IT Organization, Staffing, and Financing

This module contains questions about central IT organization, staffing, and financing. This module is required for all participants.

In responding to the survey questions in this module, unless specified otherwise, please enter data that describe your IT environment during the prior fiscal year (FY2018–19). Prior fiscal year is defined as the most recent fiscal year ending before July 1, 2019.

NOTES:

- Throughout the survey, "central IT" refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- For CDS participants from central offices of multicampus systems and community college districts, "institution" refers to the central office only, not the entire multicampus entity. For all other participants, "institution" refers to the individual college or university (typically referred to as a "campus").
- Please refer to the CDS glossary for definitions of other terms in the survey.

IT Organization, Staffing, and Financing

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Q1–3 | Highest-Ranking IT Officer Position

IT Organization, Staffing, and Financing

Q1–3 | Highest-Ranking IT Officer Position

1. What was the title of the highest-ranking IT administrator/officer in your institution during the prior fiscal year? (Check all that apply.)

- Chief information officer (CIO)
- Chief technology officer (CTO)
- Chief information technology officer (CITO)
- Chief digital officer (CDO)
- Chief learning officer (CLO)
- Vice president
- Vice chancellor
- Vice provost
- Associate provost
- Associate vice president
- Not applicable—position was vacant

2. To whom did the highest-ranking IT administrator/officer in your institution report?

NOTE: VP/VC=vice president or vice chancellor

- President/chancellor/CEO
- Highest-ranking academic officer (provost, academic VP/VC, dean)
- Highest-ranking administrative officer (administrative VP/VC, executive VP)
- Highest-ranking business officer (VP/VC, business officer, CFO)
- Second-level academic officer (vice provost, assistant or associate provost/academic VP)
- Second-level administrative officer (assistant or associate administrative VP/VC)
- Jointly to president/chancellor/CEO and chief academic officer
- Jointly to president/chancellor/CEO and chief administrative or financial officer
- Jointly to chief academic officer and chief administrative or financial officer
- Other (please specify)
- Not applicable—position was vacant

3. Was the highest-ranking IT administrator/officer a member of the president’s or chancellor’s cabinet?

- Yes
- No
- Not applicable—position was vacant

Q4 | IT Issues

IT Organization, Staffing, and Financing

Q4 | IT Issues

4. To contextualize your institution’s central IT financial and staffing data, please rank the following top IT issues in terms of how important they were to your institution during the prior fiscal year (1=most important, 10=least important).

- Information Security Strategy: Developing a risk-based security strategy that effectively detects, responds to, and prevents security threats and challenges
- Student Success: Serving as a trusted partner with other campus units to drive and achieve student success initiatives
- Privacy: Safeguarding institutional constituents’ privacy rights and maintaining accountability for protecting all types of restricted data
- Student-Centered Institution: Understanding and advancing technology’s role in optimizing the student experience (from applicants to alumni)
- Digital Integrations: Ensuring system interoperability, scalability, and extensibility, as well as data integrity, security, standards, and governance, across multiple applications and platforms
Q5 | Technology Adoption

IT Organization, Staffing, and Financing

5. What was your institution’s preferred overall approach to adopting technology?
   - We were one of the last to adopt new technologies.
   - We tended to adopt new technologies after our peers did.
   - We tended to adopt new technologies at the pace of our peers.
   - We strived to be early adopters of new technologies where we saw exceptional benefits.
   - We were usually among the very first to adopt new technologies.

Q6 | Service Delivery

IT Organization, Staffing, and Financing

6. To contextualize your institution’s central IT financial and staffing data, please indicate the services that central IT had primary responsibility for providing during the prior fiscal year.

NOTE: Services and service categories were developed by ECAR working groups and published in the Higher Education IT Service Catalog: https://library.educause.edu/resources/2015/4/the-higher-education-it-service-catalog-a-working-model-for-comparison-and-collaboration.

ADMINISTRATIVE AND BUSINESS
   - a. Alumni and advancement
   - b. Athletics
   - c. Auxiliary systems
   - d. Document imaging and management
   - e. Faculty information systems
   - f. Finance, human resources, and procurement systems
   - g. Library systems
   - h. Medical and health systems
   - i. Reporting and analytics
   - j. Research administration systems
   - k. Student information systems

COMMUNICATION AND COLLABORATION
   - l. Collaboration (e.g., technology-enhanced communication)
   - m. Conferencing (e.g., online conferencing services)
   - n. E-mail and calendaring
   - o. Emergency notification
   - p. Telephony
   - q. Television
   - r. Websites

ENDPOINT COMPUTING
   - s. Network access
   - t. Endpoint support (desktops, mobile devices, etc.)
   - u. Printing
   - v. Software distribution

INFRASTRUCTURE
   - w. Data center
   - x. Database (i.e., hosting and administration of databases)
Q7 | Fiscal Year

7. In which month and year did your institution's prior fiscal year end?

- July 2018
- August 2018
- September 2018
- October 2018
- November 2018
- December 2018
- January 2019
- February 2019
- March 2019
- April 2019
- May 2019
- June 2019
- Other (please specify)
**IT Organization, Staffing, and Financing**

**Q8 | Central IT Funds Available**

8a. Please enter the actual funds available to central IT from all funding sources (in U.S. dollars) during the prior fiscal year from each of the categories listed.

**NOTES:**
- Expenditure data are requested in Question 10. Funds available need not be equal to total expenditures for the fiscal year. For example, your institution may permit carryover from one fiscal year to the next or may have been provided with project funds that have not yet been spent.
- To answer this question:
  - Enter total funds available first.
  - Use the "other" category for funding from a category we've not included here.
  - Use the "unallocated/miscellaneous" category for any remaining funds not associated with the categories listed here.
  - The total of all dollars entered should represent the total funds available to central IT in the prior fiscal year (including funds for compensation and employee-related expenditures, carryover funds, etc.)
  - If you had no funds available from a category area, enter 0.
  - If you had funds available from a category but the amount is impossible to estimate, check “Unable to estimate.”
  - For this question to be complete, all items must have either a positive value, 0, or “Unable to estimate” checked.
  - Do not use commas for estimates of 1000 or greater.

<table>
<thead>
<tr>
<th>ENTER TOTAL FUNDS AVAILABLE FIRST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds available</td>
</tr>
<tr>
<td>Unrelated to estimate</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Funds available</th>
<th>Unable to estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Carryover from the previous fiscal year (if any)</td>
<td></td>
</tr>
<tr>
<td>2. Funds allocated to central IT from revenue generated from a general student technology fee (if not included in ongoing base funds)</td>
<td></td>
</tr>
<tr>
<td>3. Compensation or fringe benefits for central IT staff paid from another source (if not included in ongoing base funds)</td>
<td></td>
</tr>
<tr>
<td>4. Ongoing base funds (including funds for compensation and employee-related expenditures)</td>
<td></td>
</tr>
<tr>
<td>5. Funds available from fee-based/cost-recovery services (e.g., network services, computer repairs, printing) charged to entities other than central IT staff</td>
<td></td>
</tr>
<tr>
<td>6. One-time funds</td>
<td></td>
</tr>
<tr>
<td>7. Unallocated/miscellaneous funds</td>
<td></td>
</tr>
<tr>
<td>8. Other (enter amount here; describe other funding source(s) below)</td>
<td></td>
</tr>
</tbody>
</table>

**Other funding source(s)**

<table>
<thead>
<tr>
<th>Other funding source(s)</th>
</tr>
</thead>
</table>

8b. Regarding Item 6 in Question 8a, how did your institution use these one-time funds? (Check all that apply.)

- Hardware purchases or upgrades
- Building renovation and/or construction
- Professional services
- Staffing
- Facility costs
- Other (please specify)

8c. Regarding Item 6 in Question 8a, which of the following best characterizes the duration of these one-time funds? (Check all that apply.)

- Funds disbursed must be spent in a specified amount of time
- Funds disbursed may be spent until they are used up (no timeline to use the funds)
- Funds are renewable
- Other (please specify)

**Q9 | Student Technology Fee**

**IT Organization, Staffing, and Financing**

**Q9 | Student Technology Fee**
9a. Did your institution charge a general student technology fee (that is, a fee designated wholly for IT that is levied on all students, as opposed to specific IT fees based on academic major or other criteria)?

**NOTE:** If you select "No," Questions 9b–9d will not be displayed.

- Yes, embedded in tuition/not charged separately
- Yes, charged separately
- No

9b. What amount in U.S. dollars (USD) was generated for the entire institution by the technology fee during the prior fiscal year?

**NOTE:** The amount entered here may differ from the response entered in Question 8a, Item 2.

- Amount generated
- Unable to estimate

9c. Were any funds allocated to central IT from revenue generated by the general student technology fee?

- Yes
- No
- Unsure

9d. Who participated in determining how student technology fee revenue is spent? (Check all that apply.)

- Students
- IT administration
- Institutional leadership
- Campus committee
- State agency
- System or district office in a multicampus system or district
- Funds are earmarked or restricted by policy
- Other (please specify)

Q10–12 | Central IT Expenditures

**IT Organization, Staffing, and Financing**

Q10–12 | Central IT Expenditures

10. Please enter the U.S. dollar (USD) amounts central IT spent during the prior fiscal year from each of the expenditure categories listed.

**NOTES:**
- Funds available are requested in Question 8. Funds available need not be equal to total expenditures for the fiscal year. For example, your institution may permit carryover from one fiscal year to the next or may have been provided with project funds that have not yet been spent.
- To answer this question:
  - Enter total expenditure estimate first. The expenditure estimate entered here and in Question 13 should be the same.
  - The total of all dollars entered should represent the total central IT spent in the prior fiscal year.
  - If you had no expenditures in a category area, enter 0.
  - If you had expenditures in a category but the amount is impossible to estimate, check “Unable to estimate.”
  - For this question to be complete, all items must have either a positive value, 0, or “Unable to estimate” checked.
  - Do not use commas for estimates of 1000 or greater.
- Please exclude all depreciation or amortization expenses.
- Categories in this question are meant to be mutually exclusive. Please do not double count expenditures in this question.
- Item 1 below includes salaries AND benefits, regardless of funding source. If you provided an amount in Question 8 Item 3, you should include the associated compensation expenditures in Question 10 Item 1.
- Student employee FTE data are requested in Question 14. Please include compensation for all student employees, regardless of funding source, in Item 2 below.

\[
\text{Q13 Expenditures} = \text{Expenditures} \\
\text{ENTER TOTAL EXPENDITURES FIRST}
\]
**IT Organization, Staffing, and Financing**

**Q10–12 | Central IT Expenditures**

<table>
<thead>
<tr>
<th>Prior fiscal year expenditures</th>
<th>Unable to estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Staffing:</strong> Compensation (salaries AND fringe benefits) for central IT staff (from any source)</td>
<td></td>
</tr>
<tr>
<td>2. <strong>Staffing:</strong> Compensation for student employees</td>
<td></td>
</tr>
<tr>
<td>3. <strong>Staffing:</strong> Fixed-term labor expenditures</td>
<td></td>
</tr>
<tr>
<td>4. <strong>Staffing:</strong> Professional development (training, education and professional development; training-related travel)</td>
<td></td>
</tr>
<tr>
<td>5. <strong>Operations:</strong> Expenditures for providing in-house infrastructure and services (i.e., &quot;what you do yourself&quot;); include associated one-time project costs; exclude staffing costs accounted for in items 1–4)</td>
<td></td>
</tr>
<tr>
<td>6. <strong>Operations:</strong> Expenditures for services purchased from external providers (i.e., &quot;what you pay someone else to do&quot;); e.g., externally provided help desk, data center, or services provided by multicampus system or district offices; include associated one-time project costs and professional services; exclude staffing costs accounted for in items 1–4)</td>
<td></td>
</tr>
<tr>
<td>7. <strong>Operations:</strong> Expenditures for utilities and space/facilities (if paid separately by central IT)</td>
<td></td>
</tr>
<tr>
<td>8. Other central IT expenditures [enter amount here; describe other expenditures below]</td>
<td></td>
</tr>
</tbody>
</table>

**Other central IT expenditures**

**IT Organization, Staffing, and Financing**

**Q11 | Central IT Expenditures**

11. Were student employees compensated in whole or in part by work study or other sources that you did not report previously (i.e., as part of central IT funds available in Question 8a, or that you did not include in Item 2 of Question 10)?

- Yes
- No
- Not applicable—do not have student employees in central IT

12. Does staff compensation entered in Item 1 of Question 10 (Staffing: Compensation (salaries AND fringe benefits) for central IT staff (from any source)) include benefits?

- Yes; the benefit rate percent is
- Yes; not sure what the benefit rate percent is
- No

**Q13 | Central IT Expenditures by IT Domain**

**IT Organization, Staffing, and Financing**

**Q13 | Central IT Expenditures by IT Domain**

**Q13. Out of the central IT expenditures entered in Question 10, what amounts were spent in the following IT domain areas in the prior fiscal year?**

**NOTES:**
- To answer this question:
  - Enter total expenditure estimate first. The expenditure estimate entered here and in Question 10 should be the same.
  - The total of all dollars entered should represent the total central IT spent in the prior fiscal year.
  - If you had no expenditures in a category area, enter 0.
  - If you had expenditures in a category but the amount is impossible to estimate, check “Unable to estimate.”
  - For this question to be complete, all items must have either a positive value, 0, or “Unable to estimate” checked.
  - Do not use commas for estimates of 1000 or greater.
  - Even if you do not use this taxonomy in your institution, please redistribute your expenditures according to these definitions to ensure comparable data across all CDS participants. If you are completely unable to redistribute your expenditures according to this taxonomy, select “Unable to estimate” for Items 1–8.
Q14 | Central IT Staffing

14. How many full-time equivalent (FTE) staff—including clerical, support, and management staff—and students were employed in central IT in each of the IT domain areas below for the prior fiscal year?

NOTES:
- To answer this question:
  - Enter total FTE estimates first.
  - If you had no staff or students in an IT domain area, enter 0.
  - For partial FTEs, please use decimal numbers.
- For this question to be complete, all items must have either a positive value, 0, or “Unable to estimate” checked.
- Student number should be entered in FTEs. This may be different from the total number of student workers in central IT. For example, 4 students working 10 hours a week each would count as 1 FTE. The following methods may be used to calculate this number:
  - If you know the total number of student worker hours allocated to central IT during the fiscal year, divide that number by 2000 (number of hours/year based on a 40-hour work week).
  - If you know the total number of dollars used for student workers, divide that number by the average hourly wage and then divide the result by 2000.
- Please include fixed-term employees.
- Even if you do not use this taxonomy in your institution, please redistribute your FTE numbers according to these definitions to ensure comparable data across all CDS participants.

<table>
<thead>
<tr>
<th>Staff FTE</th>
<th>Student employee FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENTER TOTAL FTE FIRST</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1. Administration and management of IT</th>
<th>Staff FTE</th>
<th>Unable to estimate</th>
<th>Student employee FTE</th>
<th>Unable to estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. IT support services</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>3. Educational technology services</td>
<td></td>
<td></td>
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<tr>
<td>4. Research computing services</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>5. Communications infrastructure services</td>
<td></td>
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<tr>
<td>6. Enterprise infrastructure and services (including data centers)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Prior fiscal year expenditures</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unable to estimate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Unable to estimate Student employee FTE

Other IT domain(s) [enter amount here; describe other IT domain(s) below]

Q15 | Distributed IT

IT Organization, Staffing, and Financing

15a. Based on the proportions of IT expenditures and staff in central IT as compared to elsewhere in the institution, to what extent is IT at your institution centralized?

NOTES:
- Question 15b will be displayed only if IT is 0–74% centralized.
- Question 15c will be displayed only if estimates of distributed IT expenditures or staffing are provided in Question 15b.

<table>
<thead>
<tr>
<th>Proportion of IT expenditures in central IT as compared to elsewhere in the institution</th>
<th>0% centralized (completely distributed IT)</th>
<th>1–24% centralized</th>
<th>25–49% centralized</th>
<th>50–74% centralized</th>
<th>75–99% centralized</th>
<th>100% centralized (no distributed IT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of IT staff in central IT as compared to elsewhere in the institution</td>
<td>0% centralized (completely distributed IT)</td>
<td>1–24% centralized</td>
<td>25–49% centralized</td>
<td>50–74% centralized</td>
<td>75–99% centralized</td>
<td>100% centralized (no distributed IT)</td>
</tr>
</tbody>
</table>

Q15 | Distributed IT

15b. Please estimate distributed IT expenditures and staffing at your institution during the prior fiscal year.

NOTE: Recommendations for measuring the cost of distributed IT were developed by ECAR working groups and published in Calculating the Costs of Distributed IT Staff and Applications (https://library.educause.edu/resources/2015/8/calculating-the-costs-of-distributed-it-staff-and-applications).

FOR EXPENDITURES:
- If you had no IT expenditures outside central IT, enter 0.
- These expenditures would include compensation for distributed IT personnel, hardware, software, licenses, and so forth.
- For assistance with this question, your institution’s chief business officer may be able to provide an estimate of distributed IT expenditures.

FOR IT STAFF FTE:
- Staff who don’t report to central IT but who work 50% or more on IT activities and who have IT staff job titles (programmers, DBAs, etc.) consistent with the CDS domain definitions should be counted. These staff will typically be discovered via HR or budget queries. This approach will almost certainly underestimate the total amount of distributed IT work, but the consistency across institutions and over time outweighs that gap.
- If no IT personnel were employed outside the central IT organization, enter 0.
- For assistance with this question, your institutional HR office may be able to provide an estimate of the number of IT positions at your institution.

FOR IT STUDENT FTE:
- Student number should be entered in FTEs. This may be different from the total number of student workers in distributed IT. For example, 4 students working 10 hours a week each would count as 1 FTE. The following methods may be used to calculate this number:
  - If you know the total number of student worker hours allocated to distributed IT during the fiscal year, divide that number by 2000 (number of hours/year based on a 40-hour workweek).
  - If you know the total number of dollars used for student workers, divide that number by the average hourly wage and then divide the result by 2000.
- For assistance with this question, your institutional HR office may be able to provide an estimate of the number of IT student positions at your institution.
Q15 | Distributed IT

15c. How accurate are the responses provided in Question 15b?

