



E D U C A U S E

CORE DATA SERVICE



2002 Summary Report

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IT Organization, Staffing, and Planning

The first section of the core data survey included questions that can be clustered into three areas: campus information technology (IT) leadership and organization, IT staffing, and IT strategic planning.

IT Leadership and Organization

Survey responses for the title of the highest ranking technology administrator beg the question, “What’s in a name?” They are anything but consistent or predictable! Of the 621 institutions whose data were included in our “snapshot,” 275 unique titles were reported, representing nearly every combination of level (vice president, assistant/associate vice president, dean, director, and others) and area descriptor (information systems/services/technology, and others). These various combinations and permutations often included an

addendum such as “and CIO” or “and CTO.” The most common unique title was in fact CIO (chief information officer), which was included in the title of 27.6% of all responses.

Table 1-1 shows percentages of the various titles¹ by Carnegie classification,² to allow for easy comparison across segments of the higher education community. As shown in the table, the vice president title is most common in research universities (DR), while director is the dominant title in liberal arts colleges (BA), comprehensive universities (MA), and associate’s colleges (AA). The title of CIO is used significantly in all of the categories.

These highest ranking IT administrators not only have a variety of titles, they also have a variety of reporting relationships within their respective organizational structures. Table 1-2 shows the percentage of top IT leaders report-

Table 1-1
Percentage of Title of Highest Ranking IT Administrator

	All	DR	MA	BA	AA	Other
VP, Vice Chancellor, ...	19.8%	41.8%	16.0%	12.8%	16.9%	8.3%
CIO	19.6%	23.9%	26.6%	11.3%	12.4%	19.8%
CTO	2.7%	1.5%	3.6%	6.0%	1.1%	0.0%
Assistant/Associate VP, ...	14.0%	18.7%	16.0%	10.5%	14.6%	8.3%
Director, Dean, Executive Director	40.6%	14.2%	37.9%	57.1%	46.1%	54.2%
Assistant/Associate Director or Dean	0.6%	0.0%	0.0%	0.8%	3.4%	0.0%
Head, Manager, Other	2.6%	0.0%	0.0%	1.5%	5.6%	9.4%

Table 1-2
Percentage of Top IT Administrators Reporting to Various Organizational Roles

	All	DR	MA	BA	AA	Other
Chancellor/President/CEO	27.1%	26.1%	28.4%	23.3%	33.7%	25.0%
Highest Academic Officer	30.8%	38.1%	32.0%	36.8%	22.5%	17.7%
Highest Administrative Officer	24.0%	17.9%	20.7%	18.8%	31.5%	38.5%
Highest Business Officer	10.6%	4.5%	11.8%	17.3%	6.7%	11.5%
Second Level Academic	1.3%	1.5%	1.2%	1.5%	1.1%	1.0%
Second Level Administrator	0.5%	0.1%	0.0%	0.0%	0.0%	2.1%
Other	5.8%	11.2%	5.9%	2.3%	4.5%	4.2%

Table 1-3
Percentage of Top IT Administrators Who Are Members of the President's or Chancellor's Cabinet

	All	DR	MA	BA	AA	Other
Yes	43.6%	49.3%	43.8%	33.1%	57.3%	37.5%
No	56.4%	50.7%	56.2%	66.9%	42.7%	62.5%

ing to various officials on their campuses, once again broken out by Carnegie class. The differences in reporting relationships indicate substantially different patterns among Carnegie groups. The percentage of IT leaders reporting directly to the president is approximately equal for all groups, and appears to represent an increase compared to data collected by Latimer in a comparable manner in 1998.³

It is notable that while nearly 42% of the top IT administrators at doctoral institutions carry the title vice president, vice chancellor, or something equivalent, only about 26% report to the president or chancellor. It is likely that their title reflects a level of significance and seniority with the executive leadership team, and not necessarily a structural reporting relationship or an indication of who conducts this person's performance appraisal.

