manager to invite vendors to make presentations to the campus community concerning features of their software, and create a RFP. (Units responsible: TSAC, CISS, and AVPIT.)

Appendix 1: Survey of Current Communications Existing in Clusters

Part 1: UCS to computing user communications

	% of Units Using
Listservs (and how many)?	70
Web page? Postings or bulletins?	20
Printed Bulletins?	50
Phone/Fax tree?	80
Meetings/Other?	90

**70% of Respondents
Suggest Some
Change**

How would you improve "UCS-to-User" communications? Some representative changes include:

- Use a push-client similar to Pointcast.
- Use instant messaging.
- Ask users
- Simplify the language without talking down to the caller/client.
- Implement a notice page as default browser start page.
- Start training seminars on technology.
- Post to a college-wide calendaring software program.
- Create a technology support committee to improve communication between support units and campus level support.
- Use email and call key office personnel

What new hardware or software would you recommend to improve communications? Some representative recommendations include:

**50% of Respondents
Suggest Some
Recommendation**

- Web-based problem tracking software that keeps the user informed automatically.
- Microsoft Outlook.
- Global email postings for major outages. The new mail software can effectively do mass mailings. It could be used to transform the netaalert-1 listserv into a medium where technology events or services can be announced.
- Exchange Server

Section Summary: Current communications from the support unit to their users is limited by the users' abilities to handle multiple methodologies. Use of NetForum/Webboard and newsgroups are limited. Printed bulletins of service and announcements are familiar standards in this environment and continue to be used, although they are being replaced with the newer concept of broadcast messaging. Use of listserv, phone trees, and web page announcements are gaining in popularity. A sub-theme of the need to train UCSs to communicate to assuage the barrier created by technical jargon.

Part 2: Computing user to UCS communications

- Do users use phone/voice mail?
- Do users post to listservs?
- Do users post to email or forums?
- Do users call pagers?
- Do users call cellular or radio phones?

% Units Using

- 100
- 20
- 100
- 70
- 50

How would you improve "User-to-Tech" communications? Some representative improvements include:

- Train the user on how to report problems.
- Johnson: Promote other options as listed above in addition to phone
- Train users to use a text pager.
- Create a Help desk within the unit.

70% of Respondents Suggest Some Improvement

What new hardware or software would you recommend to improve communication? Some representative recommendations include:

- Program phones for direct dialing
- Train users to use Web-based form; create a FAQ
- Adopt Help Desk Tracking software with a web-based interface and outcome modules.

40% of Respondents Suggest Some Recommendation

Section Summary: Current communications from the user to their support unit is limited by the users' convenience. Use of electronic media is limited. Phone and email are a preferred standard and continue to be used, though they are being augmented by newer paging and cellular systems.

Part 3: Tech to Tech Communications

Listsersv NETALERT-L, ISUNET-L? Should a listserv be added for campus-level support?

% Suggesting Change

40

Do support units keep a directory of people or departments that you frequently contact?

70

Do support units use Email or forums to contact campus level support.

70

How would you improve "Tech-to-Tech" communications? Some representative improvements include:

90% of Respondents Suggest Some Improvement

Document a knowledge map of campus expertise.

Improve the working of the University Help Desk.

Create a campus-level FAQ.

Create a "yellow pages" of campus-level support.

Adopt Microsoft Outlook

Create an online page for the call center from support units that anyone can reference. This page would not focus on individuals; it would instead represent the units serviced.

Section Summary: It is clear that all of the support units currently use either a directory (phonebook, or mental map) of our campus-level counterparts. The primary methods use to contact campus-level support are phone and email. Instant messaging such as ICQ, AIM and Chat are not perceived as needed. Additional data sources are desired, whether it be listsersvs or FAQ.

Overall Summary: Ninety percent of the support units surveyed indicate a desire to change the method of communication from the support unit to campus-level support. The need for change is represented by the comments expressing desire for directory of services and a map or directory of knowledge. This theme indicates a desire for support units to not create churn, but to contact a number that they trust will initiate a quick result.

Appendix 2

Campus Desktop Support Personnel

(does not include central services support personnel)

CAST

CAST – Kate Plantholt
CAST – Chris Andre
ACS – Dave Rathke
ACS – Sam Yost
ACS – Doris Feedman
ACS – Tal Parmenter
HSC – Jody Kephart
IT – James Evens
Criminal Justice – Ed Wells

CAS

CAS – James Fielder
CAS – Jeff Hampson
CAS – Owen Williams
CAS – Rodger Salzman
CAS – Bob Wazenski
CAS – Eric Schuller
CHEM – Reef Morse
CHEM – Wayne Riddle
WGLT – Kevin Conlin
PHY – Ross Bogue
PSY – Jeff Imig
PSY – Don Meiser
TV10 – Joel Johnson

COB

COB – Pete Juvinall
COB – Scott Christner
COB – Dave Schaafsma

COE

COE – Ken Fansler
COE – Bruce Franson
COE – John Tarter
Uhigh – Chris Kozik
Uhigh – Jim Kurz
Metcalf – Tony Huchel

CFA

CFA – Dave Kuntz
CFA – Eric Yeager
CFA – Jody DeCremer
CFA – Joe Bernert

MCN

MCN – Doug Mock

MLB

MLB – Dick Christensen

MLB – Jan Johnson (train)
MLB – Peg Heinz (train)
MLB – Jason Paul
MLB – Krena Hoyt
MLB – Jim Cunningham (web)
MLB – Lori Devore (train)
MLB – Betty Bond (train)

CTSG

CISS – Rudy Radosevich
CISS – Jim Rohacik
CISS – Randy Hill
CISS – Tom Heintzman
CISS – Larry Keeran
CISS – Chad Carter

VPAA

IAI – Roger Baird
Registrar – Pam Walden
Registrar – Sean Bytnar
Registrar – Tony Waugh
Fin Aid – Janice Leuchtenberg
Univ College – Dianna Floyd
InfoTech – George Wyman

VPSA

VPSA – Hank Pearson
Rec Services – David Hughes
Health – Kevin McCrone
Health – Charles Bordeaux
Placement – Jason McCrone
UHS – Dean Plumadore
UHS – Ron Glenn
UHS – ResNet Manager
Bone – Steve Coan
Bone – Bill Hammond
Vidette – Richard Hunter
Counseling – Michael Baum

VPFP and VPUA

VPFP – Eric Hodges
VPFP – Jane Vorhies
VPFP – Bart Lytel
VPFP – Doug Wood
VPFP – Neil Harvey
VPFP – Mark Corneglio
VPFP – Dudley Roach
VPFP – Matt McNeilly
Facilities – Shane Brown
Facilities – Garth Bock

MLB – Chuck Geigner
MLB – Mike Gibson
MLB – John Hayes (lab)
MLB – Nancy Boulware (train)

ISUPD – Bonnie Devore
OEHS – Steve Eddington

Appendix 3

Technology Personnel, FTE, PC, Node Count by Department

Note: These data were collected as a best attempt by the committee in Spring 2000. Many units did not report data for PCs or Nodes hence the incomplete nature of the data shown.