<table>
<thead>
<tr>
<th></th>
<th>Extremely accurate (± 0–5%)</th>
<th>Somewhat accurate (± 5–10%)</th>
<th>A little accurate (± 10–20%)</th>
<th>Not at all accurate (± more than 20%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT expenditures outside central IT</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>IT staff FTE outside central IT</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>IT student FTE outside central IT</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q16 | Multicampus Systems/Districts

16a. In the prior fiscal year, was your institution part of a multicampus system or district?

NOTE: If you select "No," Question 16b will not be displayed.

☐ Yes, the response to this module represents the central office only.
☐ Yes, the response to this module represents the central office and a campus.
☐ Yes, the response to this module represents a campus only.
☐ No.

16b. How many degree-granting "component" institutions of each of the following Carnegie Classifications make up your multicampus system?

NOTES:
- Enter the number of campuses in each Carnegie Classification, totaling to the number of campuses in your system.
- If you had no institutions in a particular classification, enter 0.

Systems outside the United States are asked to classify their components according to the Carnegie Classification of Institutions of Higher Education (described fully at [http://carnegieclassifications.iu.edu/descriptions/basic.php](http://carnegieclassifications.iu.edu/descriptions/basic.php)).

A response must be submitted for "other specialized institutions." Acceptable responses for this item include 0 or a number greater than 0; for the latter, please provide a description in the "Other specialized institution(s)" box below.

R1: Doctoral universities—Very high research activity
R2: Doctoral universities—High research activity
D/PU: Doctoral/professional universities
M1: Master's colleges and universities—Larger programs
M2: Master's colleges and universities—Medium programs
M3: Master's colleges and universities—Smaller programs
Baccalaureate colleges: Arts & Sciences focus
Baccalaureate colleges: Diverse fields
Associate's colleges
Special focus institutions
Tribal colleges
Other specialized institution(s) [enter number here; describe other specialized institution(s) below]

Total

Other specialized institution(s)

16c. Did the highest-ranking IT administrator/officer (e.g., CIO) at the central office of your multi-campus system have decision-making, line authority for staffing, financing, and/or IT spending for each campus within the system? (Check all that apply.)

☐ Staffing including hiring, promotions, etc.
☐ Finances
Q17 Institutions Outside the United States

IT Organization, Staffing, and Financing

Q17 Institutions Outside the United States

17a. In the prior fiscal year, was your institution’s primary location outside the United States?

NOTE: If you select "No," Questions 17b–17h will not be displayed.

☐ Yes
☐ No

IT Organization, Staffing, and Financing

Q17 Institutions Outside the United States

You indicated in Question 17a that your institution’s primary location is outside the United States. Click Back to change that answer.

17b. In which country was your institution primarily located?

NOTE: If your institution had campuses in multiple countries, please indicate here the country of your principal campus.

☐ AE United Arab Emirates
☐ AU Australia
☐ BE Belgium
☐ BM Bermuda
☐ BR Brazil
☐ BY Belarus
☐ CA Canada
☐ CH Switzerland
☐ CL Chile
☐ CN China
☐ CO Colombia
☐ DE Germany
☐ DK Denmark
☐ EG Egypt
☐ ES Spain
☐ FI Finland
☐ FR France
☐ GR Greece
☐ GU Guatemala
☐ HK Hong Kong
☐ IL Israel
☐ IS Iceland
☐ JP Japan
☐ KE Kenya
☐ KR Korea
☐ LB Lebanon
☐ LV Latvia
☐ MX Mexico
☐ NL Netherlands
☐ NO Norway
☐ NZ New Zealand
☐ PE Peru
☐ QA Qatar
☐ RU Russian Federation
☐ SA Saudi Arabia
☐ SE Sweden
☐ SG Singapore
☐ TH Thailand
☐ TR Turkey
☐ TT Trinidad and Tobago
☐ UK United Kingdom
☐ ZA South Africa
☐ Other (please specify)

17c. What were the total expenses in U.S. dollars (USD), not including student financial aid, for your institution during the prior fiscal year?

☐ Total institutional expenses
☐ Unable to estimate

17d. What was the total research income in U.S. dollars (USD) for your institution during the prior fiscal year?

NOTE: For institutions that report this value annually to a government entity, please use the most recently reported estimate for total research income.

☐ Total research income
☐ Unable to estimate

17e. What exchange rate did you use to convert your local currency to USD for financial data in this survey?

$1 US =
Currency (e.g., euros)

17f. How many full- and part-time graduate and undergraduate students (i.e., headcount) were enrolled in your institution during the prior fiscal year?

NOTE: If you had no students in a category, please enter 0.
17g. How many full-time equivalent (FTE) employees, including faculty, were employed by your institution during the prior fiscal year?

☐ FTE employees

☐ Unable to estimate

17h. Was your institution a member of any of the following higher education IT organizations or consortia? (Check all that apply.)

☐ ASAUDIT (South Africa)

☐ CAUDIT (Council of Australian University Directors of Information Technology)

☐ CSIESR (France)

☐ CUCCIO (Canadian University Council of Chief Information Officers)

☐ EUNIS (Europe)

☐ HEITBC (Higher Education IT British Columbia)

☐ Jisc (United Kingdom)

☐ JUCC (Joint Universities Computer Centre, Hong Kong)

☐ LERU (League of European Research Universities)

☐ SURF (Netherlands)

☐ SWITCH (Switzerland)

☐ UCISA (United Kingdom)

☐ Other (please specify)

☐ Not a member of any organizations or consortia

Q18–19 | Supplemental Information

IT Organization, Staffing, and Financing

Q18–19 | Supplemental Information

18. Please provide, in a paragraph or two, any background information about IT organization, staffing, and financing in your institution that could be useful to other CDS participants who may be using your data in their benchmarking. Examples: We hired a consultant to redesign our funding model; in the past year we migrated student e-mail to a cloud service. (optional)

Q19 | Supplemental Information

19. Please provide the name and e-mail address of the person to contact regarding your institution’s responses to this module of the CDS survey. (optional)

Q20–23 | Module Feedback

IT Organization, Staffing, and Financing

Q20–23 | Module Feedback

20. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately addressed in this year’s survey. We’d also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)

Q21 | Module Feedback

21. How many people participated in preparing and completing the answers to the questions in this module? (optional)

☐ 1

☐ 2–4

☐ 5+

22. Approximately how much time did you spend on the following? (optional)
23. How easy was it for you to complete this module? Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)

- Very difficult
- Difficult
- Somewhat difficult
- Somewhat easy
- Easy
- Very easy
Communications Infrastructure Services

This module contains questions about the scope, characteristics, and role of central IT in providing data, voice, and video networks. This is an optional module.

In responding to the survey questions in this module, unless specified otherwise, please enter data that describe your IT environment during the prior fiscal year (FY 2018-2019). Prior fiscal year is defined as the most recent fiscal year ending before July 1, 2019.

NOTES:
- Unless otherwise specified, all questions in this survey request data for the prior fiscal year.
- Throughout the survey, "central IT" refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- For CDS participants from central offices of multicampus systems and community college districts, "institution" refers to the central office only, not the entire multicampus entity. For all other participants, "institution" refers to the individual college or university (typically referred to as a "campus").
- Please refer to the CDS glossary for definitions of other terms in the survey.

Communications Infrastructure Services

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Q1–2 | Communications Infrastructure Services

Communications Infrastructure Services

Q1–2 | Communications Infrastructure Services

1. Which organizational units were responsible for the following communications infrastructure service functions in your institution?

<table>
<thead>
<tr>
<th>Service</th>
<th>Primarily central IT</th>
<th>Shared between central IT and distributed IT</th>
<th>Primarily distributed IT</th>
<th>Primarily system or district office</th>
<th>Primarily outsourced</th>
<th>No organizational unit responsible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data network</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice network</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential buildings/areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. How many full-time equivalent (FTE) data and voice network staff and students were employed in central IT during the prior fiscal year?

NOTES:
• If you had no staff or students in an area, enter 0.
• For partial FTEs, please use decimal numbers.
• Student number should be entered in FTEs. This may be different from the total number of student workers in central IT. For example, 4 students working 10 hours a week each would count as 1 FTE. The following methods may be used to calculate this number:
  • If you know the total number of student worker hours allocated to central IT, divide that number by 2,000 (number of hours/year based on a 40-hour work week).
  • If you know the total number of dollars used for student workers, divide that number by the average hourly wage and then divide the result by 2,000.
• Please include part-time, temporary, and limited-term employees, as well as any employees of external suppliers of outsourced IT services.

<table>
<thead>
<tr>
<th>Service</th>
<th>Staff FTE</th>
<th>Unable to estimate staff FTE</th>
<th>Student employee FTE</th>
<th>Unable to estimate student FTE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data network</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voice network</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-residential buildings/areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q3 | Communications Infrastructure Technology Deployment

Communications Infrastructure Services

Q3 | Communications Infrastructure Technology Deployment

3. Please describe the status of the following systems and technologies at your institution as of June 30, 2019 using the following scale:

1. **No deployment.** None of this technology or service is in place and no work is under way or resources committed for this technology or service.
2. **Tracking.** Staff are assigned but are restricted to monitoring and understanding this technology or service (much more than just reading articles).

3. **Planning, piloting, and initial deployment.** This technology or service is not yet available to users, but meaningful planning for deployment is under way. A plan for deployment is either in development or in place. Staff are investing significant time (multiple person-weeks of effort) and resources planning to deploy this technology or service. This includes evaluating options with an expectation of deployment within a defined time frame. Evaluation involves at least multiple person weeks of staff time developing options, a proposal for required funding, and possibly piloting the technology or service.

4. **Deployment to parts of the institution.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with potential access by selected users, but not institution-wide.

5. **Deployment institution-wide.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with deployment supporting potential access institution-wide.

6. **Planning to sunset.** This technology or service is or was in place and is now being removed from the service catalog and no longer receives resources or support.

<table>
<thead>
<tr>
<th>No deployment</th>
<th>Tracking</th>
<th>Planning, piloting, and initial deployment</th>
<th>Deployment to parts of the institution</th>
<th>Deployment institution-wide</th>
<th>Planning to sunset</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Network capacity planning and management tools</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>b. Network performance monitoring tools</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c. IPv6</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>d. Enterprise-grade voice services (call center, automated call distribution, etc.)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>e. Telecom provider service direct to end stations (e.g., Centrex in U.S.)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>f. Institutionally provided TDM/circuit switched service to end stations</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>g. Institutionally operated VoIP service to end stations</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>h. Softphones</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>i. Unified communications and collaboration</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>j. Cloud-based video streaming solutions</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>k. Session Initiation Protocol (SIP)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>l. Digital signage</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q4–6 | Network Management

**Communications Infrastructure Services**

Q4–6 | Network Management

4. **In the prior fiscal year, did your institution track or shape bandwidth utilization on your external network connection(s)?** (Check all that apply.)

- [ ] We tracked utilization.
- [ ] We shaped by time of day.
- [ ] We shaped by location (e.g., residence halls).
- [ ] We shaped by type of traffic (e.g., peer-to-peer file sharing).
- [ ] We shaped by direction (inbound versus outbound).
- [ ] Other (please specify)
- [ ] We did not track or shape bandwidth utilization.
5a. Which of the following resources provided primary network support?

- Central IT Network operations center (NOC)
- Outsourced NOC
- Central IT help desk
- RESNET Residential IT support
- Outsourced help desk
- Other (please specify)
- No resource provided network support

5b. How many hours per week did your Central IT Network operations center (NOC) provide network support?

- Hours per week
- Unable to estimate

6. How long (in years) has your network access layer been in service and how long (in years) until expected replacement?

NOTE: If not applicable, select "Not applicable" and leave the text boxes blank.

<table>
<thead>
<tr>
<th>Layer</th>
<th>Years in service</th>
<th>Years until expected replacement</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core/Backbone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution layer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access layer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q7 | Wired Network Size and Scope

Communications Infrastructure Services

Q7 | Wired Network Size and Scope

7. Please quantify the size and scope of your institution's wired data network, using best estimates of the number of end-user network connection points.

NOTES:
- If not applicable, enter 0.
- Acceptable responses for "Other" include: 0 with no description in the Other write-in box; a number greater than 0 with a description in the Other write-in box; or "unable to estimate" with a description in the Other write-in box.
- For multifunction ports, answer for the highest possible function (e.g., a 10M, 100M, and 1G tri-speed port would count as 1G)
Q8 | Wireless Network Size and Scope

**Communications Infrastructure Services**

**Q8 | Wireless Network Size and Scope**

8. Please quantify the size and scope of your institution's wireless data network, using best estimates of the number of end-user network connection points.

**NOTES:**
- If not applicable, enter 0.
- Acceptable responses for "Other" include: 0 with no description in the Other write-in box; a number greater than 0 with a description in the Other write-in box; or "unable to estimate" with a description in the Other write-in box.
- For multifunction ports, answer for the highest possible function.
Communications Infrastructure Services

Q9–10 | Network Size and Scope (Other)

9. How many POE-enabled ports did your institution's network have in the prior fiscal year?

   - POE ports
   - Unable to estimate
   - Not applicable - no POE ports

10. As another measure of the size and scope of your data network, please provide host counts in a typical month for the wired and wireless components.

   NOTES:
   - If not applicable, enter 0.
   - Estimate the number of unique hosts in a typical month during the prior fiscal year.
Q11 | Available Bandwidth

Communications Infrastructure Services

11. In the prior fiscal year, how much bandwidth was available from your institution to the following external data networks?

**NOTES:**
- If not applicable, enter 0.
- If your service provider allowed bursting above your contracted bandwidth, please provide the contracted bandwidth.
- Acceptable responses for "Other" include: 0 with no description in the Other write-in box; a number greater than 0 with a description in the Other write-in box; or "unable to estimate" with a description in the Other write-in box.
- Enter bandwidth in megabits per second (e.g., a T1 would be entered as 1.5).

<table>
<thead>
<tr>
<th>Commodity Internet</th>
<th>Primary bandwidth</th>
<th>Secondary bandwidth</th>
<th>Unable to estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-performance research and education network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commodity peering via research and education network</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (enter bandwidth here; describe other external data network below)</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other external data network**

Q12–13 | Network Access

Communications Infrastructure Services

12. What was the status of end-user authentication for network access in your institution?

<table>
<thead>
<tr>
<th>Authentication required</th>
<th>Authentication not required, but planned</th>
<th>Authentication not required and not planned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wired connections from public workstations</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wired connections from all other workstations</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
13. Please indicate the percentage of the following areas that had 802.11 (Wi-Fi) wireless network access in your institution.

<table>
<thead>
<tr>
<th>Area</th>
<th>0%</th>
<th>1–25%</th>
<th>26–50%</th>
<th>51–75%</th>
<th>76–100%</th>
<th>Not applicable—did not have these spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student computer labs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Libraries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residence halls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student union</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration buildings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arenas and stadiums (events, games)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open spaces (outside)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (select percentage here: describe other areas below)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other areas**

Q14–16 | Residence Hall Services

**Communications Infrastructure Services**

Q14–16 | Residence Hall Services

14a. Does your institution have campus housing (e.g., residence halls, student/faculty apartments, houses)?

**NOTE:** If you select "No" or "Not applicable," Questions 14b-16c will not be displayed.

- [ ] Yes
- [ ] No
- [ ] Not applicable

14b. During the prior fiscal year, did your institution use a campus housing management company (e.g., American Campus Communities)?

- [ ] Yes, for all of our student/faculty housing
- [ ] Yes, for some of our student/faculty housing
Communications Infrastructure Services

Q14–16 | Residence Hall Services

If you indicated in Question 14a that your institution does not have campus housing, this page will be blank. Click Next to continue or click Back to change your answer to Question 14a.

15a. Which organizational units were primarily responsible for the following communications infrastructure services for your residence halls?

<table>
<thead>
<tr>
<th>Service</th>
<th>Primarily central IT</th>
<th>Another department (networks connected to campus network backbone)</th>
<th>Third-party service provider on a separate Internet domain</th>
<th>Hybrid of central IT and third-party service provider</th>
<th>Hybrid of another department and third-party service provider</th>
<th>No organizational unit responsible</th>
<th>Not offered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet connectivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wireless access</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cellular phone connectivity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landline phone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable TV service</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cable TV infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Streaming TV services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPTV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building access control protocol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life safety services (e.g., intrusion, fire, alerts, panic alarms)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Communications Infrastructure Services

Q14–16 | Residence Hall Services

If you indicated in Question 14a that your institution does not have campus housing, this page will be blank. Click Next to continue or click Back to change your answer to Question 14a.

Only communications infrastructure services offered at your institution (as indicated in Question 15a) will be displayed. Click Back to edit these answers.

15b. What IT services were available for students in residence halls or other student housing, regardless of whether the services were provided by central IT?

<table>
<thead>
<tr>
<th>Service</th>
<th>Most or all rooms</th>
<th>Some rooms</th>
<th>No rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet connectivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wireless access</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cellular phone connectivity</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Communications Infrastructure Services

Q14–16 | Residence Hall Services

If you indicated in Question 14a that your institution does not have campus housing, this page will be blank. Click Next to continue or click Back to change your answer to Question 14a.

Question 16a will be displayed if your institution offers streaming TV services (as indicated in Question 15a). Click Back to edit these answers.

16a. During the prior fiscal year, which streaming TV services did you provide? (Check all that apply.)

- [ ] Netflix
- [ ] Hulu
- [ ] HBO Go
- [ ] Amazon Prime
- [ ] Philo
- [ ] Other (please specify)

Question 16b will be displayed if your institution offers ethernet connectivity within residence halls (as indicated in Question 15a). Click Back to edit these answers.

16b. Did students pay a separate fee for residence hall network connections?

- [ ] Yes
- [ ] No, not at all
- [ ] No, but there are optional fee-based services

Question 16c will be displayed if your institution offers life safety or access control systems (as indicated in Question 15a). Click Back to edit these answers.