An unusually high percentage of respondents marked the "other" functional area, especially those from doctoral institutions. In a few cases, this reflected the top IT administrator reporting in a somewhat unique manner, such

as to a vice president for student affairs. However, the vast majority of these "other" responses reflected dual reporting relationships, most commonly to the top academic *and* the top administrative officers, although there were also some that jointly report to the president and one of these other top VP positions.

Finally, there is a significantly greater propensity for the top-ranking IT administrator to report to the top-ranking administrative or business officer in all Carnegie groups other than doctoral institutions. This is the case for a third to more than half of the respondents.

While reporting relationships are potentially interesting, who does the IT leader's performance evaluation is less important than whether or not the IT leader is a member of the executive cabinet. The ability to sit on the president's cabinet, executive committee, or whatever the top policy forum is called is far more important, in that this seat allows the top IT leader to actively engage in campus-level discussions about strategic directions and policy and to work with other senior officers in

**Table 1-4
Functions Reporting to the Top IT Administrator**

	All	DR	MA	BA	AA	Other
Academic/Research Computing	67.8%	80.6%	74.6%	70.7%	47.2%	53.1%
Administration of IT Organization	93.9%	96.3%	97.0%	93.2%	87.6%	91.7%
Administrative Systems	90.7%	91.0%	96.4%	93.2%	82.0%	84.4%
Computer Store	16.1%	27.6%	14.8%	12.8%	5.6%	16.7%
Desktop/User Support Services	95.8%	95.5%	97.6%	97.7%	96.6%	89.6%
Distance Education	28.5%	27.6%	40.2%	21.8%	25.8%	20.8%
Instructional Technology	66.8%	72.4%	75.7%	68.4%	53.9%	53.1%
IT Policy	93.1%	94.0%	94.1%	94.7%	87.6%	92.7%
IT Security	93.6%	95.5%	93.5%	94.0%	88.8%	94.8%
Library	15.6%	11.2%	20.1%	13.5%	15.7%	16.7%
Mailroom	4.3%	2.2%	3.6%	4.5%	5.6%	7.3%
Media Services	48.3%	46.3%	58.6%	45.9%	40.4%	43.8%
Networking Infrastructure and Services	96.6%	97.8%	98.2%	96.2%	94.4%	94.8%
Operations/Data Center	89.9%	95.5%	91.1%	88.0%	83.1%	88.5%
Print Services	35.6%	30.6%	27.2%	44.4%	39.3%	41.7%
Technology R&D	57.5%	64.9%	60.4%	59.4%	51.7%	44.8%
Telephony	74.6%	88.1%	77.5%	57.9%	70.8%	77.1%
Web Support Services	82.1%	89.6%	84.0%	77.4%	79.8%	77.1%
Other Function	11.8%	15.7%	16.6%	6.8%	10.1%	6.3%

understanding the role that IT can play in the various functional areas on campus. As shown in Table 1-3, the percentage of top IT leaders sitting on this top policy council is substantially greater than the percentage that actually report to the president.

With regard to the various functional areas that report to the top IT administrator, there are as many variations here as with titles. Because of the increasing complexity of information technology, there are many subgroupings and focal areas into which IT staff resources fall. The core data survey attempted to identify what functions are within the line operations of the top IT administrator as the head of the central IT organization.

There is a rather remarkable consistency in the responses to this question, with the top eight ranked areas the same irrespective of Carnegie

group. These functional areas, in descending order, are network and infrastructure services, administration of the IT organization, security, desktop and user services, IT policy, administrative systems, operations and data center, and Web services. While not all Carnegie groups had precisely this order, the differences were insignificant, as shown in Table 1-4.