Technology Personnel and FTE Count By Department

UNIT	DEPARTMENT	FTEs	PCs	Nodes	COMPUTER SUPPORT PROVIDED BY
CAS	ILLINOIS REGIONAL ARCHIVES DEPOSITORY	3			?
CAS	WZND	8			?
CAS	ANTHROPOLOGY				BOB WAZENSKI / ERIC SCHULLER + 1 SW
CAS	GEOGRAPHY/GEOLOGY	22			BOB WAZENSKI / ERIC SCHULLER + 1 SW
CAS	HISTORY	37			BOB WAZENSKI / ERIC SCHULLER + 1 SW
CAS	POLITICAL SCIENCE	26			BOB WAZENSKI / ERIC SCHULLER + 1 SW
CAS	SOCIOLOGY	35			BOB WAZENSKI / ERIC SCHULLER + 1 SW
CAS	APPLIED SOCIAL RESEARCH	4			CISS
CAS	COMMUNICATION	46			CISS
CAS	SOCIAL WORK	16			CISS
CAS	WOMEN'S STUDIES	6			CISS
CAS	ACADEMIC RESEARCH SERVICES	3			CISS / GRAD STUDENT BILL WILSON
CAS	BIOLOGICAL SCIENCES	49			GRAD STUDENT
CAS	COLLEGE OF ARTS & SCIENCE	6	7	59	JAMES FIELDER / BOB WAZENSKI
CAS	DALKEY ARCHIVE PRESS	3			JAMES FIELDER / ROGER SALZMAN
CAS	ECONOMICS	22	70	16	JAMES FIELDER / ROGER SALZMAN
CAS	ENGLISH	84	152	299	JAMES FIELDER / ROGER SALZMAN
CAS	ENGLISH LANGUAGE INSTITUTE	4			JAMES FIELDER / ROGER SALZMAN
CAS	FOREIGN LANGUAGE	37	68	62	JAMES FIELDER / ROGER SALZMAN
CAS	MATHEMATICS	59	122	80	JAMES FIELDER / ROGER SALZMAN
CAS	PHILOSOPHY	15	14	12	JAMES FIELDER / ROGER SALZMAN
CAS	STEVENSON COMPUTING SERVICES			17	
CAS	UNIT FOR CONTEMPORARY LITERATURE				JAMES FIELDER / ROGER SALZMAN
CAS	PSYCHOLOGY	57			JEFF IMIG
CAS	T.V. 10				JOEL JOHNSON
CAS	WGLT	9			KEVIN CONLIN
CAS	PHYSICS	19			ROSS BOGUE
CAS	LILT	1	18	33	SARAH WALCZYNSKI
CAS	CHEMISTRY	28			WAYNE RIDDLE / REEF MORSE
		598			
CAST	APPLIED COMPUTER SCIENCE	40			DAVE RATHKE
CAST	CRIMINAL JUSTICE SCIENCES	16			ED WELLS
CAST	INDUSTRIAL TECHNOLOGY	28			JIM EVANS
CAST	HEALTH SCIENCES	31			JODY KEPHART
CAST	AGRICULTURE	16			KATE PLANTHOLT / CHRIS ANDRE
CAST	COLLEGE OF APPLIED SCIENCE & TECHNOLOGY	8			KATE PLANTHOLT / CHRIS ANDRE
CAST	FAMILY AND CONSUMER SCIENCES	24			KATE PLANTHOLT / CHRIS ANDRE
CAST	HPER / HORTON	21			KATE PLANTHOLT / CHRIS ANDRE
CAST	HPER / MCCORMICK	21			KATE PLANTHOLT / CHRIS ANDRE
CAST	MILITARY SCIENCES	10			KATE PLANTHOLT / CHRIS ANDRE
CAST	MOTORCYCLE SAFETY	3			KATE PLANTHOLT / CHRIS ANDRE
CAST	UNIVERSITY FARM	7			KATE PLANTHOLT / CHRIS ANDRE
		225			
CFA	UNIVERSITY ART GALLERIES	5			KUNTZ/DECREMER/YEAGER/BERNERT + 2 SW
CFA	ART	53			KUNTZ/DECREMER/YEAGER/BERNERT + 2 SW
CFA	COLLEGE OF FINE ARTS	11			KUNTZ/DECREMER/YEAGER/BERNERT + 2 SW