16c. Which of the following life safety and access control systems were provided to residence halls. (Check all that apply.)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Most or all rooms</th>
<th>Some rooms</th>
<th>No rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landline phone</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Cable TV service</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Cable TV infrastructure</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Streaming TV services</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>IPTV</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Building access control protocol</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Life safety services (e.g., intrusion, fire, alerts, panic alarms)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Access control (building)
Access control (rooms)
Intrusion alarm (building, e.g., security or a panic alarm for RAs)
Intrusion alarm (room)
Wayfinding devices
Alert system (e.g., PA system)
Emergency devices (e.g., bluelight phones, ringdown phones, 911)
Not sure
Other (please describe)

Q17 | Telephone Services

Communications Infrastructure Services

Q17 | Telephone Services

17. Which communication methods were used for faculty and staff with no "desk" phone?

<table>
<thead>
<tr>
<th>Method</th>
<th>Faculty</th>
<th>Staff</th>
<th>Method not used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal cell service or pagers for university business with full or partial expense reimbursement</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Personal cell service or pagers for university business without expense reimbursement</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Institutionally owned cell service or pagers for university business</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Unified communications software</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other network-based communications tools (e.g., instant messaging, video conferencing, etc.; select groups here, describe method below)</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Other tools

Q18 | Cell Phone Services

Communications Infrastructure Services

Q18 | Cell Phone Services

18. What was the status of cell phone signal strength in your institution? (Check all that apply.)

- ☐ Adequate signal strength was available outside most buildings from at least one cell carrier.
- ☐ Adequate signal strength was available inside most buildings from at least one cell carrier.
- ☐ One or more cell carriers provided service from off-premise antenna sites.
Q19 | Emergency Notification System

Communications Infrastructure Services

19. If your institution had an emergency notification system, which information and communication channels were utilized? (Check all that apply.)

- E-mail lists
- Voicemail
- Pop-up message on telephones
- Telephone calling trees
- Text messaging
- University web home page
- Special "emergency" web page
- Campus cable television system
- Video displays in public spaces
- Public address system
- Carillon
- Commercial service in support of any of the above
- Several of the above channels integrated into the response system
- Several channels available, but not integrated into one system
- Other (please specify)
- We did not have an emergency notification system.

Q20 | Video Services

Communications Infrastructure Services

20. Please indicate which of the following services were available and for which groups (if any) these services and facilities were available. (Check all that apply.)

<table>
<thead>
<tr>
<th>Academic</th>
<th>Non-academic</th>
<th>Not Sure</th>
<th>Not provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile production services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated videoconferencing facilities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dedicated television-quality video studio facilities</td>
<td></td>
<td></td>
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<tr>
<td>Video networking control center</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Telepresence</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Video over IP</td>
<td></td>
<td></td>
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<tr>
<td>Video surveillance system</td>
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<td></td>
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<tr>
<td>Other (please specify)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None of these</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Q21–22 | Supplemental Information

Communications Infrastructure Services

21. Please provide, in a paragraph or two, any background information about your networking infrastructure, challenges, and plans that could be useful to other CDS participants who may be using your data in their benchmarking. Examples: Major conversion to VoIP under way. New distance learning program presents new wide area networking requirements. (optional)

22. Please provide the name and e-mail address of the person to contact regarding your institution's responses to this module of the CDS survey. (optional)

Q23–26 | Module Feedback

Communications Infrastructure Services

23. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately addressed in this year's survey. We'd also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)

24. How many people participated in preparing and completing the answers to the questions in this module? (optional)
   - 1
   - 2-4
   - 5+

25. Approximately how much time did you spend on the following? (optional)
<table>
<thead>
<tr>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
</tr>
</tbody>
</table>

FOR PRINT ONLY. Submit official responses through the CDS Portal at www.educause.edu/coredata.
<table>
<thead>
<tr>
<th>Number of hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing question data prior to entering data into the survey</td>
<td></td>
</tr>
<tr>
<td>Entering data into the survey</td>
<td></td>
</tr>
</tbody>
</table>

26. **How easy was it for you to complete this module?** Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)

- Very difficult
- Difficult
- Somewhat difficult
- Somewhat easy
- Easy
- Very easy

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Information Systems and Applications

This module contains questions about characteristics of the institution's information systems, regardless of whether they are operated or supported by central IT. This is an optional module.

In responding to the survey questions in this module, unless specified otherwise, please enter data that describe your IT environment during the prior fiscal year (FY2018–19). Prior fiscal year is defined as the most recent fiscal year ending before July 1, 2019.

NOTES:
- Throughout the survey, “central IT” refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- For CDS participants from central offices of multicampus systems and community college districts, “institution” refers to the central office only, not the entire multicampus entity. For all other participants, “institution” refers to the individual college or university (typically referred to as a “campus”).
- Please refer to the CDS glossary for definitions of other terms in the survey.
- Questions 2–5 will only be displayed based on your response to Question 1.
- Questions 7–10 will only be displayed based on your response to Question 6.
- Questions 12–15 will only be displayed based on your response to Question 11.
- Questions 17–20 will only be displayed based on your response to Question 16.
- Questions 22–25 will only be displayed based on your response to Question 21.
- Questions 27–30 will only be displayed based on your response to Question 26.

Information Systems and Applications

Q1 | IT Systems
Q6 | Human Resources Information Systems
Q11 | Financial Management Systems
Q16 | Facilities Management Systems
Q21 | Enterprise Systems
Q26 | Research Administration Systems
Q31–32 | Supplemental Information
Q33–36 | Module Feedback
Q1 | IT Systems

Information Systems and Applications

1. Please indicate which unit was responsible for providing the following IT systems in your institution during the prior fiscal year. If your institution had more than one significant system in an area, please respond for the primary information system. In subsequent questions, we will ask for more details about provided systems.

NOTES:
- For outsourced systems (including systems in the cloud), indicate the campus unit responsible for managing the outsourcing agreement.
- Include systems that were fully operational in the prior fiscal year.
- For systems that were not fully operational, include any systems for which the majority of intended users were able to use all authorized functions of the system being delivered as part of an implementation project.
- Respond for all systems regardless of whether they are stand-alone systems or part of another system (e.g., a procurement system that is part of the financial management system).
- System offices should include information systems that were operational at the system office as well as information systems that were provided by the system office to campuses within the system.

<table>
<thead>
<tr>
<th>Central IT has operational responsibility</th>
<th>Distributed IT has operational responsibility</th>
<th>Functional area has operational responsibility</th>
<th>The system or district office has operational responsibility</th>
<th>This system is not provided/unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. IT service desk management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. User system configuration management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Network access control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Network performance management</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>e. Project portfolio management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Software license inventory</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>g. IT asset management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. Workflow management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. Online forms management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. Security information and event management (SIEM)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. Network intrusion detection and prevention</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. Log management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>m. Backup and disaster recovery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>n. Identity management</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q2 | IT System Details

Information Systems and Applications

2. Please provide additional details for each of the IT systems that were operational at your institution during the prior fiscal year.

NOTES:
- This table will display systems that you reported in Question 1 as being provided at your institution. Any changes to your answers in Question 1 will be reflected in this table.
- If your institution had more than one significant information system in an area, please respond for the primary information system.
- For campuses within multicampus systems or districts, if an information system was provided at the system or district level:
  - Enter information for all items as it related to your campus (e.g., the age of the information system implemented at your campus; whether the information system was customized to suit requirements for your campus).
  - For system offices, the term "primary information systems" refers to information systems provided to system campuses. If no information system was provided to a system campus, system offices should respond for the primary information system used at the system office.
- "System age" refers to the number of years since the initial release of the system at which point the majority of intended users were able to use all authorized functions of the system being delivered as part of the implementation project.
- "Customization" refers to changing the core code of the application, which is different from "configuration" (i.e., setting up the system).
- Depending on your screen resolution, you may need to scroll horizontally to complete this question.
### Q3 | IT System Analytics Capabilities

#### Information Systems and Applications

**Q3 | IT System Analytics Capabilities**

NOTE: If you indicated in Question 1 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 1 to change your answers.

#### 3. For each IT system, how were system data used for analytics purposes?

<table>
<thead>
<tr>
<th>IT system</th>
<th>Data from this product were accessed through analytics capabilities built into the product</th>
<th>Data from this product were placed in an operational datastore</th>
<th>Data from this product were used in dashboards presented in another product</th>
<th>Other (please specify)</th>
<th>Not applicable - data from this product were not used for analytics purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. IT service desk management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. User system configuration management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Network access control</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Network performance management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Project portfolio management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f. Software license inventory</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g. IT asset management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h. Workflow management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>i. Online forms management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>j. Security information and event management (SIEM)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>k. Network intrusion detection and prevention</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>l. Log management</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>m. Backup and disaster recovery</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>n. Identity management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other analytics capability (Please identify the system.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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### Information Systems and Applications

**Q4 | IT System Upgrades and Plans for Replacement**

**NOTE:** If you indicated in Question 1 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 1 to change your answers.

**4a. Please indicate your institution’s plans for upgrade and/or replacement for each IT system.**

**NOTES:**
- "Major system upgrade" refers to changes made to an information system to accommodate a major release of the currently implemented vendor and product.
- "Replace" refers to implementation of a completely new product (e.g., moving to a different product with the same vendor; moving to a different vendor and product).

<table>
<thead>
<tr>
<th>System</th>
<th>Is your institution currently undertaking or planning any major system upgrades?</th>
<th>Does your institution plan to replace the currently operational product for this system in the next three years?</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. IT service desk management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>b. User system configuration management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>c. Network access control</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>d. Network performance management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>e. Project portfolio management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>f. Software license inventory</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>g. IT asset management</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>h. Workflow management</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>i. Online forms management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>j. Security information and event management (SIEM)</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>k. Network intrusion detection and prevention</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>l. Log management</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>m. Backup and disaster recovery</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>n. Identity management</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

### Information Systems and Applications

**Q4 | IT System Upgrades and Plans for Replacement**

**NOTE:** If you indicated in Question 1 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 1 to change your answers.

**4b. For each IT system, why is your institution planning to replace the currently operational system with a new product (from either the same or a different vendor) within the next three years? (Check all that apply.)**

<table>
<thead>
<tr>
<th>System</th>
<th>Reduce ongoing cost</th>
<th>Replace legacy system</th>
<th>Upgrade functionality</th>
<th>Align with IT strategy / business reasons</th>
<th>Vendor relationship</th>
<th>Other (please specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. IT service desk management</td>
<td></td>
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<tr>
<td>b. User system configuration management</td>
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<td>c. Network access control</td>
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<tr>
<td>d. Network performance management</td>
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<td>e. Project portfolio management</td>
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<td>f. Software license inventory</td>
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<tr>
<td>g. IT asset management</td>
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<td>h. Workflow management</td>
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<td>i. Online forms management</td>
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<tr>
<td>j. Security information and event management (SIEM)</td>
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<tr>
<td>k. Network intrusion detection and prevention</td>
<td>Reduce ongoing cost</td>
<td>Replace legacy system</td>
<td>Upgrade functionality</td>
<td>Align with IT strategy / business reasons</td>
<td>Vendor relationship</td>
<td>Other (please specify)</td>
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<tr>
<td>I. Log management</td>
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<tr>
<td>m. Backup and disaster recovery</td>
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<tr>
<td>n. Identity management</td>
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</tbody>
</table>

Other reason for replacement (Please identify the system.)

Q5 IT System Products

Information Systems and Applications

Q5 IT System Products

NOTE: If you indicated in Question 1 that none of the systems listed are provided at your institution, this page will be blank. Click Next to continue, or return to Question 1 to change your answers.

5. For IT systems that you indicated as having been provided by central IT or another unit at your institution during the prior fiscal year, please select the products that were operational at your institution for each system.

NOTES:
- This page will display systems that you reported in Question 1 as being provided at your institution. Any changes to your answers in Question 1 will be reflected in this page.
- Please indicate any products that were operational at your institution.
- In a later question, you will be asked to indicate the "primary product" for any systems in which multiple products were chosen.

5a1. For the IT service desk management system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- Atlassian JIRA
- Best Practical Solutions Request Tracker (RT)
- BMC Software (Numara) Footprints
- BMC Software (Numara) Track-It!
- BMC Software RemedyForce
- Cherwell Service Management
- FrontRange Solutions HEAT Service Management
- Ivanti (LANDesk) Service Management
- Kayako Infotech Fusion
- Microsoft System Center Service Manager
- Quest (Dell) KACE (KBBOX)
- Samanage Service Desk
- SchoolDude Solutions IT Direct
- ServiceNow
- SolarWinds (MacsDesign Studio) Web Help Desk
- Spiceworks IT Help Desk
- TeamDynamix IT Service Management
- Zendesk
- Zoho ManageEngine ServiceDesk Plus
- Other product (please specify)

5b1. For the user system configuration management system at your institution, which product(s) were operational?

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I don't know.

Homegrown solution

We use our IT service desk management system for this purpose.

BMC Client Management

Ivanti (LANDesk) IT Asset Management (ITAM) Suite

Microsoft System Center Configuration Manager

Quest (Dell) Kace (KBOX)

Other product (please specify)  

---

5c1. For the network access control system at your institution, which product(s) were operational?

I don't know.

Homegrown solution

Aruba ClearPass

Bradford Networks Network Sentry/NAC

Cisco Identity Services Engine

ForeScout Counter ACT

Impulse [Point] Safeconnect

Packetfence

Other product (please specify)  

---

5d1. For the network performance management system at your institution, which product(s) were operational?

I don't know.

Homegrown solution

Ipswitch Whatsup Gold

Nagios Network Analyzer

Observium Network Monitoring

Pamsoft PRTG

SolarWinds Network Performance Monitor

Statseeker

Zenoss Hybrid IT Monitoring

Other product (please specify)  

---

5e1. For the project portfolio management system at your institution, which product(s) were operational?

I don't know.

Homegrown solution

Microsoft Project

Microsoft SharePoint

Planview Innotas Project Portfolio Management

ServiceNow Project Portfolio Management

Smartsheet

TeamDynamix Project Portfolio Management

Workfront

Other product (please specify)  

---

5f1. For the software license inventory system at your institution, which product(s) were operational?

I don't know.

Homegrown solution

BMC Asset Management

Cherwell Asset Management

JAMF Casper
5g1. For the **IT asset management** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- BMC Asset Management
- Cherwell Asset Management
- Microsoft System Center Configuration Manager
- Quest (Dell) Kace (KBOX)
- ServiceNow Asset Management
- SolarWinds Web Help Desk
- Other product (please specify)

5h1. For the **workflow management** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- Ellucian Banner Workflow
- Ellucian Workflow
- Hyland Onbase
- Hyland Perceptive Content/ Imagenow
- Kuali Rice
- Microsoft Sharepoint
- Other product (please specify)

5i1. For the **online forms management** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- DocuSign
- Formstack
- Google Forms
- Hyland Onbase
- Microsoft Sharepoint
- Next Gen Web Solutions Dynamic Forms
- PerfectForms
- Other product (please specify)

5j1. For the **security information and event management (SIEM)** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- AlienVault Unified Security Management & Threat Intelligence
- AlienVault OSSIM SIEM
- Elastic Stack
- Hewlett Packard ArcSight
- IBM Security QRadar
- Intel Security McAfee Enterprise Security Manager
- LogRhythm SIEM
5k1. For the **network intrusion detection and prevention** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- Alien Vault Unified Security Management & Threat Intelligence
- Bro Network Security Monitor
- Cisco NGIPS
- Fortinet Fortigate
- Intel Security McAfee Enterprise Security Manager
- LogRhythm SIEM
- Palo Alto Networks Next Generation Firewall
- Rapid7 InsightIDR
- Snort
- Sonicwall
- Trend Micro TippingPoint
- Other product (please specify)

5l1. For the **log management** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- ELK: ElasticSearch, Logstash, Kibana
- IBM Security QRadar
- LogRhythm SIEM
- McAfee Enterprise Log Manager
- SolarWinds Log and Event Manager
- Splunk (Enterprise and Add-on)
- Other product (please specify)

5m1. For the **backup and disaster recovery** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- Code42 Crashplan
- CommValut Simpana
- Dell EMC Networker
- EMC Data Protection Suite
- Hewlett Packard Data Protector
- IBM Spectrum Protect (Tivoli Storage Manager)
- Quest Netvault
- Quest Rapid Recovery
- Veeam Backup and Replication
- Veritas Backup Exec
- Veritas Technologies NetBackup
- Other product (please specify)

5n1. For the **identity management** system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
Information Systems and Applications

Q5 IT System Products

NOTE: If you indicated in Question 5 that you are using only one product for all systems provided at your institution, this page will be blank. Click Next to continue, or return to Question 5 to change your answers.