The remaining functional areas showed no uniform patterns, but some data points are worth noting. Academic and research computing is most commonly included in the IT organization line operations at doctoral institutions, with this percentage decreasing as institutional complexity decreases and as institutions are less likely to have substantial research programs. Distance education reports to the CIO far more frequently among master's institutions than any of the other

Table 1-5
Average Number of FTE Staff in the Central IT Organization in Each Functional Area

	All	DR	MA	BA	AA	Other
Academic/Research Computing	4.0	11.4	1.7	1.0	1.6	3.9
Administration of IT Organization	4.9	12.5	2.9	1.6	1.9	5.4
Administrative Systems	12.8	36.1	6.8	3.2	3.4	12.5
Desktop/User Support*	8.7	20.1	5.4	3.1	3.3	11.4
Instructional Technology	5.5	13.3	4.0	1.8	2.7	4.9
IT Policy	0.6	1.0	0.5	0.4	0.4	1.2
IT Security	1.2	2.6	0.6	0.4	0.6	2.4
Networking Infrastructure and Services	6.8	18.1	3.4	1.9	2.3	8.0
Operations/Data Center	6.3	19.6	2.7	0.9	1.8	5.8
Public Help Desk	3.2	7.1	2.0	1.2	1.3	4.2
Telephony	4.9	15.6	2.4	0.9	1.0	3.7
Web Support Services	2.7	6.1	1.6	1.1	1.3	3.6
Other Function	9.3	15.7	4.8	2.9	2.9	13.5
*Includes computer store						

groups. The computer store reports more often within the IT structure of doctoral institutions, probably due to the need to encourage the standardization of hardware in these schools, as well as the ability of these larger organizations to manage such an operation. Media services reports within the IT organization for about half of all respondents. Finally, it is worth noting that the library and IT organizations have been merged in about one out of six institutions; this will be a ratio to track in future years.

IT Staffing

The core data survey requested data related to staffing levels, which we have used to suggest several staffing ratios. Data related to staffing practices are also reported.

Staffing Levels

While it is fine to state that a given set of functions reports to the CIO, perhaps the more interesting question is how each of these functions is staffed on a comparative basis. The survey requested data not only for regular full-

time equivalent (FTE) IT staff but also for student FTE employees because most IT organizations could not meet the needs of their campus constituencies without the skills and talents of the students who serve in a variety of capacities in IT support.

The deployment of staff and students in these areas needs to be understood in both absolute and relative terms. The tables in this section reflect those differences, with Tables 1-5 and 1-6 showing the average number of FTE staff and students, respectively, devoted to these various functions. Tables 1-7 and 1-8 show the percentage of total central FTE IT staff devoted to each function, thus controlling to some extent for size differences across Carnegie classes.

The core data survey respondents were allowed to assign fractional parts of individuals to the various functions, which is especially important to smaller schools with fewer staff who must cover more than one functional area. Thus, if a given individual spent half of her time doing network architecture, 30% of her time doing database work in administra-

Table 1-6
Average Number of FTE Student Employees
in the Central IT Organization in Each Functional Area

	All	DR	MA	BA	AA	Other
Academic/Research Computing	3.9	10.1	3.4	1.7	1.0	1.9
Administration of IT Organization	0.5	1.1	0.4	0.3	0.1	0.6
Administrative Systems	0.4	0.9	0.5	0.2	0.1	0.2
Desktop/User Support*	6.1	16.1	6.3	2.1	1.2	2.0
Instructional Technology	5.4	14.0	5.1	2.0	1.8	2.0
IT Policy	0.0	0.0	0.0	0.0	0.0	0.0
IT Security	0.3	0.3	0.1	0.0	0.0	1.6
Networking Infrastructure and Services	1.0	2.8	0.8	0.2	0.1	0.7
Operations/Data Center	0.8	2.6	0.7	0.2	0.1	0.2
Public Help Desk	4.1	8.9	3.7	3.9	0.8	1.7
Telephony	0.6	1.6	0.8	0.2	0.0	0.2
Web Support Services	0.8	1.2	1.0	0.4	0.2	0.8
Other Function	5.8	12.1	3.6	1.5	0.8	1.6
*Includes computer store						

Table 1-7
Percentage of FTE Staff in the Central IT Organization in Each Functional Area