CFA	MUSIC	49			KUNTZ/DECREMER/YEAGER/BERNERT + 2 SW
CFA	THEATER	36			KUNTZ/DECREMER/YEAGER/BERNERT + 2 SW
		144			
COB	ACCOUNTING	26			JUVINALL / CHRISTNER / SCHAAFSMA
COB	COLLEGE OF BUSINESS	15			JUVINALL / CHRISTNER / SCHAAFSMA
COB	FINANCE, INSURANCE, & LAW	22			JUVINALL / CHRISTNER / SCHAAFSMA
COB	KATIE INSURANCE SCHOOL	6			JUVINALL / CHRISTNER / SCHAAFSMA
COB	MANAGEMENT AND QUANTITATIVE METHODS	30			JUVINALL / CHRISTNER / SCHAAFSMA
COB	MARKETING	30			JUVINALL / CHRISTNER / SCHAAFSMA
		129			
COE	UNIVERSITY HIGH SCHOOL	67	200	200	CHRIS KOZIK / JIM KURZ
COE	SPECIAL EDUCATION	37	50	50	KAN FANSLER / BRUCE FRANSON
COE	B/N EDUCATION ALLIANCE	2	2	2	KEN FANSLER / BRUCE FRANSON
COE	CLINICAL EXPERIENCES	8	10	10	KEN FANSLER / BRUCE FRANSON
COE	COLLEGE OF EDUCATION	19	100	100	KEN FANSLER / BRUCE FRANSON
COE	CURRICULUM & INSTRUCTION	72	125	100	KEN FANSLER / BRUCE FRANSON
COE	EDUCATIONAL ADMINISTRATION & FOUNDATION	29	50	50	KEN FANSLER / BRUCE FRANSON
COE	IL CTR FOR SPECIALIZED PROFESSIONAL SUPPORT	30	30	30	KEN FANSLER / BRUCE FRANSON
COE	JAPANESE SATURDAY SCHOOL	3	1	1	KEN FANSLER / BRUCE FRANSON
COE	LAB SCHOOLS	2	2	2	KEN FANSLER / BRUCE FRANSON
COE	SPEECH PATHOLOGY AND AUDIOLOGY	24			KEN FANSLER / BRUCE FRANSON
COE	METCALF SCHOOL	92	50	42	TONY HUCHEL
		375	590	587	
CTSG	CISS (CUS)	14			CISS
CTSG	CTSS (CLASSROOM)	10			CISS
CTSG	FTSS (FACULTY SUPPORT)	24			CISS
CTSG	IWSS (WEB)	7			CISS
CTSG	STSS (STUDENT SUPPORT)	0			
CTSG	TNSS (TELECOMMUNICATIONS)	25	40	45	TIM FLYNN (15%) / AARON McCANN (15%)
		80			
MCN	MENNONITE COLLEGE OF NURSING	34	65	65	DOUG MOCK
		34	65	65	
MLB	MILNER LIBRARY	99			MILNER SYSTEMS (12 FTE, 8-10 SW)
		99			
PRES	ATHLETICS	93			CISS
PRES	DIVERSITY AND AFFIRMATIVE ACTION, OFFICE OF	3			CISS
PRES	INTERNAL AUDITOR	4			CISS
PRES	PRESIDENT OF THE UNIVERSITY	10			CISS
PRES	REDBIRD ARENA	5			CISS
PRES	UNIVERSITY LEGAL SERVICES	3			CISS
PRES	ILLINOIS SPECIAL OLYMPICS	20			JANE LAPICALO
		138			
VPAA	INFO TECH / EXTENDED UNIVERSITY	12			BILL WIMAN
VPAA	ACADEMIC SENATE	2			CISS
VPAA	CEMAST (CENTER FOR MATH,SCI. & TECH.)	11			CISS
VPAA	CONFERENCING UNIT	12			CISS
VPAA	GRADUATE SCHOOL	11			CISS
VPAA	HONORS	5			CISS
VPAA	INTERNATIONAL STUDIES	11			CISS
VPAA	PROFESSIONAL DEVELOPMENT ANNEX	5			CISS
VPAA	UNDERGRADUATE STUDIES	8			CISS

VPAA	UNIVERSITY ASSESSMENT OFFICE	5			CISS
VPAA	UNIVERSITY RESEARCH OFFICE	9			CISS
VPAA	VICE PRESIDENT & PROVOST'S OFFICE	26			CISS
VPAA	UNIVERSITY CENTER FOR LEARNING ASSISTANCE	3			DIANNA FLOYD
VPAA	UNIVERSITY COLLEGE	35			DIANNA FLOYD
VPAA	FINANCIAL AID OFFICE	26			JON GUDENRATH / JANICE SHEPPLEMAN
VPAA	ADMISSIONS	31			PAM WALDEN / SEAN BYTNAR / TONY WAUGH
VPAA	EVALUATIONS	11			PAM WALDEN / SEAN BYTNAR / TONY WAUGH
VPAA	RECORDS	10			PAM WALDEN / SEAN BYTNAR / TONY WAUGH
VPAA	REGISTRATION / REGISTRAR'S OFFICE	24			PAM WALDEN / SEAN BYTNAR / TONY WAUGH
VPAA	ILLINOIS ARTICULATE INITIATIVE	3			ROGER BAIRD
		260			
VPFP	UNIVERSITY POLICE	27	22	25	BONNIE DEVORE
VPFP	FACILITIES MANAGEMENT	400	100	110	SHANE BROWN / GARTH BOCK
VPFP	FACILITIES PLANNING	7	7	8	SHANE BROWN / GARTH BOCK
VPFP	ENVIRONMENTAL HEALTH & SAFETY	11	14	16	STEVE EDDINGT ON
VPFP	ADMINISTRATIVE COMPUTING	65	115	120	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	BOND REVENUE ACCOUNTING	3	4	4	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	BUDGET OFFICE	4	4	4	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	CENTRAL RECEIVING / PROPERTY CONTROL	13	6	6	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	COMPTROLLER'S OFFICE	33	37	39	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	HUMAN RESOURCES / BENEFITS / WELLNESS	30	33	35	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	MAIL SERVICE CENTER	8	7	7	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	PARKING SERVICES	11	9	9	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	PAYROLL	7	7	7	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	PPSIS	6	7	9	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	PURCHASING OFFICE	12	13	13	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	STUDENT ACCOUNTS	21	29	32	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPFP	VICE PRESIDENT FOR FINANCE & PLANNING	10	11	12	SYSTEMS SUPPORT (8 FTE, 8 SW)
		668	425	456	
VPSA	RECREATION SERVICES / GOLF COURSE	27	58	58	DAVE HUGHES (2 SW)
VPSA	CAMPUS DINING SERVICES	62	154	154	DEAN PLUMADORE / NEW FTE (1 SW)
VPSA	RESNET	0	800	800	DEAN PLUMADORE / NEW FTE (9 SW)
VPSA	UNIVERSITY HOUSING SERVICES	100	222	222	DEAN PLUMADORE / RON GLENN (9 SW)
VPSA	DISABILITY CONCERNS	7	14	14	HANK PEARSON
VPSA	MULTICULTURAL AFFAIRS	7	14	14	HANK PEARSON
VPSA	STUDENT & ALUMNI PLACEMENT SERVICES	23	33	33	HANK PEARSON / JASON MCCRONE
VPSA	STUDENT AFFAIRS	8	15	15	HANK PEARSON
VPSA	STUDENT JUDICIAL OFFICE	4	7	7	HANK PEARSON
VPSA	STUDENT HEALTH SERVICES	59	93	93	KEVIN MCCRONE/CHARLES BORDEAUX (1 SW)
VPSA	STUDENT INSURANCE	4	5	5	KEVIN MCCRONE/CHARLES BORDEAUX (1 SW)
VPSA	STUDENT COUNCELING SERVICES	25	29	29	MICHAEL BAUM (1 SW)
VPSA	VIDETTE	3	50	50	RICHARD HUNTER
VPSA	UNIVERSITY HOUSING SERVICES PC LABS	0	160	160	RON GLENN (60 SW)
VPSA	BONE STUDENT CENTER/BRADEN AUDITORIUM	38	70	70	STEVE COAN / BILL HAMMOND
VPSA	CAMPUS COMPACT	1	2	2	STEVE COAN / BILL HAMMOND
VPSA	INFO CENTER	1	3	3	STEVE COAN / BILL HAMMOND
VPSA	OFFICE OF STUDENT LIFE	12	24	24	STEVE COAN / BILL HAMMOND
VPSA	PARENT SERVICES	1	2	2	STEVE COAN / BILL HAMMOND
VPSA	STUDENT LEGAL SERVICE	5	6	6	STEVE COAN / BILL HAMMOND
		384	1761	1761	
VPUA	ADVANCEMENT SERVICES	14	18	20	SYSTEMS SUPPORT (8 FTE, 8 SW)