5a2. For the IT service desk management system at your institution, which of the following was your primary product?
- I don't know.
- Homegrown solution
- Atlassian JIRA
- Best Practical Solutions Request Tracker (RT)
- BMC Software (Numara) Footprints
- BMC Software (Numara) Track-It!
- BMC Software RemedyForce
- Cherwell Service Management
- FrontRange Solutions HEAT Service Management
- Ivanti (LANDESK) Service Management
- Kayako Infotech Fusion
- Microsoft System Center Service Manager
- Quest (Dell) KACE (KBOX)
- Samanage Service Desk
- SchoolDude Solutions IT Direct
- ServiceNow
- SolarWinds (MacsDesign Studio) Web Help Desk
- Spiceworks IT Help Desk
- TeamDynamix IT Service Management
- Zendesk
- Zoho ManageEngine ServiceDesk Plus
- Other product (please specify)

5b2. For the user system configuration management system at your institution, which of the following was your primary product?
- I don't know.
- Homegrown solution
- We use our IT service desk management system for this purpose.
- BMC Client Management
- Ivanti (LANDESK) IT Asset Management (ITAM) Suite
- Microsoft System Center Configuration Manager
- Quest (Dell) Kace (KBOX)
- Other product (please specify)

5c2. For the network access control system at your institution, which of the following was your primary product?
- Aperio CAS
- Fischer International
- Microfocus NetIQ Identity Manager
- Microsoft Azure Active Directory
- Microsoft Identity Manager
- Okta Identity Management
- Oracle Identity and Access Management
- SailPoint IdentityIQ
- Other product (please specify)
5d2. For the network performance management system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- Ipswitch Whatsup Gold
- Nagios Network Analyzer
- Observium Network Monitoring
- Paessler PRTG
- SolarWinds Network Performance Monitor
- Statseeker
- Zenoss Hybrid IT Monitoring
- Other product (please specify)

5e2. For the project portfolio management system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- Microsoft Project
- Microsoft SharePoint
- Planview Innotas Project Portfolio Management
- ServiceNow Project Portfolio Management
- Smartsheet
- TeamDynamix Project Portfolio Management
- Workfront
- Other product (please specify)

5f2. For the software license inventory system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- BMC Asset Management
- Cherwell Asset Management
- JAMF Casper
- Microsoft System Center Configuration Manager
- Quest (Dell) Kace (KBOX)
- Sassafras Software K2
- Servicenow
- Other product (please specify)

5g2. For the IT asset management system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- BMC Asset Management
- Cherwell Asset Management
5h2. For the workflow management system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- Ellucian Banner Workflow
- Ellucian Workflow
- Hyland Onbase
- Hyland Perceptive Content/Imagenow
- Kuali Rice
- Microsoft Sharepoint
- Other product (please specify)

5i2. For the online forms management system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- Docusign
- Formstack
- Google Forms
- Hyland Onbase
- Microsoft Sharepoint
- Next Gen Web Solutions Dynamic Forms
- PerfectForms
- Other product (please specify)

5j2. For the security information and event management (SIEM) system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- AlienVault Unified Security Management & Threat Intelligence
- AlienVault OSSIM SIEM
- Elastic Stack
- Hewlett Packard ArcSight
- IBM Security QRadar
- Intel Security McAfee Enterprise Security Manager
- LogRhythm SIEM
- Rapid7 InsightIDR
- Splunk (Enterprise or Cloud)
- Other product (please specify)

5k2. For the network intrusion detection and prevention system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- Alien Vault Unified Security Management & Threat Intelligence
- Bro Network Security Monitor
- Cisco NGIPS
- Fortinet Fortigate
- Intel Security McAfee Enterprise Security Manager
5l2. For the log management system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- ELK: ElasticSearch, Logstash, Kibana
- IBM Security QRadar
- LogRhythm SIEM
- McAfee Enterprise Log Manager
- SolarWinds Log and Event Manager
- Splunk (Enterprise and Add-on)
- Other product (please specify)

5m2. For the backup and disaster recovery system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- Code42 Crashplan
- CommValex Simpana
- Dell EMC Networker
- EMC Data Protection Suite
- Hewlett Packard Data Protector
- IBM Spectrum Protect (Tivoli Storage Manager)
- Quest Ntavault
- Quest Rapid Recovery
- Veeam Backup and Replication
- Veritas Backup Exec
- Veritas Technologies NetBackup
- Other product (please specify)

5n2. For the identity management system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- Apereo CAS
- Fischer International
- Microfocus NetIQ Identity Manager
- Microsoft Azure Active Directory
- Microsoft Identity Manager
- Okta Identity Management
- Oracle Identity and Access Management
- SailPoint IdentityIQ
- Other product (please specify)
6. Please indicate which unit was responsible for providing the following human resources information systems in your institution during the prior fiscal year. If your institution had more than one significant system in an area, please respond for the primary system. In subsequent questions, we will ask for more details about provided systems.

**NOTES:**
- For outsourced systems (including systems in the cloud), indicate the campus unit responsible for managing the outsourcing agreement.
- Include systems that were fully operational in the prior fiscal year.
- For systems that were not fully operational, include any systems for which the majority of intended users were able to use all authorized functions of the system being delivered as part of an implementation project.
- Respond for all systems regardless of whether they are stand-alone systems or part of another system (e.g., a procurement system that is part of the financial management system).
- System offices should include information systems that were operational at the system office as well as information systems that were provided by the system office to campuses within the system.

<table>
<thead>
<tr>
<th>System</th>
<th>Central IT has operational responsibility</th>
<th>Distributed IT has operational responsibility</th>
<th>Functional area has operational responsibility</th>
<th>The system or district office has operational responsibility</th>
<th>This system is not provided/unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Core human resources system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Recruiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Position management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Performance reviews</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Workforce development</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. Academic human resources (e.g., recruiting, tenure, onboarding faculty)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. Time and attendance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q7 | Human Resources Information System Details

Information Systems and Applications

Q7 | Human Resources Information System Details

**NOTES:** If you indicated in Question 6 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 6 to change your answers.

7. Please provide additional details for each of the human resources information systems that were operational at your institution during the prior fiscal year.

**NOTES:**
- This table will display systems that you reported in Question 6 as being provided at your institution. Any changes to your answers in Question 6 will be reflected in this table.
- If your institution had more than one significant information system in an area, please respond for the primary information system.
- For campuses within multicampus systems or districts, if an information system was provided at the system or district level:
  - Enter information for all items as it related to your campus (e.g., the age of the information system implemented at your campus; whether the information system was customized to suit requirements for your campus).
  - For system offices, the term "primary information systems" refers to information systems provided to system campuses. If no information system was provided to a system campus, system offices should respond for the primary information system used at the system office.
  - "System age" refers to the number of years since the initial release of the system at which point the majority of intended users were able to use all authorized functions of the system being delivered as part of the implementation project.
  - "Customization" refers to changing the core code of the application, which is different from "configuration" (i.e., setting up the system).
- Depending on your screen resolution, you may need to scroll horizontally to complete this question.

<table>
<thead>
<tr>
<th>System age</th>
<th>Extent of customization</th>
<th>Deployment approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–3 years</td>
<td>None</td>
<td>On-premises</td>
</tr>
<tr>
<td>&gt;3–10 years</td>
<td>Minimal</td>
<td></td>
</tr>
<tr>
<td>&gt;10–20 years</td>
<td>Substantial</td>
<td></td>
</tr>
<tr>
<td>&gt;20+ years</td>
<td></td>
<td>Off-premises</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td>Hybrid</td>
</tr>
</tbody>
</table>

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8. For each human resources information system, how were system data used for analytics purposes?

<table>
<thead>
<tr>
<th>Human Resources Information System</th>
<th>Data from this product were accessed through analytics capabilities built into the product</th>
<th>Data from this product were placed in an operational datastore</th>
<th>Data from this product were used in dashboards presented in another product</th>
<th>Other (please specify)</th>
<th>Not applicable - data from this product were not used for analytics purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Core human resources system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Recruiting</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Position management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Performance reviews</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Workforce development</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f. Academic human resources (e.g., recruiting, tenure, onboarding faculty)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g. Time and attendance</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Other analytics capability (Please identify the system.)

Q9 | Human Resources Information System Upgrades and Plans for Replacement

9a. Please indicate your institution's plans for upgrade and/or replacement for each human resources information system.

NOTES:
- "Major system upgrade" refers to changes made to an information system to accommodate a major release of the currently implemented vendor and product.
- "Replace" refers to implementation of a completely new product (e.g., moving to a different product with the same vendor; moving to a different vendor and product).

<table>
<thead>
<tr>
<th>Human Resources Information System</th>
<th>Is your institution currently undertaking or planning any major system upgrades?</th>
<th>Does your institution plan to replace the currently operational product for this system in the next three years?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>a. Core human resources system</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Recruiting</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Position management</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Performance reviews</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Workforce development</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f. Academic human resources (e.g., recruiting, tenure, onboarding faculty)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
Is your institution currently undertaking or planning any major system upgrades? Does your institution plan to replace the currently operational product for this system in the next three years?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Information Systems and Applications**

Q9 | Human Resources Information System Upgrades and Plans for Replacement

**NOTE:** If you indicated in Question 6 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 6 to change your answers.

9b. For each human resources information system, why is your institution planning to replace the currently operational system with a new product (from either the same or a different vendor) within the next three years? (Check all that apply.)

<table>
<thead>
<tr>
<th>Reduce ongoing cost</th>
<th>Replace legacy system</th>
<th>Upgrade functionality</th>
<th>Align with IT strategy / business reasons</th>
<th>Vendor relationship</th>
<th>Other (please specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Other reason for replacement (Please identify the system.)

Q10 | Human Resources Information System Products

**Information Systems and Applications**

Q10 | Human Resources Information System Products

**NOTE:** If you indicated in Question 6 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 6 to change your answers.

10. For human resources information systems that you indicated as having been provided by central IT or another unit at your institution during the prior fiscal year, please select the primary product that was operational at your institution for each system.

**NOTES:**
- This page will display systems that you reported in Question 6 as being provided at your institution. Any changes to your answers in Question 6 will be reflected in this page.
- When multiple choices are available, please indicate any products that were operational at your institution.
- In a later question, you will be asked to indicate the "primary product" for any systems in which multiple products were chosen.

10a1. For the core human resources system at your institution, which product(s) were operational?

- ☐ I don’t know.
- ☐ Homegrown solution
- ☐ ADP
- ☐ Ellucian Banner Human Resources
- ☐ Ellucian Colleague Human Resources
- ☐ Jenzabar EX (CDMS Teams Elite)
- ☐ Oracle E-Business Suite Human Capital Management
- ☐ Oracle Peoplesoft HCM/HRMS

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10b. For the **recruiting** system at your institution, which of the following was your **primary** product?

- [ ] I don’t know.
- [ ] Homegrown solution
- [ ] We use our core human resources information system for this purpose.
- [ ] Cornerstone Recruiting
- [ ] Oracle Taleo
- [ ] PeopleAdmin
- [ ] Silkroad Openhire
- [ ] Other product (please specify) 

10c. For the **position management** system at your institution, which of the following was your **primary** product?

- [ ] I don’t know.
- [ ] Homegrown solution
- [ ] We use our core human resources information system for this purpose.
- [ ] Ellucian Banner Human Resources
- [ ] Ellucian Colleague
- [ ] Oracle PeopleSoft Position Management
- [ ] PeopleAdmin
- [ ] Workday Financial Management
- [ ] Other product (please specify) 

10d. For the **performance reviews** system at your institution, which of the following was your **primary** product?

- [ ] I don’t know.
- [ ] Homegrown solution
- [ ] Cornerstone HR
- [ ] Oracle PeopleSoft HCM/HRMS
- [ ] PeopleAdmin
- [ ] Other product (please specify) 

10e. For the **workforce development** system at your institution, which of the following was your **primary** product?

- [ ] I don’t know.
- [ ] Homegrown solution
- [ ] Cornerstone HR
- [ ] Ellucian Elevate
- [ ] Oracle PeopleSoft HCM/HRMS
- [ ] PeopleAdmin
- [ ] Skillssoft
- [ ] Other product (please specify) 

10f. For the **academic human resources** (e.g., recruiting, tenure, onboarding faculty) system at your institution, which of the following was your **primary** product?

- [ ] I don’t know.
- [ ] Homegrown solution
- [ ] We use our core human resources information system for this purpose.
10g. For the time and attendance system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- We use our core human resources information system for this purpose.
- ADP
- Ellucian Colleague
- Kronos Workforce
- Oracle Peoplesoft HC/MRMS
- Other product (please specify)

Information Systems and Applications

Q10 | Human Resources Information Systems

NOTE: If you indicated in Question 10a1 that you are using only one product for all systems provided at your institution, this page will be blank. Click Next to continue, or return to Question 10a1 to change your answers.

10a2. For the core human resources system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- ADP
- Ellucian Banner Human Resources
- Ellucian Colleague Human Resources
- Jenzabar EX (CDMS Teams Elite)
- Oracle E-Business Suite Human Capital Management
- Oracle Peoplesoft HC/MRMS
- PeopleAdmin
- SAP Human Capital Management
- Workday
- Other product (please specify)

Q11 | Financial Management Systems

Information Systems and Applications

Q11 | Financial Management Systems

11. Please indicate which unit was responsible for providing the following financial management systems in your institution during the prior fiscal year. If your institution had more than one significant system in an area, please respond for the primary system. In subsequent questions, we will ask for more details about provided systems.

NOTES:
- For outsourced systems (including systems in the cloud), indicate the campus unit responsible for managing the outsourcing agreement.
- Include systems that were fully operational in the prior fiscal year.
- For systems that were not fully operational, include any systems for which the majority of intended users were able to use all authorized functions of the system being delivered as part of an implementation project.
- Respond for all systems regardless of whether they are stand-alone systems or part of another system (e.g., a procurement system that is part of the financial management system).
- System offices should include information systems that were operational at the system office as well as information systems that were provided by the system office to campuses within the system.
Q12 | Financial Management System Details

Information Systems and Applications

NOTE: If you indicated in Question 11 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 11 to change your answers.

12. Please provide additional details for each of the *financial management systems* that were operational at your institution during the prior fiscal year.

NOTES:
- This table will display systems that you reported in Question 11 as being provided at your institution. Any changes to your answers in Question 11 will be reflected in this table.
- If your institution had more than one significant information system in an area, please respond for the primary information system.
- For campuses within multicampus systems or districts, if an information system was provided at the system or district level:
  - Enter information for all items as it related to your campus (e.g., the age of the information system implemented at your campus; whether the information system was customized to suit requirements for your campus).
  - For system offices, the term "primary information systems" refers to information systems provided to system campuses. If no information system was provided to a system campus, system offices should respond for the primary information system used at the system office.
  - "System age" refers to the number of years since the initial release of the system at which point the majority of intended users were able to use all authorized functions of the system being delivered as part of the implementation project.
  - "Customization" refers to changing the core code of the application, which is different from "configuration" (i.e., setting up the system).
  - Depending on your screen resolution, you may need to scroll horizontally to complete this question.

<table>
<thead>
<tr>
<th>System age</th>
<th>Central IT has operational responsibility</th>
<th>Distributed IT has operational responsibility</th>
<th>Functional area has operational responsibility</th>
<th>The system or district office has operational responsibility</th>
<th>45 This system is not provided/unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–3 years</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>&gt;3–10 years</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>&gt;10–20 years</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>&gt;20+ years</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Unknown</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Q13 | Financial Management System Analytics Capabilities

Information Systems and Applications

NOTE: If you indicated in Question 11 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 11 to change your answers.

13. For each *financial management system*, how were system data used for analytics purposes?

<table>
<thead>
<tr>
<th>Financial management system</th>
<th>Data from this product were accessed through analytics capabilities built into the product</th>
<th>Data from this product were placed in an operational datastore</th>
<th>Data from this product were used in dashboards presented in another product</th>
<th>Other (please specify)</th>
<th>Not applicable - data from this product were not used for analytics purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Core financial accounting system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Procurement</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Travel expense management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Budget management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

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Q14 Financial Management System Upgrades and Plans for Replacement

Information Systems and Applications

NOTE: If you indicated in Question 11 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 11 to change your answers.

14a. Please indicate your institution’s plans for upgrade and/or replacement for each financial management system.

NOTES:
- “Major system upgrade” refers to changes made to an information system to accommodate a major release of the currently implemented vendor and product.
- “Replace” refers to implementation of a completely new product (e.g., moving to a different product with the same vendor; moving to a different vendor and product).

Is your institution currently undertaking or planning any major system upgrades?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Core financial accounting system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Procurement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Travel expense management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Budget management</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Does your institution plan to replace the currently operational product for this system in the next three years?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Core financial accounting system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Procurement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Travel expense management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Budget management</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Information Systems and Applications

Q14 Financial Management System Upgrades and Plans for Replacement

NOTE: If you indicated in Question 11 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 11 to change your answers.

14b. For each financial management system, why is your institution planning to replace the currently operational system with a new product (from either the same or a different vendor) within the next three years? (Check all that apply.)

<table>
<thead>
<tr>
<th></th>
<th>Reduce ongoing cost</th>
<th>Replace legacy system</th>
<th>Upgrade functionality</th>
<th>Align with IT strategy / business reasons</th>
<th>Vendor relationship</th>
<th>Other (please specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Core financial accounting system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Procurement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Travel expense management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Budget management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other reason for replacement (Please identify the system.)

Other analytics capability (Please identify the system.)

Q15 Financial Management System Products

Information Systems and Applications
NOTE: If you indicated in Question 11 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 11 to change your answers.

15. For financial management systems that you indicated as having been provided by central IT or another unit at your institution during the prior fiscal year, please select the primary product that was operational at your institution for each system.

NOTE: This page will display systems that you reported in Question 11 as being provided at your institution. Any changes to your answers in Question 11 will be reflected in this page.

15a. For the core financial accounting system at your institution, which of the following was your primary product?
- I don't know.
- Homegrown solution
- Ellucian Banner Finance
- Ellucian Colleague Finance
- Jenzabar EX (CDMS Teams Elite)
- Kuali Financial System (KFS)
- Microsoft Dynamics
- Oracle E-Business Suite Financials
- Oracle PeopleSoft Financial Management
- SAP ERP Core Finance
- Workday Financial Management
- Other product (please specify)

15b. For the procurement system at your institution, which of the following was your primary product?
- I don't know.
- Homegrown solution
- We use our core financial accounting system for this purpose.
- Ellucian Banner Finance
- Ellucian Colleague Finance
- Jenzabar EX
- Oracle E-Business Suite Financials
- Oracle PeopleSoft Financial Management
- SAP ERP Core Finance
- SciQuest Spend Director Enterprise/Higher Markets for Banner
- Workday Financial Management
- Other product (please specify)

15c. For the travel expense management system at your institution, which of the following was your primary product?
- I don't know.
- Homegrown solution
- Concur Travel & Expense
- Ellucian Travel and Expense Management (Chrome River)
- Oracle PeopleSoft Financial Management
- Workday Financial Management
- Other product (please specify)

15d. For the budget management system at your institution, which of the following was your primary product?
- I don't know.
- Homegrown solution
16. Please indicate which unit was responsible for providing the following facilities management systems in your institution during the prior fiscal year. If your institution had more than one significant system in an area, please respond for the primary system. In subsequent questions, we will ask for more details about provided systems.

**NOTES:**
- For outsourced systems (including systems in the cloud), indicate the campus unit responsible for managing the outsourcing agreement.
- Include systems that were fully operational in the prior fiscal year.
- For systems that were not fully operational, include any systems for which the majority of intended users were able to use all authorized functions of the system being delivered as part of an implementation project.
- Respond for all systems regardless of whether they are stand-alone systems or part of another system (e.g., a procurement system that is part of the financial management system).
- System offices should include information systems that were operational at the system office as well as information systems that were provided by the system office to campuses within the system.

<table>
<thead>
<tr>
<th>System</th>
<th>Central IT has operational responsibility</th>
<th>Distributed IT has operational responsibility</th>
<th>Functional area has operational responsibility</th>
<th>The system or district office has operational responsibility</th>
<th>This system is not provided/unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Core facilities management system</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Room scheduling and utilization analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Housing room assignment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Building inventory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. Building project management</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Please provide additional details for each of the facilities management systems that were operational at your institution during the prior fiscal year.