	All	DR	MA	BA	AA	Other
Academic/Research Computing	5.6%	6.5%	5.3%	5.5%	5.6%	5.2%
Administration of IT Organization	8.7%	7.5%	8.7%	9.8%	9.1%	8.4%
Administrative Systems	18.5%	20.6%	19.6%	18.1%	12.8%	19.3%
Desktop/User Support*	15.9%	12.4%	16.2%	16.9%	17.5%	17.7%
Instructional Technology	8.6%	8.3%	9.3%	8.4%	10.2%	6.4%
IT Policy	1.6%	0.6%	1.6%	2.0%	2.2%	2.1%
IT Security	2.2%	1.5%	2.1%	2.1%	3.1%	2.8%
Networking Infrastructure and Services	11.1%	10.9%	10.2%	11.1%	12.4%	11.5%
Operations/Data Center	7.4%	11.1%	6.6%	5.2%	7.0%	7.4%
Public Help Desk	6.3%	4.3%	6.3%	7.1%	8.5%	6.0%
Telephony	6.2%	9.2%	6.3%	5.1%	4.1%	5.1%
Web Support Services	5.5%	3.7%	5.4%	6.5%	6.4%	5.9%
Other Function	2.4%	3.5%	2.5%	2.1%	1.2%	2.4%
*Includes computer store						

Table 1-8
Percentage of FTE Student Employees in the Central IT Organization in Each Functional Area

	ALL	DR	MA	BA	AA	Other
Academic/Research Computing	11.5%	12.8%	13.0%	10.7%	8.4%	9.4%
Administration of IT Organization	1.6%	1.7%	1.7%	1.3%	1.9%	1.0%
Administrative Systems	1.7%	1.9%	1.5%	1.5%	1.7%	2.1%
Desktop/User Support*	27.4%	23.9%	25.3%	28.0%	38.8%	25.7%
Instructional Technology	17.6%	24.5%	17.4%	14.9%	14.2%	12.8%
IT Policy	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%
IT Security	0.5%	0.8%	0.2%	0.3%	0.4%	1.3%
Networking Infrastructure and Services	3.8%	4.9%	3.7%	2.5%	5.0%	3.1%
Operations/Data Center	2.6%	3.6%	2.9%	1.9%	2.6%	1.6%
Public Help Desk	23.1%	16.3%	22.1%	29.9%	20.2%	30.7%
Telephony	2.9%	3.4%	3.3%	3.0%	0.8%	2.6%
Web Support Services	4.1%	2.5%	5.1%	4.3%	3.2%	5.8%
Other Function	3.1	3.8	3.8	1.6	2.6	3.8
*Includes computer store						

Table 1-9
Summary Statistics of Total Central FTE IT Staff

	Mean	Median	Minimum	Maximum
DR EXT	206.4	188.4	40.0	657.5
DR INT	84.1	74.0	23.5	190.5
MA I	39.7	31.0	4.0	167.5
MA II	15.3	13.5	4.0	52.0
BA LA	21.9	18.7	3.0	94.6
BA General	13.6	11.0	1.0	47.0
AA	22.0	17.5	1.0	89.0
Other	69.6	47.0	1.0	394.0

tive computing, and the remainder in security, assignment of time of .5, .3, and .2, respectively, would be acceptable.

Finally, in looking at these tables, part of the difference seen may be due to the available budget or the complexity of the institution. But we also recognize that there might be a critical mass for staffing a given area, and thus the comparable percentages may be skewed somewhat due to this factor.

The aggregation of data for like Carnegie groups works well for purposes of simplicity,

and in almost all cases no significant meaning is lost. However, the total IT staff number (summing the IT staff numbers in all of the functional areas previously described) is more meaningful when like Carnegie classes are not grouped. The rather dramatic differences between the Doctoral Extensive and Doctoral Intensive schools (shown in Table 1-9) are of particular interest.