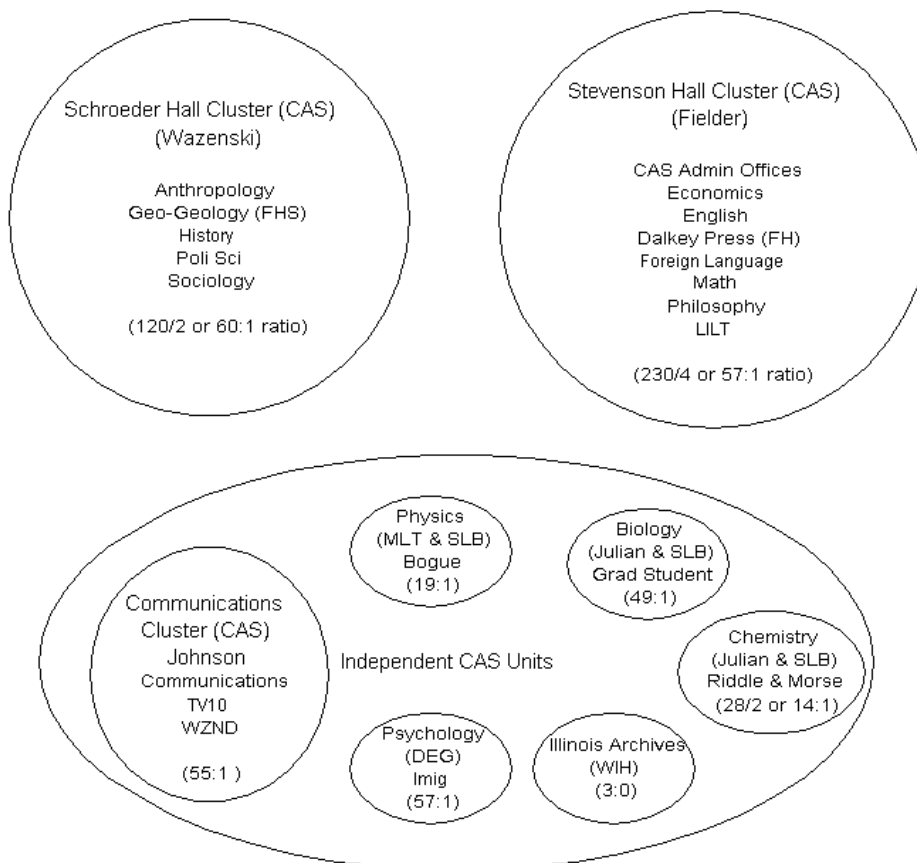
VPUA	ALUMNI OFFICE	10	12	14	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPUA	DEVELOPMENT	10	10	10	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPUA	FOUNDATION OFFICE	5	5	5	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPUA	INSTITUTIONAL ADVANCEMENT	8	40	43	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPUA	UNIVERSITY COMMUNICATIONS	36	23	27	SYSTEMS SUPPORT (8 FTE, 8 SW)
VPUA	UNIVERSITY RELATIONS	5	5	5	SYSTEMS SUPPORT (8 FTE, 8 SW)
		88	113	124	

Appendix 4

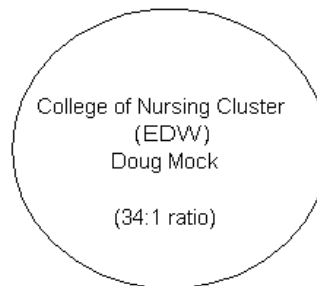
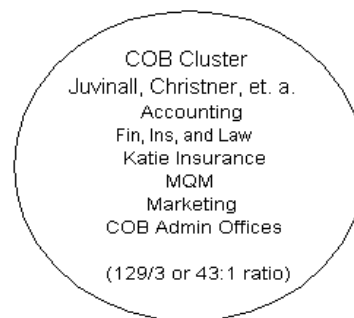
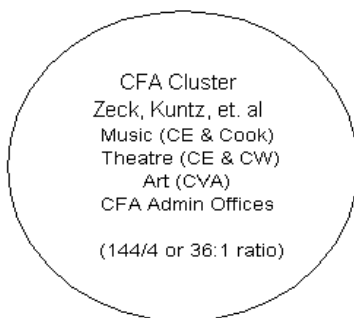
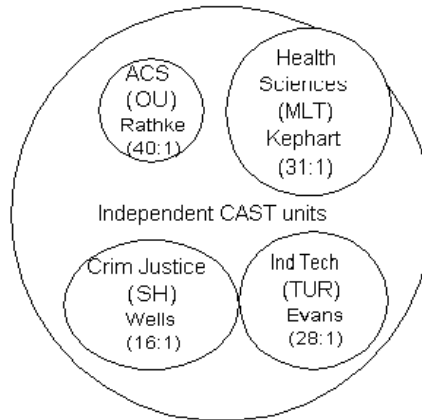
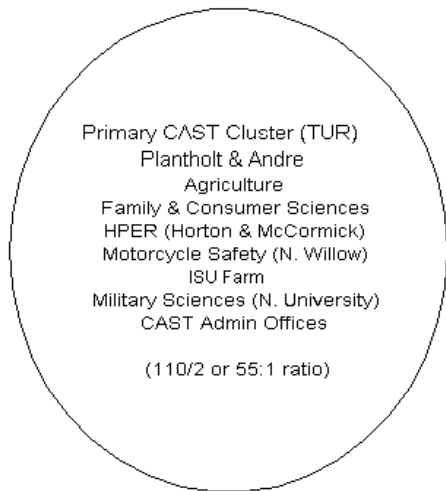
Visual Maps of Campus Support Clusters