**NOTES:**
- This table will display systems that you reported in Question 16 as being provided at your institution. Any changes to your answers in Question 16 will be reflected in this table.
- If your institution had more than one significant information system in an area, please respond for the primary information system.
- For campuses within multicampus systems or districts, if an information system was provided at the system or district level:
  - Enter information for all items as it related to your campus (e.g., the age of the information system implemented at your campus; whether the information system was customized to suit requirements for your campus).
  - For system offices, the term "primary information systems" refers to information systems provided to system campuses. If no information system was provided to a system campus, system offices should respond for the primary information system used at the system office.
- "System age" refers to the number of years since the initial release of the system at which point the majority of intended users were able to use all authorized functions of the system being delivered as part of the implementation project.
- "Customization" refers to changing the core code of the application, which is different from "configuration" (i.e., setting up the system).
- Depending on your screen resolution, you may need to scroll horizontally to complete this question.
Q18 | Facilities Management System Analytics Capabilities

Information Systems and Applications

Does your institution currently undertake or plan any major system upgrades?

Does your institution plan to replace the currently operational product for this system in the next three years?

18. For each facilities management system, how were system data used for analytics purposes?

- a. Core facilities management system
- b. Room scheduling and utilization analysis
- c. Housing room assignment
- d. Building inventory
- e. Building project management

Other analytics capability (Please identify the system.)

Q19 | Facilities Management System Upgrades and Plans for Replacement

Information Systems and Applications

Does your institution plan to replace the currently operational product for this system in the next three years?

19a. Please indicate your institution’s plans for upgrade and/or replacement for each facilities management system.

NOTES:
- "Major system upgrade" refers to changes made to an information system to accommodate a major release of the currently implemented vendor and product.
- "Replace" refers to implementation of a completely new product (e.g., moving to a different product with the same vendor; moving to a different vendor and product).
Information Systems and Applications

Q19 | Facilities Management System Upgrades and Plans for Replacement

NOTE: If you indicated in Question 16 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 16 to change your answers.

19b. For each facilities management system, why is your institution planning to replace the currently operational system with a new product (from either the same or a different vendor) within the next three years? (Check all that apply.)

<table>
<thead>
<tr>
<th>Why Replacement?</th>
<th>Core Facilities Management System</th>
<th>Room Scheduling and Utilization Analysis</th>
<th>Housing Room Assignment</th>
<th>Building Inventory</th>
<th>Building Project Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce ongoing cost</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Replace legacy system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Upgrade functionality</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Align with IT strategy/business reasons</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Vendor relationship</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Other (please specify)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Other reason for replacement (Please identify the system.)

Q20 | Facilities Management System Products

Information Systems and Applications

Q20 | Facilities Management System Products

NOTE: If you indicated in Question 16 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 16 to change your answers.

20. For facilities management systems that you indicated as having been provided by central IT or another unit at your institution during the prior fiscal year, please select the primary product that was operational at your institution for each system.

NOTES:
- This page will display systems that you reported in Question 16 as being provided at your institution. Any changes to your answers in Question 16 will be reflected in this page.
- When multiple choices are available, please indicate any products that were operational at your institution.
- In a later question, you may be asked to indicate the "primary product" for any systems in which multiple products were chosen.

20a. For the core facilities management system at your institution, which of the following was your primary product?

- ☐ I don't know.
- ☐ Homegrown solution
- ☐ Accruent FAMIS
- ☐ Archibus
- ☐ AssetWorks (MAXIMUS) AiM
20b1. For the room scheduling and utilization analysis system at your institution, which product(s) were operational?

- [ ] I don't know.
- [ ] Homegrown solution
- [ ] Ad Astra Schedule
- [ ] CollegeNET Series25 (Schedule25, 25Live, or R25)
- [ ] Dean Evans & Associates EMS Campus
- [ ] Ellucian Banner
- [ ] Ellucian Colleague
- [ ] EMS Software EMS
- [ ] Infosistem ENCAMPUS TIMETABLER
- [ ] Microsoft Exchange
- [ ] Oracle PeopleSoft Campus Solutions
- [ ] Other product (please specify)

20c. For the housing room assignment system at your institution, which of the following was your primary product?

- [ ] I don't know.
- [ ] Homegrown solution
- [ ] Adirondack Solutions The Housing Director
- [ ] Cbord Odyssey HMS
- [ ] Ellucian Banner Student
- [ ] Ellucian Colleague
- [ ] Star Rez
- [ ] Symplicity Residence
- [ ] Other product (please specify)

20d. For the building inventory system at your institution, which of the following was your primary product?

- [ ] I don't know.
- [ ] Homegrown solution
- [ ] Accruent Famis
- [ ] Archibus
- [ ] AssetWorks (MAXIMUS) AIM
- [ ] Ellucian Colleague
- [ ] TMA Systems webtma
- [ ] Other product (please specify)

20e. For the building project management system at your institution, which of the following was your primary product?

- [ ] I don't know.
- [ ] Homegrown solution
- [ ] Archibus
- [ ] Assetworks (Maximus) aim
- [ ] e-Builder Enterprise
- [ ] TMA Systems webtma

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Information Systems and Applications

Q20 | Facilities Management System Products

NOTE: If you indicated in Question 20b1 that you are using only one product for all systems provided at your institution, this page will be blank. Click Next to continue, or return to Question 20b1 to change your answers.

20b2. For the room scheduling and utilization analysis system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- Ad Astra Schedule
- CollegeNET Series25 (Schedule25, 25Live, or R25)
- Dean Evans & Associates EMS Campus
- Ellucian Banner
- Ellucian Colleague
- EMS Software EMS
- Infosilem ENCAMPUS TIMETABLER
- Microsoft Exchange
- Oracle PeopleSoft Campus Solutions
- Other product (please specify)

Q21 | Enterprise Systems

Information Systems and Applications

Q21 | Enterprise Systems

21. Please indicate which unit was responsible for providing the following enterprise systems in your institution during the prior fiscal year. If your institution had more than one significant system in an area, please respond for the primary system. In subsequent questions, we will ask for more details about provided systems.

NOTES:
- For outsourced systems (including systems in the cloud), indicate the campus unit responsible for managing the outsourcing agreement.
- Include systems that were fully operational in the prior fiscal year.
- For systems that were not fully operational, include any systems for which the majority of intended users were able to use all authorized functions of the system being delivered as part of an implementation project.
- Respond for all systems regardless of whether they are stand-alone systems or part of another system (e.g., a procurement system that is part of the financial management system).
- System offices should include information systems that were operational at the system office as well as information systems that were provided by the system office to campuses within the system.

<table>
<thead>
<tr>
<th>System</th>
<th>Central IT has operational responsibility</th>
<th>Distributed IT has operational responsibility</th>
<th>Functional area has operational responsibility</th>
<th>The system or district office has operational responsibility</th>
<th>This system is not provided/unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Campus customer relationship management (CRM)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>b. Web content management</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c. Campus one-card/identity card</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>d. Parking</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>e. Document management</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>f. Event calendar</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>g. Event management</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>h. Portal</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>i. Public safety system</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q22 | Enterprise System Details

Information Systems and Applications

Q22 | Enterprise System Details

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22. Please provide additional details for each of the enterprise systems that were operational at your institution during the prior fiscal year.

NOTES:
- This table will display systems that you reported in Question 21 as being provided at your institution. Any changes to your answers in Question 21 will be reflected in this table.
- If your institution had more than one significant information system in an area, please respond for the primary information system.
- For campuses within multicampus systems or districts, if an information system was provided at the system or district level:
  - Enter information for all items as it related to your campus (e.g., the age of the information system implemented at your campus; whether the information system was customized to suit requirements for your campus).
- For system offices, the term "primary information systems" refers to information systems provided to system campuses. If no information system was provided to a system campus, system offices should respond for the primary information system used at the system office.
- "System age" refers to the number of years since the initial release of the system at which point the majority of intended users were able to use all authorized functions of the system being delivered as part of the implementation project.
- "Customization" refers to changing the core code of the application, which is different from "configuration" (i.e., setting up the system).
- Depending on your screen resolution, you may need to scroll horizontally to complete this question.

<table>
<thead>
<tr>
<th>System age</th>
<th>Extent of customization</th>
<th>Deployment approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–3 years</td>
<td>0–3 years</td>
<td>On-premises</td>
</tr>
<tr>
<td>&gt;3–10 years</td>
<td>&gt;3–10 years</td>
<td>Off-premises</td>
</tr>
<tr>
<td>&gt;10–20 years</td>
<td>&gt;10–20 years</td>
<td>Hybrid</td>
</tr>
<tr>
<td>&gt;20+ years</td>
<td>&gt;20+ years</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

NOTE: If you indicated in Question 21 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 21 to change your answers.

23. For each enterprise system, how were system data used for analytics purposes?

Data from this product were accessed through analytics capabilities built into the product
Data from this product were placed in an operational datastore
Data from this product were used in dashboards presented in another product
Other (please specify)
Not applicable - data from this product were not used for analytics purposes
Q24 | Enterprise System Upgrades and Plans for Replacement

Information Systems and Applications

Q24 | Enterprise System Upgrades and Plans for Replacement

NOTE: If you indicated in Question 21 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 21 to change your answers.

24a. Please indicate your institution's plans for upgrade and/or replacement for each enterprise system.

NOTES:
- "Major system upgrade" refers to changes made to an information system to accommodate a major release of the currently implemented vendor and product.
- "Replace" refers to implementation of a completely new product (e.g., moving to a different product with the same vendor; moving to a different vendor and product).

Is your institution currently undertaking or planning any major system upgrades? Does your institution plan to replace the currently operational product for this system in the next three years?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
<th>Yes</th>
<th>No</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Campus customer relationship management (CRM)</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>b. Web content management</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>c. Campus one-card/identity card</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>d. Parking</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>e. Document management</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>f. Event calendar</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>g. Event management</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>h. Portal</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
<tr>
<td>i. Public safety system</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
</tr>
</tbody>
</table>

Information Systems and Applications

Q24 | Enterprise System Upgrades and Plans for Replacement

NOTE: If you indicated in Question 21 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 21 to change your answers.

24b. For each enterprise system, why is your institution planning to replace the currently operational system with a new product (from either the same or a different vendor) within the next three years? (Check all that apply.)
25. For enterprise systems that you indicated as having been provided by central IT or another unit at your institution during the prior fiscal year, please select the primary product that was operational at your institution for each system.

**NOTES:**
- This page will display systems that you reported in Question 21 as being provided at your institution. Any changes to your answers in Question 21 will be reflected in this page.
- When multiple choices are available, please indicate any products that were operational at your institution.
- In a later question, you may be asked to indicate the "primary product" for any systems in which multiple products were chosen.

### 25a1. For the customer relationship management (CRM) system at your institution, which product(s) were operational?

- [ ] I don't know.
- [ ] Homegrown solution
- [ ] Campus Management Radius
- [ ] Campus Management Talisma CRM
- [ ] Ellucian CRM
- [ ] Jenzabar Internet Campus Solution (JICS)
- [ ] Microsoft Dynamics 365
- [ ] Oracle PeopleSoft Enterprise CRM
- [ ] Oracle RightNow
- [ ] Salesforce
- [ ] Targetx
- [ ] Technolutions Slate
- [ ] Other product (please specify)

### 25b1. For the web content management system at your institution, which product(s) were operational?

- [ ] I don't know.
- [ ] Homegrown solution
- [ ] Adobe (Day) CQ
- [ ] dotCMS
For the campus one-card/identity card system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- Blackboard Transact
- Cbord Odyssey HMS
- Other product (please specify)

For the parking system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- Adirondack Housing Director
- BOSSCARS
- Cardinal TicketTrak
- NuPark
- T2 Flex PARCS
- Other product (please specify)

For the document management system at your institution, which product(s) were operational?

- I don't know.
- Homegrown solution
- Banner Document Management
- EMC ApplicationXtender
- Google Docs
- Hyland OnBase
- Microsoft SharePoint Online
- Microsoft SharePoint Server
- Perceptive ImageNow
- Perceptive Nolij
- Other product (please specify)

For the event calendar system at your institution, which of the following was your primary product?

- I don't know.
- Homegrown solution
- Active Data
- Ad Astra Schedule
- CollegeNET Series25 (Schedule25, 25Live, or R25)
- Dean Evans & Associates EMS Campus
25g. For the **event management** system at your institution, which of the following was your **primary** product?

- I don't know.
- Homegrown solution
- We use our event calendar system for this purpose.
- CollegeNET Series25 (Schedule25, 25Live, or R25)
- Event Event Management
- EMS Enterprise
- Other product (please specify)

25h. For the **portal** system at your institution, which of the following was your **primary** product?

- I don't know.
- Homegrown solution
- Apereo uPortal
- Blackboard
- CampusEAI myCampus
- Ellucian (Banner) Luminis
- Ellucian Portal
- Jenzabar Internet Campus Solution (JICS)
- Liferay
- Microsoft Sharepoint
- Oracle Peoplesoft Interaction Hub (Enterprise Portal)
- Rsmart OneCampus
- Other product (please specify)

25i. For the **public safety** system at your institution, which of the following was your **primary** product?

- I don't know.
- Homegrown solution
- ARMS
- Blackboard Connect
- E2campus
- Everbridge Mass Notification
- RAVE Mobile Safety
- Other product (please specify)

**Information Systems and Applications**

Q25 | **Enterprise System Products**

NOTE: If you indicated in Questions 25a1, b1, and e1 that you are using only one product for all systems provided at your institution, this page will be blank. Click Next to continue, or return to Questions 25a1, b1, or e1 to change your answers.

25a2. For the **customer relationship management (CRM)** system at your institution, which of the following was your **primary** product?

- I don't know.
- Homegrown solution
Campus Management Radius
Campus Management Talisma CRM
Ellucian CRM
Jenzabar Internet Campus Solution (JICS)
Microsoft Dynamics 365
Oracle PeopleSoft Enterprise CRM
Oracle RightNow
Salesforce
Targetx
Technolutions Slate
Other product (please specify)

25b2. For the web content management system at your institution, which of the following was your primary product?
I don’t know.
Homegrown solution
Adobe (Day) CQ
dotCMS
Drupal
Ektron CMS
Hannon Hill Cascade Server
Ingeniux CMS
Joomla
Microsoft SharePoint
OmniUpdate OU Campus
Percussion CMS
Sitecore CMS
 TERMINALFOUR Site Manager
WordPress
Other product (please specify)

25e2. For the document management system at your institution, which of the following was your primary product?
I don’t know.
Homegrown solution
Banner Document Management
EMC ApplicationXtender
Google Docs
Hyland OnBase
Microsoft SharePoint Online
Microsoft SharePoint Server
Perceptive ImageNow
Perceptive Nolij
Other product (please specify)

Q26 | Research Administration Systems

Information Systems and Applications
Q26 | Research Administration Systems

26. Please indicate which unit was responsible for providing the following research administration systems in your institution during the prior fiscal year. If your institution had more than one significant system in an area, please respond for the primary system. In subsequent questions, we will ask for more details about provided systems.

NOTES: ©2019 EDUCAUSE. Reproduction by permission only. This is the EDUCAUSE Core Data Service annual survey. Colleges and universities use the CDS benchmarking service to inform their IT strategic planning and management. Learn more on the Core Data Service website: www.educause.edu/coredata
For outsourced systems (including systems in the cloud), indicate the campus unit responsible for managing the outsourcing agreement.
Include systems that were fully operational in the prior fiscal year.
For systems that were not fully operational, include any systems for which the majority of intended users were able to use all authorized functions of the system being delivered as part of an implementation project.
Respond for all systems regardless of whether they are stand-alone systems or part of another system (e.g., a procurement system that is part of the financial management system).
System offices should include information systems that were operational at the system office as well as information systems that were provided by the system office to campuses within the system.

<table>
<thead>
<tr>
<th>Central IT has operational responsibility</th>
<th>Distributed IT has operational responsibility</th>
<th>Functional area has operational responsibility</th>
<th>The system or district office has operational responsibility</th>
<th>This system is not provided/unsure</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Grants management: postaward</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>b. Grants management: preaward</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>c. Institutional review board (IRB) inform</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>d. Institutional Animal Care and Use Comm</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>e. Conflict of interest management</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q27 | Research Administration System Details

Information Systems and Applications

Q27 | Research Administration System Details

NOTE: If you indicated in Question 26 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 26 to change your answers.

27. Please provide additional details for each of the research administration systems that were operational at your institution during the prior fiscal year.

NOTES:
This table will display systems that you reported in Question 26 as being provided at your institution. Any changes to your answers in Question 26 will be reflected in this table.
If your institution had more than one significant information system in an area, please respond for the primary information system.
For campuses within multicampus systems or districts, if an information system was provided at the system or district level:
- Enter information for all items as it relates to your campus (e.g., the age of the information system implemented at your campus; whether the information system was customized to suit requirements for your campus).
- For system offices, the term "primary information systems" refers to information systems provided to system campuses. If no information system was provided to a system campus, system offices should respond for the primary information system used at the system office.
- "System age" refers to the number of years since the initial release of the system at which point the majority of intended users were able to use all authorized functions of the system being delivered as part of the implementation project.
- "Customization" refers to changing the core code of the application, which is different from "configuration" (i.e., setting up the system).
- Depending on your screen resolution, you may need to scroll horizontally to complete this question.

<table>
<thead>
<tr>
<th>System age</th>
<th>Extent of customization</th>
<th>Deployment approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–3 years</td>
<td>On-premises</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>&gt;3–10 years</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>&gt;10–20 years</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>&gt;20+ years</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>None</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Minimal</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Substantial</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>On-premises</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Off-premises</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Hybrid</td>
<td></td>
<td>○</td>
</tr>
</tbody>
</table>

Q28 | Research Administration System Analytics Capabilities

Information Systems and Applications

Q28 | Research Administration System Analytics Capabilities
28. For each research administration system, how were system data used for analytics purposes?

<table>
<thead>
<tr>
<th></th>
<th>Data from this product were accessed through analytics capabilities built into the product</th>
<th>Data from this product were placed in an operational datastore</th>
<th>Data from this product were used in dashboards presented in another product</th>
<th>Other (please specify)</th>
<th>Not applicable - data from this product were not used for analytics purposes</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Grants management: postaward</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Grants management: preaward</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Institutional review board (IRB) information system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Institutional Animal Care and Use Committee (IACUC) management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Conflict of interest management</td>
<td>☐</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Other analytics capability (Please identify the system.)