Table 1-10 shows the average number of central IT staff for each of the eight categories in the first column, the total of central and dis-

Table 1-10
Central FTE IT Staff, Total Central Plus Distributed IT Staff, and Percentage of Central IT Staff

	Central FTE IT Staff	Total FTE IT Staff*	% Central IT Staff
DR EXT	206.4	355.2	58.1%
DR INT	84.1	118.4	71.0%
MA I	39.7	47.8	83.1%
MA II	15.3	17.0	90.0%
BA LA	21.9	23.6	92.8%
BA General	13.6	15.8	86.0%
AA	22.0	24.9	88.3%
Other	69.6	100.4	69.3%
All	64.0	96.3	66.5%
*Central plus estimated distributed/departmental IT staff			

Table 1-11
Faculty Supported per Central FTE IT Staff Member

	All	DR	MA	BA	AA	Other
Mean	9.5	9.0	9.4	8.8	12.4	6.2
Median	8.2	8.1	8.7	7.8	10.1	6.1
Minimum	0.6	2.8	2.0	1.2	0.7	0.6
Maximum	83.8	30.0	41.2	83.8	83.8	20.8

tributed/departmental IT staff in the second column, and the percentage of total IT staff that the central IT staff represent in the third column. Clearly the number of distributed/departmental IT staff increases at a significant rate as the complexity of the institution increases. Note that the percentage of distributed staff is greatest at Doctoral Extensive campuses.

Highly complex, large, research-oriented institutions have a greater need for specialized, often disciplinarily trained IT staff in the departments and colleges to support faculty. These staff may focus far more on the academic applications in a particular field, while the central staff concern themselves with infrastructure, system-wide applications, general support, and so forth. It will be very interesting to see how these percentages of centralized staff change over time.

Staffing Ratios

While it is not clear whether stable ratios regarding staffing are possible, part of the CDS

effort is to provide benchmarks for comparison and not just descriptive statistics. Ratio analysis has long been a standard in examining business performance, and it is hoped that a variety of key ratios will emerge via the CDS that allow for effective comparison of IT data. In terms of staffing, we examined two ratios with regard to central IT staff.

The first ratio is the number of faculty supported per central FTE IT staff member (shown in Table 1-11). We arrived at this ratio by taking the number of FTE faculty on campus (data reported by campuses to IPEDS⁴) and dividing it by the number of FTE central IT staff reported in our survey (derived by adding all the numbers entered into the question about functional area support).

The second ratio we calculated is students supported per central FTE IT staff member, derived by dividing the number of FTE students (again, from IPEDS data) by the number of FTE central IT staff (derived by adding all the numbers entered into the question

Table 1-12
Students Supported per Central FTE IT Staff Member

	All	DR	MA	BA	AA	Other
Mean	149.9	116.8	159.9	123.8	230.6	140.7
Median	128.5	110.3	144.6	98.0	187.4	113.5
Minimum	0.8	24.0	26.1	23.6	27.2	0.8
Maximum	1078.0	403.4	839.8	1078.0	836.5	740.7

Table 1-13
Separate Salary Scales for IT Professionals

	All	DR	MA	BA	AA	Other
Yes	32.9%	44.8%	39.1%	18.0%	34.8%	24.0%
No	67.1%	55.2%	60.9%	82.0%	65.2%	76.0%

Table 1-14
Separate IT Job Titles or a Broadband System for IT Professionals

	All	DR	MA	BA	AA	Other
Yes	60.4%	76.9%	60.9%	48.1%	55.1%	58.3%
No	39.6%	23.1%	39.1%	51.9%	44.9%	41.7%

Table 1-15
Dollar Amount in Budget per FTE IT Staff Member for Professional Development

	All	DR	MA	BA	AA	Other
Mean	\$1,188	\$1,134	\$1,134	\$1,245	\$1,142	\$1,327
Median	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
Minimum	\$0	\$0	\$0	\$0	\$0	\$0
Maximum	\$7,333	\$3,500	\$4,500	\$3,500	\$4,500	\$7,333

about functional area support). These ratios are shown in Table 1-12.

Staffing Practices

The Core Data Service also provides insight into a number of staffing practices. In terms of meeting market pressures related to hiring and keeping qualified staff, campuses turn to a variety of techniques. Overall, 32.9% of campuses report having separate salary scales for IT professionals, but as Table 1-13 indicates, this is highly uneven across Carnegie groups.