Note: The charts created here were drawn from the data collected by the Distributed Support planning committee in Spring 2000. These may not truly reflect the current support staffing in the various areas due to changes in the past six month. The graphics do illustrate, however, how support is clustered and where there are isolated groups with single or no support personnel. These are places where units need to consider consolidating support into larger units as recommended by the Distributed Support planning committee. These charts also illustrate the large number of units that are supported by central support staff within CISS based on past agreements, some quite old, for computer technical support. These units need to be combined with other support units and proposals for additional staff support developed.

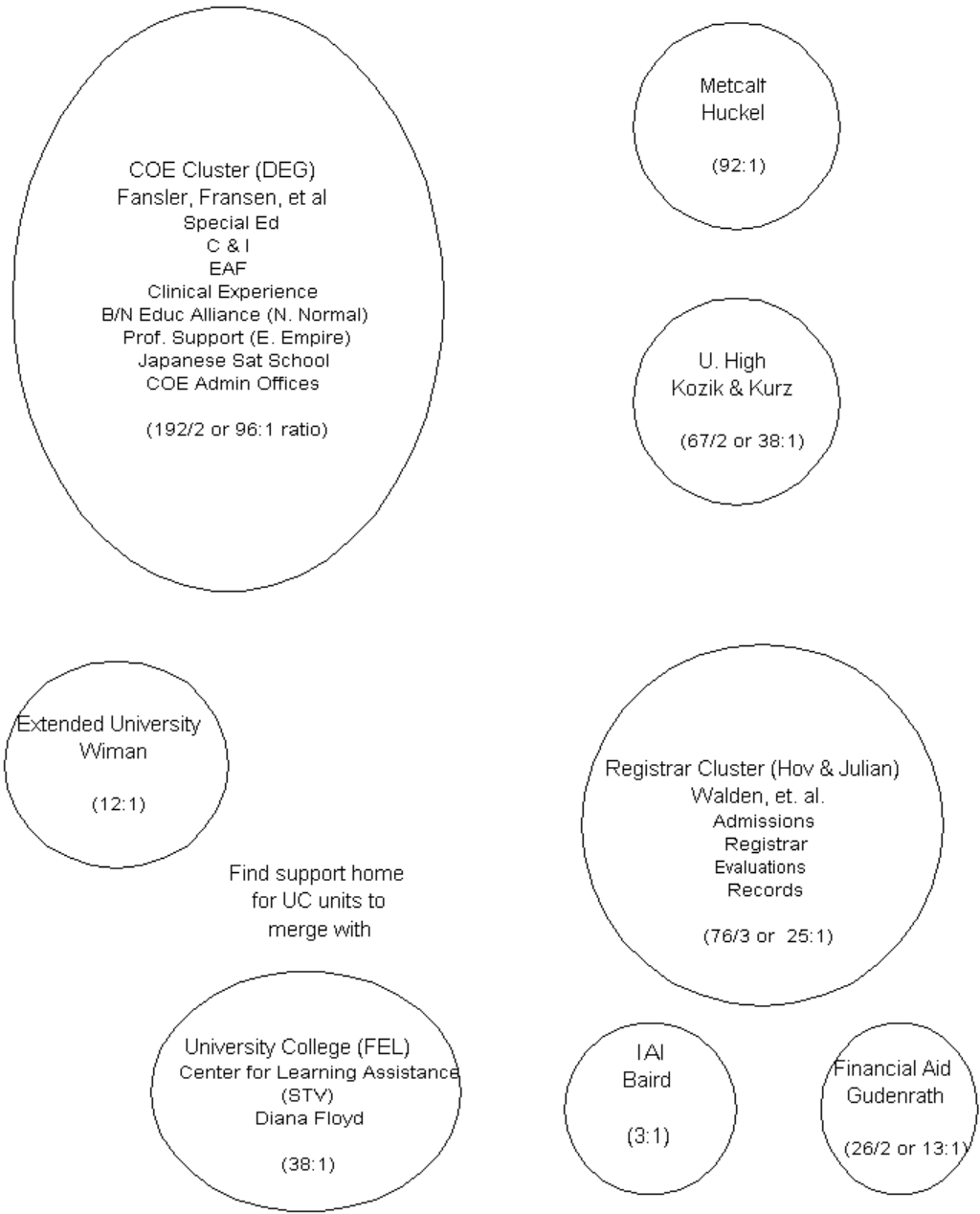
College of Arts and Sciences Distributed Support Clustering