29a. Please indicate your institution's plans for upgrade and/or replacement for each research administration system.

NOTES:
- "Major system upgrade" refers to changes made to an information system to accommodate a major release of the currently implemented vendor and product.
- "Replace" refers to implementation of a completely new product (e.g., moving to a different product with the same vendor; moving to a different vendor and product).

<table>
<thead>
<tr>
<th></th>
<th>Is your institution currently undertaking or planning any major system upgrades?</th>
<th>Does your institution plan to replace the currently operational product for this system in the next three years?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>a. Grants management: postaward</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>b. Grants management: preaward</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>c. Institutional review board (IRB) information system</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>d. Institutional Animal Care and Use Committee (IACUC) management</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>e. Conflict of interest management</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>
29b. For each research administration system, why is your institution planning to replace the currently operational system with a new product (from either the same or a different vendor) within the next three years? (Check all that apply.)

<table>
<thead>
<tr>
<th>Reason for Replacement</th>
<th>Reduce ongoing cost</th>
<th>Replace legacy system</th>
<th>Upgrade functionality</th>
<th>Align with IT strategy/business reasons</th>
<th>Vendor relationship</th>
<th>Other (please specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Grants management: postaward</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Grants management: preaward</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Institutional review board (IRB) information system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Institutional Animal Care and Use Committee (IACUC) management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Conflict of interest management</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

Other reason for replacement (Please identify the system.)

Q30 | Research Administration System Products

Information Systems and Applications

Q30 | Research Administration System Products

NOTE: If you indicated in Question 26 that none of the listed systems are provided at your institution, this page will be blank. Click Next to continue, or return to Question 26 to change your answers.

30. For research administration systems that you indicated as having been provided by central IT or another unit at your institution during the prior fiscal year, please select the primary product that was operational at your institution for each system.

NOTE: This page will display systems that you reported in Question 26 as being provided at your institution. Any changes to your answers in Question 26 will be reflected in this page.

30a. For the postaward grants management system at your institution, which of the following was your primary product?

☐ I don't know.
☐ Homegrown solution
☐ Blackbaud Financial Edge
☐ Coeus (Kuali)
☐ Ellucian (Datatel) Colleague
☐ Ellucian (SunGard/SCT) Banner
☐ Evisions (Cayuse) Research Suite
☐ InfoEd Global Grants and Contracts Suite
☐ Oracle E-Business Suite Financials
☐ Oracle PeopleSoft Enterprise Grants Management
☐ Oracle PeopleSoft Financial Management
☐ SAP ERP Grants Management
☐ Workday Financial Management
☐ Other product (please specify)

30b. For the preaward grants management system at your institution, which of the following was your primary product?

☐ I don't know.
☐ Homegrown solution
☐ Blackbaud Financial Edge
☐ Coeus (Coeus Consortium)
☐ Coeus (Kuali)
30c. For the institutional review board (IRB) information system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- Evisions (Cayuse) Research Suite
- Huron Consulting Group Click Portal
- iMedris iRIS
- Other product (please specify)

30d. For the Institutional Animal Care and Use Committee (IACUC) management system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- Evisions (Cayuse) Research Suite
- Huron Consulting Group Click Portal
- iMedris iRIS
- NTM eSirius3G
- Other product (please specify)

30e. For the conflict of interest management system at your institution, which of the following was your primary product?

- I don’t know.
- Homegrown solution
- Huron Consulting Group Click Portal
- InfoEd Global Grants & Contracts
- Other product (please specify)

Q31–32 | Supplemental Information

Information Systems and Applications

Q31–32 | Supplemental Information

31. Please provide, in a paragraph or two, any background information about information systems and applications that could be useful to other CDS participants who may be using your data in their benchmarking. Examples: We are migrating from commercial to open source for our learning management system; we recently issued an RFP for a new integrated library system. (optional)
32. Please provide the name and e-mail address of the person to contact regarding your institution's responses to this module of the CDS survey. (optional)

33. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately addressed in this year's survey. We'd also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)

34. How many people participated in preparing and completing the answers to the questions in this module? (optional)
   - 1
   - 2–4
   - 5+

35. Approximately how much time did you spend on the following? (optional)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing question data prior to entering data into the survey</td>
<td></td>
</tr>
<tr>
<td>Entering data into the survey</td>
<td></td>
</tr>
</tbody>
</table>

36. How easy was it for you to complete this module? Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)
   - Very difficult
   - Difficult
   - Somewhat difficult
   - Somewhat easy
   - Easy
   - Very easy
Digital Capabilities: Analytics Services

This module contains maturity and deployment indexes that can be used to measure progress on campuswide strategic initiatives. This is an optional module.

In responding to the survey questions in this module, please enter data that describe your institution as of June 30, 2019.

NOTES:

- Throughout the survey, "central IT" refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- For CDS participants from central offices of multicampus systems and community college districts, "institution" refers to the central office only, not the entire multicampus entity. For all other participants, "institution" refers to the individual college or university (typically referred to as a "campus").
- Please refer to the CDS glossary for definitions of other terms in the survey.

Digital Capabilities: Analytics Services

Q1 | Analytics Services Maturity
Q2 | Analytics Services Technologies Deployment
Q3–4 | Supplemental Information
Q5–8 | Module Feedback
Q1 | Analytics Services Maturity

Digital Capabilities

1a. Please characterize each of the following items as it relates to the state of analytics services at your institution as of June 30, 2019.

NOTES:
- This section is best completed by your institution's CIO or other officer knowledgeable about your analytics services environment.
- For assistance with completing this question, please refer to the Analytics Services rubric: https://library.educause.edu/~/media/files/library/2019/7/asrubric2019.pdf.

<table>
<thead>
<tr>
<th>1. DATA (COLLECTION, CONNECTIONS, &amp; APPLICATIONS)</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1) Our institutional data are reliable, consistent, and of high quality (i.e., data are fit for their intended uses in operations, decision making, and planning).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.2) Our institutional data are easily available to answer both operational and strategic questions.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.3) Our institutional data are accessible for appropriate purposes, people, and systems.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.4) Our institution has formal processes to manage the scrubbing and availability of the data.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.5) Our institutional data are cleaned, connected, and centrally managed.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.6) Our institutional data are accessed from a common location for analysis and reporting.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.7) Our institution adequately provides a self-service functionality for requesting data sets.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.8) Our institution adequately provides a self-service functionality for requesting developed reports.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.9) Our institution adequately provides a self-service functionality for formally requesting ad hoc reports.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.10) Our institution adequately provides a self-service functionality for interacting with the data and creating ad hoc reports (e.g., a data visualization tool).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.11) We have sufficient capacity to store, manage, and analyze increasingly large volumes of data.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.12) Our data and reporting needs and processes are regularly reviewed for updates and improvements.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

2. GOVERNANCE AND POLICY
2.1) Our data use policies are clearly written and available to the appropriate individuals.

2.2) Our institution has a data steward or council of data stewards who oversee the collection, storage, and use of data.

2.3) Our data are adequately curated and classified in a way to govern requests, approvals, and provisioning (deprovisioning) of user access.

2.4) Our institution has clear guidelines governing the retention, archival, and disposal requirements that comply with our institution’s policies and regulations (e.g., FERPA and HIPAA)

2.5) Our institution has adequate procedures to identify and evaluate misuses of data.

2.6) Our institution has adequate procedures to identify and evaluate data breaches.

2.7) Our data governance includes policies and practices for handling proposals involving all institutional data.

2.8) Our institution has a procedure for vetting third parties or vendors (e.g., cloud services, connected applications, etc.) with respect to data security and privacy.

### 3. LEADERSHIP AND FUNDING

3.1) Our institution’s senior leadership views funding for analytics services capabilities as an investment, rather than an expense.

3.2) Our institution has a person or persons in designated leadership roles around the use of data and analytics (e.g., chief data officer, chief analytics officer, provost).

3.3) Our institution provides sufficient funding to meet our current needs for analytics and data collection.

3.4) We have the appropriate number of dedicated data professionals to support the management and use of our institutional data.

3.5) Our data professionals receive the training they need to support data management and use in our institution.

### 4. DECISION MAKING CULTURE AND STRATEGY

4.1) Our institution uses analytics and data-informed decisions to set strategic priorities.

4.2) Our administration supports the use of analytics for institutional decision making.

4.3) Our institution’s faculty support the use of analytics for institutional decision making.

4.4) Our institution supports the creation and measurement of key performance indicators.
4.5) Institutional research (IR) is involved in the planning process for addressing high-level strategic initiatives or questions.

4.6) Our institution’s IT department actively collaborates with IR on analytics-related strategic priorities.

4.7) Our institution’s IT and IR departments work together to foster a culture of data-informed decision making.

Digital Capabilities

Q11 Analytics Services Maturity

1b. For analysis purposes, please select the title(s) of the individual who completed and approved the responses for the analytics services maturity index. (Check all that apply.)

- [ ] Chief information officer (CIO)
- [ ] Chief technology officer (CTO)
- [ ] Chief information security officer (CISO)
- [ ] Chief information technology officer (CITO)
- [ ] Chief learning officer (CLO)
- [ ] Chief digital officer (CDO)
- [ ] Vice president
- [ ] Vice chancellor
- [ ] Vice provost
- [ ] Associate provost
- [ ] Associate vice president
- [ ] Associate vice chancellor
- [ ] Associate vice provost
- [ ] Assistant vice president
- [ ] Dean
- [ ] Executive director
- [ ] Director
- [ ] Manager
- [ ] Other (please specify)

1c. For analysis purposes, please select the areas of responsibility of the individual who completed and approved the responses for the analytics services maturity index. Check all areas this person oversees regardless of whether they are in-sourced or outsourced.

- [ ] Academic transformation
- [ ] Applications development or operations
- [ ] Data, analytics, and BI
- [ ] Desktop services/client support
- [ ] Design, media, and web
- [ ] Enterprise and administrative systems
- [ ] Institutional research
- [ ] IT leadership
- [ ] IT operations and service delivery
- [ ] Library
- [ ] Networks and systems
- [ ] Policy
- [ ] Privacy
- [ ] Research computing/cyberinfrastructure
- [ ] Security
- [ ] Student success
- [ ] Teaching and learning/instructional technology
- [ ] Other (please specify)
Digital Capabilities

Q2 | Analytics Services Technologies Deployment

2. Please describe the status of the following systems and technologies as they relate to analytics services technologies at your institution as of June 30, 2019, using the following scale:

1. **No deployment.** None of this technology or service is in place and no work is under way or resources committed for this technology or service.

2. **Tracking.** Staff are assigned but are restricted to monitoring and understanding this technology or service (much more than just reading articles).

3. **Planning, piloting, and initial deployment.** This technology or service is not yet available to users, but meaningful planning for deployment is under way. A plan for deployment is either in development or in place. Staff are investing significant time (multiple person-weeks of effort) and resources planning to deploy this technology or service. This includes evaluating options with an expectation of deployment within a defined time frame. Evaluation involves at least multiple person-weeks of staff time developing options, a proposal for required funding, and possibly piloting the technology or service.

4. **Deployment to parts of the institution.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with potential access by selected users, but not institution-wide.

5. **Deployment institution-wide.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with deployment supporting potential access institution-wide.

6. **Planning to sunset.** This technology or service is or was in place and is now being removed from the service catalog and no longer receives resources or support.

<table>
<thead>
<tr>
<th>Technology</th>
<th>No deployment</th>
<th>Tracking</th>
<th>Planning, piloting, and initial deployment</th>
<th>Deployment to parts of the institution</th>
<th>Deployment institution-wide</th>
<th>Planning to sunset</th>
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</thead>
<tbody>
<tr>
<td>a. Data warehouse</td>
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<td>b. Data lake</td>
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<td>c. ETL</td>
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<td>d. Data modeling - relational</td>
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<td>e. Data modeling - dimensional</td>
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<td>f. Big data management</td>
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<td>g. BI operational reporting</td>
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<td>h. Text analysis</td>
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<tr>
<td>i. Data mining</td>
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<td>j. Descriptive analytics</td>
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<td>k. Predictive, prescriptive analytics</td>
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<td>l. Data visualization</td>
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<td>m. Embedded BI</td>
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<td>n. Self-service BI</td>
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<tr>
<td>o. Statistical analysis</td>
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<td>p. Turnkey analytics</td>
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</table>
Q3–4 | Supplemental Information

Digital Capabilities

3. Please provide, in a paragraph or two, any background information about analytics in your institution that could be useful to other CDS participants who may be using your data in their benchmarking. Examples: We are engaged in a yearlong assessment of analytics service capabilities related to IT investments. (optional)

4. Please provide the name and e-mail address of the person to contact regarding your institution's responses to this module of the CDS survey. (optional)

Q5–8 | Module Feedback

Digital Capabilities

5. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately addressed in this year's survey. We'd also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)

6. How many people participated in preparing and completing the answers to the questions in this module? (optional)
   □ 1
   □ 2–4
   □ 5+
7. Approximately how much time did you spend on the following? (optional)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing question data prior to entering data into the survey</td>
<td></td>
</tr>
<tr>
<td>Entering data into the survey</td>
<td></td>
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</tbody>
</table>

8. How easy was it for you to complete this module? Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)

- [ ] Very difficult
- [ ] Difficult
- [ ] Somewhat difficult
- [ ] Somewhat easy
- [ ] Easy
- [ ] Very easy

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Digital Capabilities: Disaster Recovery & Business Continuity

This module contains maturity and deployment indexes that can be used to measure progress on campuswide strategic initiatives. This is an optional module.

In responding to the survey questions in this module, please enter data that describe your institution as of June 30, 2019.

NOTES:
- Throughout the survey, "central IT" refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- The disaster recovery and business continuity maturity indices are designed to be very similar to one another and will have some seemingly redundant items. This is by design, as we are field-testing several of the items in these indices with an eye toward combining these separate indices into one maturity index representing both service areas. We appreciate your participation and feedback as we strive to continuously improve our instruments.
- For CDS participants from central offices of multicampus systems and community college districts, "institution" refers to the central office only, not the entire multicampus entity. For all other participants, "institution" refers to the individual college or university (typically referred to as a "campus").
- Please refer to the CDS glossary for definitions of other terms in the survey.

Digital Capabilities: Disaster Recovery & Business Continuity

- Q1 | Disaster Recovery Maturity
- Q2 | Business Continuity Maturity
- Q3–4 | Supplemental Information
- Q5–8 | Module Feedback
Q1 | Disaster Recovery Maturity

Digital Capabilities

Q1 | Disaster Recovery Maturity

1a. Please characterize each of the following items as it relates to the state of IT disaster recovery (IT DR) at your institution as of June 30, 2019.

NOTES:
- This section is best completed by your institution’s CIO or other officer knowledgeable about your IT disaster recovery environment.
- For assistance with completing this question, please refer to the Disaster Recovery rubric: https://library.educause.edu/~/media/files/library/2019/7/drrubric2019.pdf.

<table>
<thead>
<tr>
<th>1. IT DISASTER RECOVERY PLAN DEVELOPMENT</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
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</thead>
<tbody>
<tr>
<td>1.1) Our institution has a formal IT DR plan that includes a set of policies, resources, and procedures to enable the recovery or continuation of vital technology infrastructure, systems, and normal business operations following a natural or human-induced disaster.</td>
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<tr>
<td>1.2) Our IT DR plan provides clarity around the priority of recovery across services, technologies, and business units.</td>
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<td>1.3) Our institution collects and uses input from multiple internal stakeholders (e.g., business units, colleges, distributed and/or remote IT staff) when making decisions about our IT DR plan.</td>
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<tr>
<td>1.4) Our institution collects and uses input from external stakeholders (e.g., FEMA, local government, fire and law enforcement, other community leaders) when making decisions about our IT DR plan.</td>
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<td>1.5) Our institution’s IT DR plans have been externally validated or assessed (e.g., an outside DR consulting firm, peer institutions, auditors).</td>
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<tr>
<td>1.6) Our institution has a process in place for regularly scheduled reviewing, assessing, and updating of our IT DR plan.</td>
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<td>1.7) Our institution assesses the feasibility of our current IT DR plan based on current resources.</td>
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<tr>
<td>1.8) Our institution’s senior leadership is aware of our IT DR plan including but not limited to costs, implications, timelines, and priorities of the recovery process.</td>
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<tr>
<td>1.9) Our institution’s senior leadership places high priority on IT DR and planning.</td>
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<tr>
<td>1.10) Our institution’s senior leadership provides resources (operating funds) for IT DR.</td>
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<tr>
<td>1.11) Our institution’s senior leadership provides emergency or contingency funds for IT DR.</td>
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</tbody>
</table>
### 2. IT DISASTER RECOVERY PLAN ADMINISTRATION

1.12) Our IT DR plan was developed to integrate with our institutional disaster recovery plan.

2. IT DISASTER RECOVERY PLAN ADMINISTRATION

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
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</tbody>
</table>

2.1) Our institution’s IT DR plan assigns clear responsibility/accountability to a designated person or team(s) to lead the recovery process.

2.2) Our institution’s IT DR plan assigns clear responsibility/accountability to a designated person or team(s) to carry out the operational process of recovery.

2.3) Our institution’s IT DR plan includes a recovery initiation protocol.

2.4) Our IT DR plan identifies alternatives to prevent dependence on key personnel.

2.5) Our institution has appropriately allocated staff to carry out our IT DR plan.

2.6) Our institution has the resources necessary to carry out our IT DR plan.

2.7) Our IT DR plan identifies alternatives to be implemented with existing resources (e.g., operational teams have access to third-party resources).

2.8) Our IT DR plan is updated as needed following lessons learned from enacting the IT DR plan, live drills, or testing.

2.9) Our IT DR plan includes a failover or switchover process for handling the abnormal termination of a previously active application, server, hardware component, or network.

### 3. IT DISASTER RECOVERY PLAN COMMUNICATION

3.1) Our institution’s IT DR plan has been communicated to the designated person or team(s) responsible for leading the recovery process.

3.2) Our institution’s IT DR plan has been communicated to the designated person or team(s) responsible for carrying out the operational process of recovery.

3.3) Our IT DR plan is communicated with external stakeholders (e.g., local governments, first responders, etc.).