Alternatively, participants were asked if their campuses use either separate IT job titles or a broadband IT classification and compensation system. Table 1-14 indicates that

about 60% of all respondents use one or the other of these approaches, with a significantly higher percentage of “yes” responses by doctoral universities.

Finally, training and ongoing professional development are critical to recruiting and retraining a qualified IT staff. Respondents were asked how many dollars are set aside in the annual budget and provided for professional development or training per FTE IT staff member. Table 1-15 shows a remarkable consistency in the statistical measures across all Carnegie classes.

IT Planning and Advisory Groups

In reference to IT planning, the core data survey asked whether the campus strategic

Table 1-16
Campus Strategic Plan Includes Strategies and Directions for IT

	All	DR	MA	BA	AA	Other
Yes	77.6%	73.1%	81.7%	73.7%	87.6%	72.9%
No	22.4%	26.9%	18.3%	26.3%	12.4%	27.1%

Table 1-17
Campus Has a Stand-Alone IT Strategic Plan

	All	DR	MA	BA	AA	Other
Yes	72.0%	76.9%	74.6%	59.4%	77.5%	72.9%
No	28.0%	23.1%	25.4%	40.6%	22.5%	27.1%

Table 1-18
Groups Providing Advice on IT Strategy

	All	DR	MA	BA	AA	Other
Trustee Committee	15.1%	20.9%	14.8%	16.5%	3.4%	16.7%
Administrative Committee	55.2%	65.7%	58.6%	41.4%	55.0%	54.2%
Faculty Committee	57.0%	70.1%	61.5%	51.9%	44.9%	49.0%
General Technology Committee	65.7%	60.4%	67.5%	63.2%	80.9%	59.4%
Other	23.0%	35.8%	26.0%	12.8%	10.1%	26.0%
No IT Advisory Groups	5.0%	3.0%	4.1%	6.0%	4.5%	8.3%

plan includes strategies and directions for IT, and whether or not the campus has a stand-alone IT strategic plan. As seen in Table 1-16, more than three-fourths of all respondents indicated that their institutional plans do address IT directions and strategies, and nearly that number also have a stand-alone IT strategic plan, as shown in Table 1-17.

The last two questions in the first section of the survey requested data on the various groups that provide feedback about IT strategies in general and then specifically about IT security and policy. Results for the former are reported in Table 1-18, while results for the latter are reported in Table 4-16 in Section Four as part of the discussion about security. Respondents could mark as many responses as were applicable in each case, so the percentages do not total to 100%, but rather reflect the frequency of usage of each category or type of committee.

Responses in the “other” field for this question were greater than expected, largely due to an obvious omission in the set of alternatives, namely, student committees. About 8% of the responses entered in the “other” field were for student committees. However, if we had included student committees as an alternative (which we will do next year), undoubtedly the percentage indicating student committee involvement would have been much greater.

Notes

1. Title data were normalized for analysis into the groupings shown in Table 1-1.
2. Carnegie classifications include more distinct breakouts than we are showing for most tables. For our analyses, we have combined Doctoral/Research Universities-Extensive and Doctoral/Research Universities-Intensive into DR; Master’s Colleges and Universities I and Master’s Colleges and Universities II into MA; Baccalaureate Colleges-Liberal Arts, Baccalaureate Colleges-General,

and Baccalaureate/Associate's Colleges into BA. Our AA group includes institutions with the classification of Associate's Colleges. Our "Other" category includes Tribal Colleges and Schools in the Specialized Institutions category as well as those institutions without a Carnegie class (primarily international institutions).

3. Dewitt Latimer's research about the CIO in higher education is described and summarized at <http://www.ciosinacademia.org>.

4. The Integrated Postsecondary Education Data System (IPEDS) is a single, comprehensive data collection program designed to capture data for the National Center for Education Statistics (NCES) for all institutions and educational organizations whose primary purpose is to provide postsecondary education. IPEDS collects institution-level data in such areas as enrollments, program completions, faculty, staff, and finances.