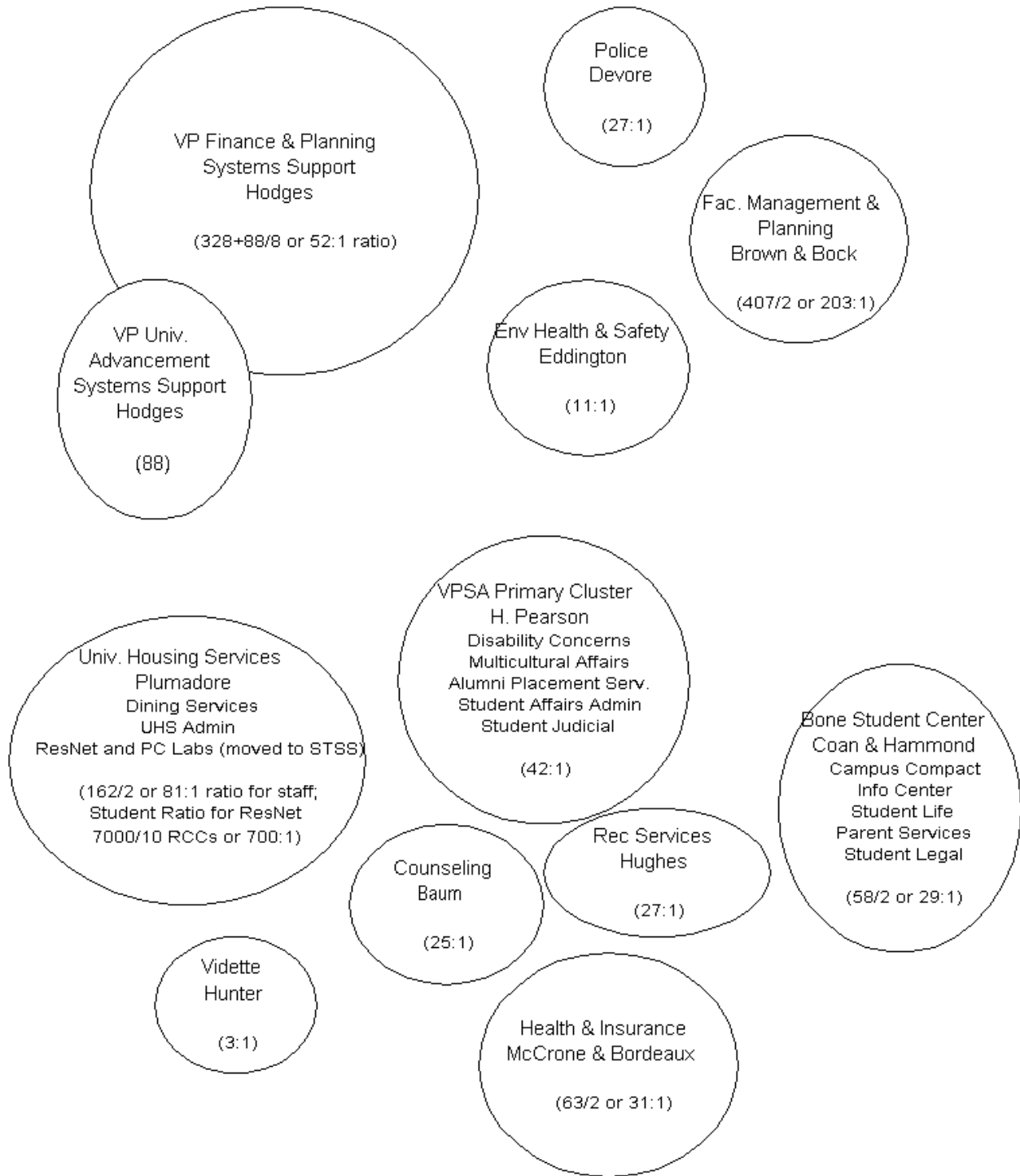
**CAST, Business, Fine Arts,
Milner, and Nursing
Distributed Support Clustering**



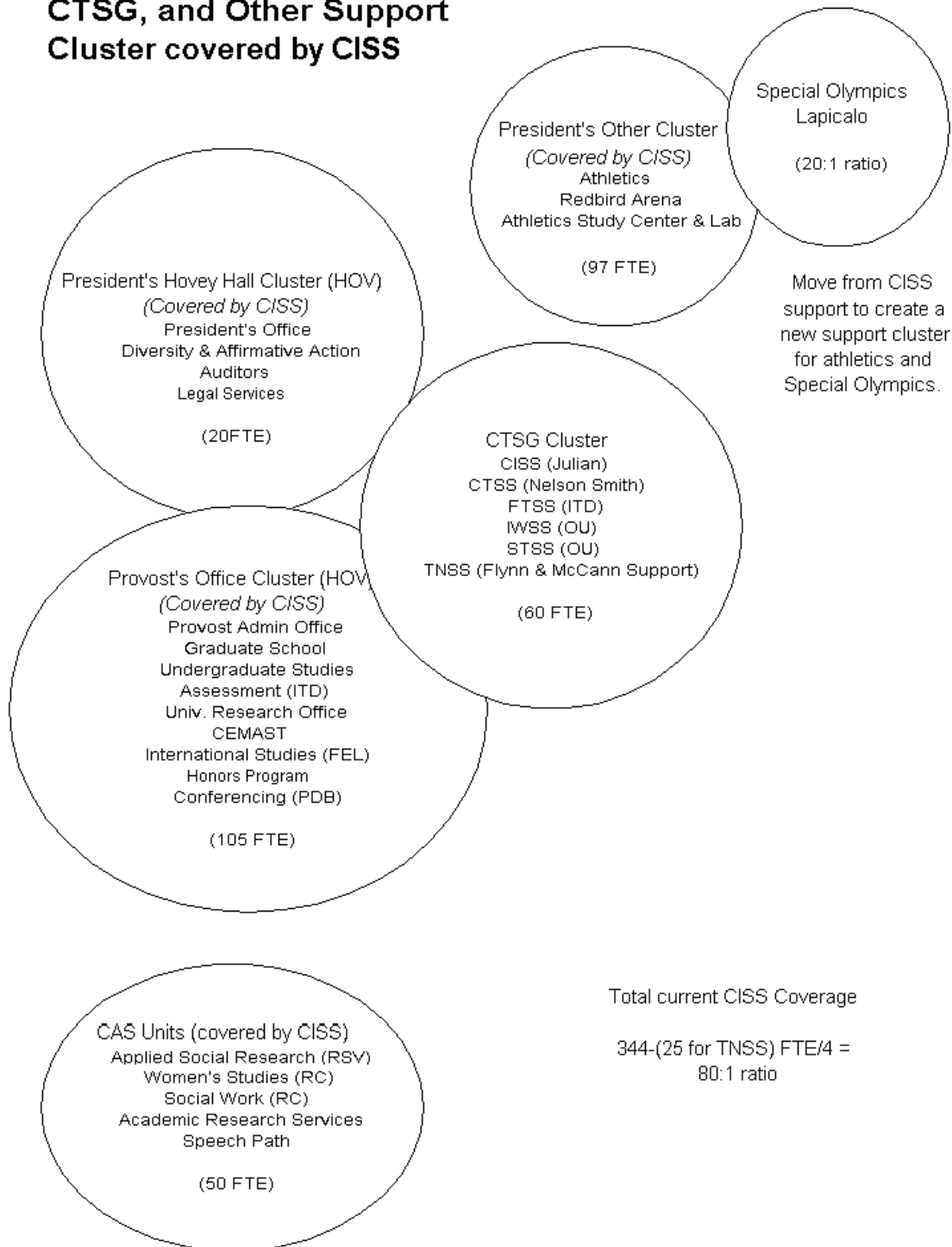
**College of Education, Registrar,
EU, U College, & Special
Olympics
Distributed Support Clustering**