3.4) Our institution’s IT DR plan includes a communications plan to alert leadership to the initiation of the recovery process.

3.5) Our institution’s IT DR plan includes a communications plan to alert operational personnel to the initiation of the recovery process.

3.6) Our IT DR plan includes a protocol for alerting external stakeholders (e.g., local governments, first responders, etc.) to the initiation of the recovery process, when necessary.

3.7) Our IT DR plan includes processes for alerting affected users to the issue.

3.8) Our IT DR plan includes processes for alerting affected users to the status, progress, and completion of the recovery effort.

3.9) Our IT DR plan includes a process for the operational personnel to communicate the status, progress, and completion of the task back to leadership under the structure of the plan.

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3.10) Our IT DR recovery initiation plans are communicated to affected internal people/departments in coordination with a designated communications resource/person.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
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</table>

3.11) Our IT DR recovery initiation plans are communicated to affected external stakeholders in coordination with a designated communications resource/person.

| 1 | 2 | 3 | 4 | 5 |

3.12) Our IT DR plan includes a process for alerting affected users to the cause and solution of the issue.

4. IT DISASTER RECOVERY PLAN TRAINING

4.1) Our institution provides IT DR training with onboarding for those individuals who will play a role in the IT DR process.

| 1 | 2 | 3 | 4 | 5 |

4.2) Our institution conducts regularly scheduled tabletop exercises attended by the entire IT DR team, including those in leadership roles.

| 1 | 2 | 3 | 4 | 5 |

4.3) Our institution conducts regularly scheduled tabletop exercises for the operational IT DR staff only (excluding or not specifically inviting leadership).

| 1 | 2 | 3 | 4 | 5 |

4.4) Our institution conducts regularly scheduled simulations or functional exercises involving the entire IT DR team, including those in leadership roles.

| 1 | 2 | 3 | 4 | 5 |

4.5) Our institution conducts regularly scheduled simulations or functional exercises involving the operational IT DR staff only (excluding or not specifically inviting leadership).

| 1 | 2 | 3 | 4 | 5 |

4.6) Our institution conducts training based on lessons learned or an after-action report following a drill or simulation.

| 1 | 2 | 3 | 4 | 5 |

4.7) Our IT DR team has been trained on emergency operations (e.g., NIMS ICS sequence).

| 1 | 2 | 3 | 4 | 5 |

5. IT DISASTER RECOVERY PLAN TESTING

5.1) Our IT DR plan regularly assesses the integrity and functionality of backups for key systems.

| 1 | 2 | 3 | 4 | 5 |

5.2) Our IT DR plan regularly assesses the functionality and accuracy of connectivity components (e.g., telephones and networking) following a testing event.

| 1 | 2 | 3 | 4 | 5 |

5.3) Our IT DR plan includes verification of functionality following failover/failback of applications.

| 1 | 2 | 3 | 4 | 5 |

5.4) Our IT DR plan includes verification of data integrity following failover/failback of servers.

| 1 | 2 | 3 | 4 | 5 |

5.5) Our IT DR plan includes manual and automated tests/checks of application functionality.

| 1 | 2 | 3 | 4 | 5 |

5.6) Our IT DR plan includes manual and automated test/checks of data integrity and server functionality.

| 1 | 2 | 3 | 4 | 5 |

5.7) Our IT DR testing plans are reevaluated based on lessons learned.

| 1 | 2 | 3 | 4 | 5 |

5.8) Our IT DR plan involves testing the reliability of our failover or switchover processes.

| 1 | 2 | 3 | 4 | 5 |

Digital Capabilities
Q1 | Disaster Recovery Maturity

1b. For analysis purposes, please select the title(s) of the individual who completed and approved the responses for the disaster recovery maturity index. (Check all that apply.)

- Chief information officer (CIO)
- Chief technology officer (CTO)
- Chief information security officer (CISO)
- Chief information technology officer (CITO)
- Chief learning officer (CLO)
- Chief digital officer (CDO)
- Vice president
- Vice chancellor
- Vice provost
- Associate provost
- Associate vice president
- Associate vice chancellor
- Associate vice provost
- Assistant vice president
- Dean
- Executive director
- Director
- Manager
- Other (please specify)

1c. For analysis purposes, please select the areas of responsibility of the individual who completed and approved the responses for the disaster recovery maturity index. Check all areas this person oversees regardless of whether they are in-sourced or outsourced.

- Academic transformation
- Applications development or operations
- Data, analytics, and BI
- Desktop services/client support
- Design, media, and web
- Enterprise and administrative systems
- Institutional research
- IT leadership
- IT operations and service delivery
- Library
- Networks and systems
- Policy
- Privacy
- Research computing/cyberinfrastructure
- Security
- Student success
- Teaching and learning/instructional technology
- Other (please specify)

Q2 | Business Continuity Maturity

Digital Capabilities

Q2 | Business Continuity Maturity

2a. Please characterize each of the following items as it relates to the state of IT business continuity (IT BC) at your institution as of June 30, 2019.

NOTES:
- This section is best completed by your institution's CIO or other officer knowledgeable about your IT business continuity environment.
- For assistance with completing this question, please refer to the Business Continuity rubric: [https://library.educause.edu/~/media/files/library/2019/7/BCrubric2019.pdf](https://library.educause.edu/~/media/files/library/2019/7/BCrubric2019.pdf)
### 1. IT BUSINESS CONTINUITY PLAN DEVELOPMENT

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1) Our institution has a formal IT BC plan that includes a set of policies, resources, and procedures to enable the recovery or continuation of vital technology infrastructure, systems, and normal business operations following a natural or human-induced disaster.</td>
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<tr>
<td>1.2) Our IT BC plan provides clarity around the priority of continuity across services, technologies, and business units.</td>
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<tr>
<td>1.3) Our institution collects and uses input from multiple internal stakeholders (e.g., business units, colleges, distributed and/or remote IT staff) when making decisions about our IT BC plan.</td>
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<tr>
<td>1.4) Our institution collects and uses input from external stakeholders (e.g., vendors, service-level and maintenance agreements) when making decisions about our IT BC plan.</td>
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<tr>
<td>1.5) Our institution's IT BC plans have been externally validated or assessed (e.g., similar institutions, auditors).</td>
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<td>1.6) Our institution has a process in place for regularly scheduled reviewing, assessing, and updating of our IT BC plan.</td>
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<tr>
<td>1.7) Our institution assesses the feasibility of our current IT BC plan based on current resources.</td>
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<tr>
<td>1.8) Our institution’s senior leadership is aware of our IT BC plan including but not limited to costs, implications, timelines, and priorities of the continuity process.</td>
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<tr>
<td>1.9) Our institution’s senior leadership places high priority on IT BC and planning.</td>
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<tr>
<td>1.10) Our institution’s senior leadership provides resources (operating funds) for IT BC.</td>
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<tr>
<td>1.11) Our institution’s senior leadership provides emergency or contingency funds for IT BC.</td>
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### 2. IT BUSINESS CONTINUITY PLAN ADMINISTRATION

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<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
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<th>Agree</th>
<th>Strongly agree</th>
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<tbody>
<tr>
<td>2.1) Our institution's IT BC plan assigns clear responsibility/accountability to a designated person or team(s) to lead the continuity process.</td>
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<td>2.2) Our institution's IT BC plan assigns clear responsibility/accountability to a designated person or team(s) to carry out the operational process of continuity.</td>
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<td>2.3) Our IT BC plan identifies alternatives to prevent dependence on key personnel.</td>
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<td>2.4) Our institution has appropriately allocated staff to carry out our IT BC plan.</td>
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<td>2.5) Our institution has the resources necessary to carry out our IT BC plan.</td>
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<tr>
<td>2.6) Our IT BC plan identifies alternatives to be implemented with existing resources (e.g., operational teams have access to third-party resources).</td>
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<td>2.7) Our IT BC plan is updated as needed following lessons learned from enacting the IT BC plan, live drills, or testing.</td>
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</table>

### 3. IT BUSINESS CONTINUITY PLAN COMMUNICATION AND INTEGRATION
3.1) Our institution’s IT BC plan has been communicated to the designated leadership person or team(s) responsible for successfully carrying out the BC plan.

3.2) Our institution's IT BC plan has been communicated to the designated operational person or team(s) responsible for carrying out the BC plan.

3.3) Our institution's IT BC plan includes a communications plan to alert leadership to the initiation of the BC plan.

3.4) Our institution's IT BC plan includes a communications plan to alert operational personnel to the initiation of the continuity process.

3.5) Our IT BC plan includes processes for alerting affected users to the issue.

3.6) Our IT BC plan includes processes for alerting affected users to the status, progress, and completion of the recovery effort.

3.7) Our IT BC plan includes a process for the operational personnel to communicate the status, progress, and completion of the task back to leadership under the structure of the plan.

3.8) Our IT BC recovery initiation plans are communicated to affected internal people/departments in coordination with a designated communications resource/person.

3.9) Our IT BC recovery initiation plans are communicated to affected external stakeholders in coordination with a designated communications resource/person.

3.10) Our IT BC plan includes a process for alerting affected users to the cause and solution of the issue.

3.11) Our IT BC plan was developed to integrate with our institutional BC plan.

3.12) Our institutional BC plan integrates IT throughout the plan.

3.13) Our IT BC plan integrates with academic units' BC plans.

3.14) Our IT BC plan integrates with other business units’ BC plans.

3.15) Our IT plan was developed in coordination with our institution's governance, risk, and compliance unit(s).

4. IT BUSINESS CONTINUITY PLAN TRAINING

4.1) Our institution provides IT BC training with onboarding for those individuals who will play a role in the IT BC process.

4.2) Our institution conducts regularly scheduled tabletop exercises attended by the entire IT BC team, including those in leadership roles.

4.3) Our institution conducts regularly scheduled tabletop exercises for the operational IT BC staff only (excluding or not specifically inviting leadership).

4.4) Our institution conducts regularly scheduled simulations or functional exercises involving the entire IT BC team, including those in leadership roles.
4.5) Our institution conducts regularly scheduled simulations or functional exercises involving the operational IT BC staff only (excluding or not specifically inviting leadership).

4.6) Our institution conducts training based on lessons learned or an after-action report following a drill or simulation.

5. IT BUSINESS CONTINUITY PLAN TESTING

5.1) Our IT BC plan assesses the integrity and functionality of key systems and processes following a testing event.

5.2) Our IT BC plan includes verification of functionality following failover/failback of applications following a testing event.

5.3) Our IT BC plan includes verification of data integrity following failover/failback of servers following a testing event.

5.4) Our IT BC plan includes manual and automated tests/checks of application functionality following a testing event.

5.5) Our IT BC plan includes manual and automated test/checks of data integrity and server functionality following a testing event.

5.6) Our IT BC testing plans are reevaluated based on lessons learned following a testing event.

5.7) Our IT BC plan involves testing the reliability of our failover or switchover processes following a testing event.

Digital Capabilities

Q2 I Business Continuity Maturity

2b. For analysis purposes, please select the title(s) of the individual who completed and approved the responses for the business continuity maturity index. (Check all that apply.)

☐ Chief information officer (CIO)
☐ Chief technology officer (CTO)
☐ Chief information security officer (CISO)
☐ Chief information technology officer (CITO)
☐ Chief learning officer (CLO)
☐ Chief digital officer (CDO)
☐ Vice president
☐ Vice chancellor
☐ Vice provost
☐ Associate provost
☐ Associate vice president
☐ Associate vice chancellor
☐ Associate vice provost
☐ Assistant vice president
☐ Dean
☐ Executive director
☐ Director
☐ Manager
☐ Other (please specify)
Q3–4 I Supplemental Information

Digital Capabilities

3. Please provide, in a paragraph or two, any background information about IT disaster recovery or business continuity in your institution that could be useful to other CDS participants who may be using your data in their benchmarking. Examples: We are engaged in a yearlong assessment of DRBC capabilities. (optional)

4. Please provide the name and e-mail address of the person to contact regarding your institution’s responses to this module of the CDS survey. (optional)

Q5–8 I Module Feedback

Digital Capabilities

5a. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately...
addressed in this year's survey. We'd also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)

6. How many people participated in preparing and completing the answers to the questions in this module? (optional)
   - 1
   - 2–4
   - 5+

7. Approximately how much time did you spend on the following? (optional)

<table>
<thead>
<tr>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing question data prior to entering data into the survey</td>
</tr>
<tr>
<td>Entering data into the survey</td>
</tr>
</tbody>
</table>

8. How easy was it for you to complete this module? Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)
   - Very difficult
   - Difficult
   - Somewhat difficult
   - Somewhat easy
   - Easy
   - Very easy
Digital Capabilities: Learning Technology Services

This module contains maturity and deployment indexes that can be used to measure progress on campuswide strategic initiatives. This is an **optional** module.

In responding to the survey questions in this module, please enter data that describe your institution as of June 30, 2019.

**NOTES:**
- Throughout the survey, "central IT" refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- For CDS participants from central offices of multicampus systems and community college districts, "institution" refers to the central office only, not the entire multicampus entity. For all other participants, "institution" refers to the individual college or university (typically referred to as a "campus").
- Please refer to the [CDS glossary](https://www.educause.edu/coredata) for definitions of other terms in the survey.

Digital Capabilities: Learning Technology Services

Q1 | Learning Technology Services Maturity
Q2 | Learning Technology Services Deployment
Q3–4 | Supplemental Information
Q5–8 | Module Feedback
Q1 I Learning Technology Services Maturity

1a. Please characterize each of the following items as it relates to the state of educational and learning technologies at your institution as of June 30, 2019:

NOTES:
- For the purposes of this question, "learning/educational technology" is defined as learning that involves a digital component, enabling collaboration and access to content that extends beyond the classroom.
- This section is best completed by your institution’s director of academic technology, or other individual familiar with the institutional learning/educational technology environment.
- Please skip this question if your institution does not provide learning/educational technology.

<table>
<thead>
<tr>
<th>1. SUPPORT AND ENGAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1) Our institution adequately provides learning/educational technology consultation and development services for instructors.</td>
</tr>
<tr>
<td>1.2) Our institution adequately provides learning/educational technology training and support services for instructors.</td>
</tr>
<tr>
<td>1.3) Our institution provides expertise on digital pedagogy and course development.</td>
</tr>
<tr>
<td>1.4) Our institution adequately provides learning/educational technology training and support services for students.</td>
</tr>
<tr>
<td>1.5) Our institution adequately provides LMS consultation and development services for instructors.</td>
</tr>
<tr>
<td>1.6) Our institution adequately provides LMS training and support services for instructors.</td>
</tr>
<tr>
<td>1.7) Our institution adequately provides LMS training and support services for students.</td>
</tr>
<tr>
<td>1.8) Our institution adequately provides opportunities for instructors to experiment with new learning/educational technologies and technology-enhanced spaces.</td>
</tr>
<tr>
<td>1.9) Our faculty play a large role in determining what learning/educational technologies are used in their courses.</td>
</tr>
<tr>
<td>1.10) Our institution adequately provides consultation and development services for instructors using active learning classrooms and informal collaborative learning spaces.</td>
</tr>
<tr>
<td>1.11) Our institution adequately provides training and support services for instructors using active learning and informal collaborative learning spaces.</td>
</tr>
</tbody>
</table>

2. OPERATIONAL EFFECTIVENESS

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Digital Capabilities

Q1 | Learning Technology Services Maturity

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

2.1) Our learning/educational technology delivery systems are highly reliable.
2.2) IT considers learning/educational technology delivery systems to be mission-critical in terms of the support provided.
2.3) Most of our learning/educational technology (e.g., course delivery, lecture capture, content management system, support) are supported through a centralized system.
2.4) Our learning/educational technology services and programs are adaptable; we will be able to accommodate new methods of learning delivery in the coming years.
2.5) Our learning/educational technology services and programs are scalable; we will be able to handle a growing number of technology-enhanced courses and spaces in the coming years.

3. GOVERNANCE, SECURITY, AND ACCESSIBILITY

3.1) Our institution has adequate resources and knowledge to effectively provide alternative technologies for students with disabilities to engage in technology-enhanced learning environments.
3.2) Our institution has an effective, established mechanism in place for learning/educational technology governance (responsible for policy, quality, accreditation requirements, etc.).
3.3) Our institution has appropriate policies and guidelines in place to verify students’ identity to ensure that students submitting coursework online are those who have completed the work.
3.4) Our institution has appropriate policies and guidelines in place to enable effective decision making about learning/educational technology initiatives.
3.5) Our institution has appropriate policies outlining the intellectual property of course material.
3.6) Our institution has appropriate technology in place to ensure the security of learning/educational technology data.

4. PRIORITY

4.1) Our institution has established a senior position specifically for learning/educational technology.
4.2) Our institution views learning/educational technology as an investment, rather than as an added cost.
4.3) Our institution views learning/educational technology as a strategic priority.
4.4) Our faculty are rewarded (e.g., extra salary, lower course load, specialized recognition) for developing technology-enhanced learning experiences.

1b. For analysis purposes, please select the title(s) of the individual who completed and approved the responses for the learning technologies maturity index. (Check all that apply.)

- [ ] Chief information officer (CIO)
- [ ] Chief technology officer (CTO)
- [ ] Associate vice president
- [ ] Associate vice chancellor
1c. For analysis purposes, please select the areas of responsibility of the individual who completed and approved the responses for the learning technologies maturity index. Check all areas this person oversees regardless of whether they are in-sourced or outsourced.

- Academic transformation
- Applications development or operations
- Data, analytics, and BI
- Desktop services/client support
- Design, media, and web
- Enterprise and administrative systems
- Institutional research
- IT leadership
- IT operations and service delivery
- Library
- Networks and systems
- Policy
- Privacy
- Research computing/cyberinfrastructure
- Security
- Student success
- Teaching and learning/instructional technology
- Other (please specify)

Q2 | Learning Technology Services Deployment

Digital Capabilities

Q2 | Learning Technology Services Deployment

2. Please describe the status of the following systems and technologies at your institution as of June 30, 2019, using the scale below, taking into account both institutionally deployed systems and hosted or cloud-based systems.

1. **No deployment.** None of this technology or service is in place and no work is under way or resources committed for this technology or service.

2. **Tracking.** Staff are assigned but are restricted to monitoring and understanding this technology or service (much more than just reading articles).