VPFP, VPUA, and VPSA Distributed Support Clusters



**President, Provost, Athletics,
CTSG, and Other Support
Cluster covered by CISS**



Appendix 5

Associate Vice President for Information Technology Response Memo to the Committee September, 2000

September 14, 2000

MEMO

TO: Networked Support Implementation Committee
FROM: David B. Williams, Associate VP for Information Technology
RE: Response to Report and Next Steps
CC: Alvin Goldfarb, Provost

I would like to extend a sincere “thank you” to all of the committee for many hours spent on a difficult task. The quality of the report demonstrates a significant degree of collaboration among the committee and the campus support groups they represent. This report provides a good blueprint for us to proceed to implement the plan for pulling together all of the campus technology support efforts. I was struck by a statement in a recent article on technology planning where the executive stated that “if there is a mantra for the 21st century, I think it would be: local control but central coordination.” In a nutshell that captures the essence of what we are attempting to accomplish for networked support on the Illinois State campus and the committee’s work is key to making the “central the benefit of local support units or clusters.

The NSIC report was reviewed by various campus committees including ECAT, the Provost Advisory Council, and the Vice Presidents. I have chosen to use the thirteen Quick Starts defined by the committee to summarize the collective response to the report and outline the next steps that I recommend for implementation.

In brief, the following seven steps are recommended for implementation:

1. TSAG formed (or TSAC as recommended below)
2. Help Desk Software RFP written and purchased
3. Various support clusters are reviewed with each Dean or VP with the goal of consolidation where possible
4. System of phone numbers devised as well as programming of phones
5. Promotional campaign planned
6. Communications tools planned
7. January 1, 2001 online

Below are the thirteen Quick Starts defined by the committee with comments and implementation actions based on feedback from the review of the NSIC report:

1. Implement the networked support model outlined in Figure 1 above. The model is built on local support provided through distributed support units throughout the campus, education and tools that help end-users to support themselves, and a strong centralized support function acting as a lever to facilitate the first two elements. (Units responsible: AVPIT, TSAG, and Network Support Coordinator.)

The Deans and Vice Presidents have given their approval to proceed with the Networked Support Implementation Plan. *This approval was given with the understanding that certain issues noted below would be worked through in the process. We will be starting implementation immediately. The title, “Networked Support” was found to be confusing and “Distributed Computer Support Network” or DCSN is proposed as an alternative. The goal is to bring the DCSN plan online by January, 2001.*

2. Create the Technology Support Advisory Group (TSAG) shown in Figure 2. Limit its membership to one representative from each campus-level support unit and one Unit Coordinator from each administrative area depicted in Figure 2. (Units responsible: AVPIT in collaboration with VPs.)

One of the first steps will be to create the TSAG committee. The general feedback was that the group is too large as proposed. The following committee make-up is suggested for a more streamlined version. It assumes, primarily, that every Campus Technology Support Group (CTSG) unit does not need to be represented at the table, and key directors of CTSG units could be listed as ex officio members and brought in to consult as needed. To avoid confusion with the CTSG title, it is recommended that the committee be called the Technology Support Advisory Consortium or TSAC. The following TSAC committee structure is proposed with 12 members:

- 7 members who represent the senior or lead UCS for the following academic areas: COB, COE, CON, CFA, CAS, CAST, and Milner
- 1 Senior UCS to represent VPPF and VPUA
- 1 Senior UCS to represent VPSA
- 1 Senior UCS to represent VPAA and the President's Office
- 1 Director of Student Technology Support Services (representing all student support activities on campus)
- 1 Representative for CTSG and Co-chair (The Distributed Support Coordinator and the manager of the campus Help Desk)
- Ex-officio members to be consulted or invited to the meetings as needed: Director of Telecommunications and Network Support Services; Director of Computer Infrastructure Support Service; Director of Administrative Computing; and the Associate Vice President for Information Technology; or their designees.
- A 2nd co-chair will be elected from the support areas represented.
- Membership will change at the discretion of the primary administrator representing each unit on TSAC or when a members job duties change

The TSAC will be created immediately and charged with working out the details to bring the DCSN plan online by January, 2002.

1. Match every faculty and staff member with a mutually exclusive "support unit" served by a team of UCSs. Ensure that every "orphan" is assigned a home, i.e., his/her own local support team. As new support units are created, encourage the creation of larger support units. (Units responsible: TSAG and key university administrators.)

See response to No. 4 below.

2. Respecting the organizing principle of creating local support units along college and vice presidential area lines, study the configuration of current support units and recommend consolidation of smaller into larger support units as necessary. (Unit responsible: TSAG)

The greatest amount of work will be to study the support clusters across campus and to make changes or to make plans for additional where needed. I have agreed to meet with the Deans and VPs individually and review their support clusters and assess where changes are needed to make the DCSN plan work effectively. This will take place over the course of the Fall semester. I have attached a series of chart graphically illustrating the campus support clusters. Suggested possibilities for clustering of separate support units are shown in bold pen. Please realize that these are only suggests. The committee's recommendation that larger clusters are more desirable than small ones is excellent advice. The key advantage is greater depth in personnel to support any given cluster of users.

3. Assign a **single** phone number and web-form to every user. This number/form will connect the user to his/her support unit. Instruct end-users that they should use this number/form for **every** computing problem they encounter. (Units responsible: TNSS, TSAG, UCSs, and STSS.)

There are two key elements to this. First, the TSAC committee will need to work closely with the UCSs representing all support clusters on campus and the Director of Telecommunications & Network Support Services to develop the phone infrastructure and changes necessary to implement this plan. Second, TSAC will need to design an effective public relations campaign to promote the DCSN plan and the phone number system to all campus users. This should be a combination of news stories, web page design, flyers, and other promotional devices (e.g., mouse pads with key information customized to each support cluster.)

4. Create a **single** "back phone" number, to be called the UCS Hotline, that connects UCSs to the University 8-Help Desk. Train UCSs to use this number to escalate any computing problem to a campus-level support unit. Ensure that UCS calls to this number will take priority over other 8-HELP calls. Create a system to cover these calls to ensure **immediate** response to a UCS calling the UCS Hotline. (Units responsible: TSAG, CISS, and TNSS.)

The manager of the campus Help Desk (and the manager of the DCSN) will need to work closely with TSAC and TNSS to put this in place. The key issue with the "back phone" is not the mechanics of the phone operation, but the procedures to ensure that it will always work effectively as planned. This is the area that people are most nervous about. Campus administrators and key tech support staff have low confidence that they are going to get the immediately help they need from key technology support folks like Rudy and Scott when serious things happen. This number must be reserved only for UCS calls and the response time must be exceptional to build the high level of confidence needed. If this piece of the DCSN plan under performs, the entire plan will fail.

5. Create a separate phone line (the Student Help Desk) within the University 8-Help Desk dedicated solely to students and market that information to the student population. Migrate current ResNet calls to the Student Help Desk for dispatching field representatives as necessary. Continue expansion of ResNet program to off-campus housing, using a "Swat Team" approach. (Unit responsible: STSS or CISS.)

Student support, especially for off-campus students, was another of the topics that received serious discussion with much concern expressed. Again, the mechanics of the phone system is minor. A PR campaign to promote its use is critical. However, the major issue surrounding this implementation is the security and legal liability of student workers going into off-campus housing. Alternative proposals were implementing walk-in support only, and contracting with an outside firm for off-campus support. In consultation with the director of Student Technology Support Services, we are proposing to implement walk-in support first and then see how it goes from there. No plans for off-campus, onsite or in-home, service will be implemented until further study of the situation.

6. Ensure that distance education students can activate their ULIDs, reset their passwords, and contact the Student Help Desk through an 800-number when they have a computing problem. (Units responsible: TNSS and either STSS or CISS.)

We will need to continue to study this one. At the moment, we cannot afford the cost of an 800 number to the help desk. I will charge TNSS to continue to monitor this situation and to let me know when a solution is cost effective. At that time we will move to implement 800 support to the help desk.

7. Encourage "supportable behavior" on the part of end-users by acquiring site-licenses for certain pervasive software and then making the software freely available, negotiating volume discounts with leading vendor that provides a more competitive price for the "standard" technology, and continuing providing "free" education to our end-users. (Units responsible: ECAT, FTSS, STSS.)

We have already moved in this direction with the purchase of Microsoft products, Eudora, QWS3270, SPSS, McAfee virus protection, and Mac OS for all institutional computers across campus (as well as home installations for faculty and staff). The Institution has paid for this software and it is freely available to all departments and units across campus (exception being Mac OS for which \$10,000 was allocated to buy as many installs as possible when OS 10 is released for lab and faculty/staff workstations). The Itools package of Internet software was produced again this year at no cost to the campus community.

The number of training classes has been increased at least 100 percent from last year through Faculty Technology Support Services. A well attended series of Office 2000 briefing sessions were held during July and August.

Software help guides for students as well as faculty/staff will be designed and distributed this year as quick reference guides for key campus software.

8. Define a minimal set of communications devices for every support unit. (Unit responsible: TSAG.)

See response to No. 11 below.

9. Provide every local support unit with this minimal set of communications devices. (Units responsible: Deans and VPs)

TSAC will need to address this issue as soon as possible to give the various units time to find funding for cell phones, pagers, and the like. A clear message that the “minimum” set of devices is mandatory will help to ensure campus wide adoption. TSAC should work with the Director of TNSS to aggressively price these communication devices for the campus.

10. Create the position of the Networked Support Coordinator, who will head the Networked Support Coordination Group. Expand the current position of Campus Help-Desk Manager to include the duties of the Network Support Coordinator. (Unit responsible: CISS.)

This will take effect immediately following the final meeting of the Network Support Implementation Committee. This person will be assigned the primary responsibility to ensure that the DCSN works effectively and that the TSAC committee is integrally involved in the process.

11. Create a separate committee to define skill sets for technology support positions campus-wide and make salary range recommendations. (Units responsible: AVPIT, VPs, and Deans.)

I will create the a study group this Fall to carefully examine issues surrounding IT staff hiring, salaries, and retention. There is much national attention to this issue in the corporate and education worlds. It will be important to study the research and planning of others to find innovated ways to address these issues.

12. Expand the issue of evaluating help desk software used for tracking computer support requests to include building a knowledge base unique to the Illinois State University campus, providing automatic electronic feedback to requests for support from end-users, and creating links to databases of user and machine profiles; direct the Help Desk Manager to invite vendors to make presentations to the campus community concerning features of their software, and create a RFP. (Units responsible: TSAG, CISS, and AVPIT.)

Analysis and implementation of Help Desk management software is key to the success of the DCSN plan. This project is already underway. Three vendors (Magic, Remedy, and Goldmine) have already made campus presentations. A small group of Illinois State staff attended a Magic training session in Milwaukee this past week. We have funds in place to hire a new technical support staff person to administer the Help Desk software and the search for this position will start immediately. A part-time technical writer has been hired for CTSG with a portion of that person’s assignment understood to be writing knowledge-base materials for the Help Desk software. The Distributed Support Coordinator and the TSAC committee will design the RFP and we will bid on this software this Fall. Funding has been set aside to purchase the software so that all support clusters on campus may use the software free of any cost.