3. **Planning, piloting, and initial deployment.** This technology or service is not yet available to users, but meaningful planning for deployment is under way. A plan for deployment is either in development or in place. Staff are investing significant time (multiple person-weeks of effort) and resources planning to deploy this technology or service. This includes evaluating options with an expectation of deployment within a defined time frame. Evaluation involves at least multiple person-weeks of staff time developing options, a proposal for required funding, and piloting the technology or service.

4. **Deployment to parts of the institution.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with potential access by selected users, but not institution-wide.
5. **Deployment institution-wide.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with deployment supporting potential access institution-wide.

6. **Planning to sunset.** This technology or service is or was in place and is now being removed from the service catalog and no longer receives resources or support.

<table>
<thead>
<tr>
<th>No deployment</th>
<th>Tracking</th>
<th>Planning, piloting, and initial deployment</th>
<th>Deployment to parts of the institution</th>
<th>Deployment institution-wide</th>
<th>Planning to sunset</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>a. Full-function online learning delivery system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. Real-time web- or video-conferencing online learning environment</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. Online learning course analytics for instructors</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. Collaboration tools for learning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. Multimedia production for online learning (including facilities and/or services)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f. E-publishing platform for learning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g. Student evaluation of teaching effectiveness</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h. Electronic student portfolios</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>i. Plagiarism detection system</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>j. Remote exam proctoring</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>k. Virtual computer lab delivery</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>l. Digital asset management system for learning</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>m. Campus supported e-book/e-textbook platform</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Q3–4 | Supplemental Information**

**Digital Capabilities**

**Q3–4 | Supplemental Information**

3. **Please provide, in a paragraph or two, any background information about educational and learning technologies at your institution that could be useful to other CDS participants who may be using your data in their benchmarking. Examples: We are engaged in a yearlong assessment of learning technology service capabilities. (optional)**
4. Please provide the name and e-mail address of the person to contact regarding your institution’s responses to this module of the CDS survey. (optional)

[Blank space]

Q5–8 | Module Feedback

Digital Capabilities

Q5–8 | Module Feedback

5. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately addressed in this year’s survey. We’d also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)

[Blank space]

6. How many people participated in preparing and completing the answers to the questions in this module? (optional)

- [ ] 1
- [ ] 2–4
- [ ] 5+

7. Approximately how much time did you spend on the following? (optional)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing question data prior to entering data into the survey</td>
<td></td>
</tr>
<tr>
<td>Entering data into the survey</td>
<td></td>
</tr>
</tbody>
</table>

8. How easy was it for you to complete this module? Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)

- [ ] Very difficult
- [ ] Difficult
- [ ] Somewhat difficult
- [ ] Somewhat easy
Easy
Very easy

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Digital Capabilities: Information Security

This module contains maturity and deployment indexes that can be used to measure progress on campuswide strategic initiatives. This is an optional module.

In responding to the survey questions in this module, please enter data that describe your institution as of June 30, 2019.

NOTES:
- Throughout the survey, "central IT" refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- For CDS participants from central offices of multicampus systems and community college districts, "institution" refers to the central office only, not the entire multicampus entity. For all other participants, "institution" refers to the individual college or university (typically referred to as a "campus").
- Please refer to the CDS glossary for definitions of other terms in the survey.

Digital Capabilities: Information Security
Q1 | Information Security Maturity
Q2 | Information Security Technology Deployment
Q3–4 | Supplemental Information
Q5–8 | Module Feedback
Q1 | Information Security Maturity

Digital Capabilities

1a. Please characterize each of the following items as it relates to the state of information security at your institution as of June 30, 2019.

NOTES:
- This section is best completed by your institution’s chief information security officer, director of IT security, or other individual familiar with the institutional information security technology environment.

<table>
<thead>
<tr>
<th>1. SECURITY SERVICES AND OPERATIONS</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1) We have an individual with institution-wide information security responsibility and authority written into their job description, or equivalent. Note: This may be the CIO, CISO, CSO, or other.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.2) Duties are sufficiently segregated to ensure that unintentional or unauthorized modification of information is detected.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.3) Individuals (staff, faculty, students, third parties) interacting with institutional systems receive information security awareness training.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.4) We participate in local or national security groups (e.g., REN-ISAC, EDUCAUSE, InfraGard, Information Systems Security Association).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.5) Our incident-handling procedures include the definition of roles and responsibilities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.6) Our incident response staff are aware of legal or compliance requirements surrounding evidence collection.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.7) We maintain relationships with local law enforcement authorities.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.8) We have an information security policy that has been approved by institutional leadership.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.9) We have incident-handling procedures in place to report and respond to security events throughout the incident life cycle.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.10) Our incident-handling procedures include the requirement to hold an after-incident review to determine the need for new controls to reduce the likelihood and impact of future incidents.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>1.11) We assess the security controls of contracted services with external entities (third parties, cloud services) before granting access to sensitive institutional information assets.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. ASSET PROTECTION</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1) We monitor and promptly respond to patch releases, security bulletins, and vulnerability reports.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2.2) We have an acceptable use policy that defines misuse of institutional IT resources and data.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2.3) We maintain security configuration standards for information systems and applications.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>2.4) We have procedures and technologies in place to protect sensitive data from unauthorized access and tampering.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Neutral</td>
<td>Agree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>---</td>
<td>------------------</td>
<td>----------</td>
<td>---------</td>
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<td>----------------</td>
</tr>
<tr>
<td>2.5) Our data backup process is consistent with the availability requirements of our organization.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.6) We routinely test our data backup restore procedures.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.7) We have access control procedures to authorize and revoke access rights to information systems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.8) We have access control procedures to authorize and revoke access rights to physical assets (e.g., buildings).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.9) We have procedures to regularly review users’ access to ensure that only needed privileges are applied.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.10) We have an authorization system that enforces time limits lockout on login failure.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.11) We have an authorization system that defaults to minimum privilege.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3. SYSTEMS REVIEW

3.1) We have a process for identifying and assessing reasonably foreseeable internal and external risks to the security, confidentiality, and/or integrity of records containing sensitive information. 

3.2) We have a vulnerability management strategy in place.

3.3) We have a process for routinely monitoring logs to detect unauthorized and anomalous activities.

3.4) We have a log management process in place to secure log data from unauthorized access and tampering.

3.5) We have a configuration-management process in place to ensure that changes to our critical information systems and applications are for valid business reasons.

3.6) We have a configuration-management process in place to ensure that changes to our critical information systems and applications have received proper testing and authorization.

3.7) We complete independent security reviews at planned intervals.

3.8) We complete independent security reviews when significant changes to the environment occur.

### 4. POLICIES AND BUSINESS CONTINUITY

4.1) We have usage guidance established for mobile computing devices (regardless of ownership) that store, process, or transmit institutional data.

4.2) Our policies indicate when encryption should be used (e.g., at rest, in transit, with sensitive or confidential data, on certain types of devices).

4.3) We identify critical information assets and the functions that rely on them.

4.4) We classify data to indicate the appropriate levels of information security.

4.5) We have standards for isolating sensitive data to protect it from unauthorized access and tampering.

4.6) We have a records management or data governance policy that addresses the life cycle of paper records.

4.7) We have a records management or data governance policy that addresses the life cycle of electronic records.

4.8) We have purchased cyberliability insurance.

4.9) We have a business continuity plan for information technology that has been reviewed and approved by senior staff or the board of trustees.

4.10) We have a business continuity plan for information technology that is periodically tested.

### 5. IDENTITY MANAGEMENT
5.1) Institutional leadership has approved an identity management policy, which includes requirements and guidelines for identity proofing, credential issuance, authentication, and protection of authentication secrets.

5.2) Authentication requirements for services are determined via a risk assessment framework.

5.3) We employ multifactor authentication for access to critical institutional services.

5.4) Our institution offers eduroam network access service for campus visitors.

Digital Capabilities

Q1 | Information Security Maturity

1b. For analysis purposes, please select the title(s) of the individual who completed and approved the responses for the information security maturity index. (Check all that apply.)

- [ ] Chief information officer (CIO)
- [ ] Chief technology officer (CTO)
- [ ] Chief information security officer (CISO)
- [ ] Chief information technology officer (CITO)
- [ ] Chief learning officer (CLO)
- [ ] Chief digital officer (CDO)
- [ ] Vice president
- [ ] Vice chancellor
- [ ] Vice provost
- [ ] Associate provost
- [ ] Associate vice president
- [ ] Associate vice chancellor
- [ ] Associate vice provost
- [ ] Assistant vice president
- [ ] Dean
- [ ] Executive director
- [ ] Director
- [ ] Manager
- [ ] Other (please specify)

1c. For analysis purposes, please select the areas of responsibility of the individual who completed and approved the responses for the information security maturity index. Check all areas this person oversees regardless of whether they are in-sourced or outsourced.

- [ ] Academic transformation
- [ ] Applications development or operations
- [ ] Data, analytics, and BI
- [ ] Desktop services/client support
- [ ] Design, media, and web
- [ ] Enterprise and administrative systems
- [ ] Institutional research
- [ ] IT leadership
- [ ] IT operations and service delivery
- [ ] Library
- [ ] Networks and systems
- [ ] Policy
- [ ] Privacy
- [ ] Research computing/cyberinfrastructure
- [ ] Security
- [ ] Student success
- [ ] Teaching and learning/instructional technology
- [ ] Other (please specify)

Q2 | Information Security Technology Deployment
Information Security

Q2 | Information Security Technology Deployment

2. Please describe the status of the following systems and technologies at your institution as of June 30, 2019, using the following scale:

1. **No deployment.** None of this technology or service is in place and no work is under way or resources committed for this technology or service.
2. **Tracking.** Staff are assigned but are restricted to monitoring and understanding this technology or service (much more than just reading articles).
3. **Planning, piloting, and initial deployment.** This technology or service is not yet available to users, but meaningful planning for deployment is under way. A plan for deployment is either in development or in place. Staff are investing significant time (multiple person-weeks of effort) and resources planning to deploy this technology or service. This includes evaluating options with an expectation of deployment within a defined time frame. Evaluation involves at least multiple person-weeks of staff time developing options, a proposal for required funding, and possibly piloting the technology or service.
4. **Deployment to parts of the institution.** Full, production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with potential access by selected users, but not institution-wide.
5. **Deployment institution-wide.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with deployment supporting potential access institution-wide.
6. **Planning to sunset.** This technology or service is or was in place and is now being removed from the service catalog and no longer receives resources or support.

**NOTE:** This section is best completed by your institution's chief information security officer, director of IT security, or other individual familiar with the institutional information security technology environment.

<table>
<thead>
<tr>
<th>No deployment</th>
<th>Tracking</th>
<th>Planning, piloting, and initial deployment</th>
<th>Deployment to parts of the institution</th>
<th>Deployment institution-wide</th>
<th>Plan to sunset</th>
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</thead>
<tbody>
<tr>
<td>a. Anti-virus/Anti-spam/spyware/malware protection</td>
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<td>b. Biometric authentication</td>
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<td>c. Data loss prevention</td>
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<tr>
<td>d. Endpoint configuration management</td>
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<td>e. Endpoint encryption for sensitive data</td>
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<tr>
<td>f. Host-based intrusion detection system</td>
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<td>g. Host-based intrusion prevention system</td>
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<td>h. Log management</td>
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<td>i. Multifactor authentication (nonbiometric)</td>
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<td>j. Network access control system</td>
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<td>k. Network filtering</td>
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<td>l. Network intrusion detection system</td>
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<td>m. Network intrusion prevention system</td>
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<td>n. Penetration testing tools</td>
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<td>o. Scanning tools for private/protected information</td>
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<td>p. Secure remote access</td>
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<td>q. Secure wireless access</td>
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<tr>
<td>r. Security information and event management</td>
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</tbody>
</table>
Q3–4 | Supplemental Information

Digital Capabilities

s. Self-phishing assessment tools (e.g., PhishMe or Wombat)

<table>
<thead>
<tr>
<th>No deployment</th>
<th>Tracking</th>
<th>Planning, piloting, and initial deployment</th>
<th>Deployment to parts of the institution</th>
<th>Deployment institution-wide</th>
<th>Plan to sunset</th>
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</table>

<table>
<thead>
<tr>
<th>t. Vulnerability assessment tools</th>
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</tbody>
</table>

Q3–8 | Module Feedback

Digital Capabilities

5. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately addressed in this year's survey. We'd also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)
6. How many people participated in preparing and completing the answers to the questions in this module? (optional)

- 1
- 2–4
- 5+

7. Approximately how much time did you spend on the following? (optional)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing question data prior to entering data into the survey</td>
<td></td>
</tr>
<tr>
<td>Entering data into the survey</td>
<td></td>
</tr>
</tbody>
</table>

8. How easy was it for you to complete this module? Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)

- Very difficult
- Difficult
- Somewhat difficult
- Somewhat easy
- Easy
- Very easy
Digital Capabilities: Student Success Technologies

This module contains maturity and deployment indexes that can be used to measure progress on campuswide strategic initiatives. This is an optional module.

In responding to the survey questions in this module, please enter data that describe your institution as of June 30, 2019.

NOTES:
- Throughout the survey, "central IT" refers to the centralized information technology services and support organization reporting to the highest-ranking information technology administrator/officer in the institution.
- For CDS participants from central offices of multicampus systems and community college districts, "institution" refers to the central office only, not the entire multicampus entity. For all other participants, "institution" refers to the individual college or university (typically referred to as a "campus").
- Please refer to the CDS glossary for definitions of other terms in the survey.

Digital Capabilities: Student Success Technologies

Q1 | Student Success Technologies Maturity
Q2 | Student Success Technologies Deployment
Q3–4 | Supplemental Information
Q5–8 | Module Feedback
Q1 | Student Success Technologies Maturity

Digital Capabilities

Q1 | Student Success Technologies Maturity

1a. Please characterize each of the following items as it relates to the state of student success technologies at your institution as of June 30, 2019.

NOTES:
- This section is best completed by your institution's CIO or other officer knowledgeable about your student success technologies environment.
- For assistance with completing this question, please refer to the Student Success Technologies Maturity rubric: https://library.educause.edu/~/media/files/library/2019/7/sstrubric2019.pdf.

<table>
<thead>
<tr>
<th>1. STUDENT SERVICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1) Our institution provides and maintains a student advising process that effectively supports our student success goals.</td>
</tr>
<tr>
<td>1.2) Our institution provides support services available to students (e.g., tutoring, mentoring, career planning, programs for special populations) to effectively support our student success goals.</td>
</tr>
<tr>
<td>1.3) Our institution has clearly documented degree requirements in academic programs.</td>
</tr>
<tr>
<td>1.4) Our institution continuously reviews the needs of students to update the student support and advising services provided.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2. DEFINED OUTCOMES</th>
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<tbody>
<tr>
<td>2.1) Our institution has defined student success goals.</td>
</tr>
<tr>
<td>2.2) Our institution has defined student success metrics and measures.</td>
</tr>
<tr>
<td>2.3) Our institution uses analytics to effect continuous improvement of student success initiatives.</td>
</tr>
<tr>
<td>2.4) Our institution uses analytics to predictively inform student success initiatives.</td>
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</table>

<table>
<thead>
<tr>
<th>3. LEADERSHIP AND CULTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1) Senior leaders are publicly committed to initiatives designed to improve student success.</td>
</tr>
<tr>
<td>3.2) Our institution ensures alignment among senior leadership about the initiatives designed to improve student success.</td>
</tr>
<tr>
<td>3.3) Our institution ensures alignment among senior leadership about student success initiatives and the technologies available.</td>
</tr>
<tr>
<td>3.4) Our institution has developed an adequate funding model to support institutional student success efforts.</td>
</tr>
<tr>
<td>3.5) Our institution has developed an adequate funding model to support student success technology initiatives.</td>
</tr>
<tr>
<td>3.6) Our institution identifies the key institutional student success outcomes that we are trying to improve upon.</td>
</tr>
</tbody>
</table>
### 3.7) Our institution includes faculty on committees related to defining, implementing, and sharing data related to student success goals and measures.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
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### 3.8) Our institution includes student leaders on committees related to defining and implementing student success goals and measures.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
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### 3.9) Our institution supports collaboration among people from different departments/units to effectively support student success initiatives.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
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### 3.10) Our institution collects and uses input from multiple stakeholders (e.g., IT, faculty, institutional research, students, staff, student affairs) when making decisions about student success technologies.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
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### 3.11) Student success goals are accepted and supported throughout our institution.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
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### 4. TECHNOLOGY AND SYSTEMS

#### 4.1) Our institution provides tools (e.g., dashboards, portals) to ensure that appropriate staff can create reports and communicate the status of student success metrics and initiatives in a timely manner.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
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#### 4.2) Our institution develops and maintains policies and practices that are sufficiently robust to safeguard data, both institutional and student-level, used for student success analytics (e.g., specification of privileges and responsibilities for data access and storage, ethics of data use).

<table>
<thead>
<tr>
<th>Strongly disagree</th>
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#### 4.3) Our institution has the technology needed to identify and intervene with students at academic risk (e.g., tracking student progress, identifying potential obstacles to degree or credential completion).

<table>
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<th>Strongly disagree</th>
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#### 4.4) Our institution has the technology needed to help students and advisors plan a detailed course of study through degree or credential completion.

<table>
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<th>Strongly disagree</th>
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#### 4.5) Our institution effectively shares data related to student success among technology systems (e.g., SIS, LMS, advising, analytics).

<table>
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<th>Strongly disagree</th>
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#### 4.6) Our institution provides training for faculty and advisors to make effective use of student technology systems on an ongoing basis (e.g., continued training, updates).

<table>
<thead>
<tr>
<th>Strongly disagree</th>
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#### 4.7) Our institution has the right kinds of data to support our student success outcomes and analytics needs.

<table>
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<th>Strongly disagree</th>
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#### 4.8) Our institution supports faculty’s adoption and use of information systems that support student success (e.g., early alerts, advising systems, degree progress tracking).

<table>
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<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
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#### 4.9) Our institution supports advisors’ adoption and use of information systems that support student success (e.g., early alerts, advising systems, degree progress tracking).

<table>
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<th>Strongly disagree</th>
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#### 4.10) Our institution makes sure the use of data to make decisions is accepted throughout.

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<th>Strongly disagree</th>
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**Digital Capabilities**

**Q1 | Student Success Technologies Maturity**

1b. For analysis purposes, please select the title(s) of the individual who completed and approved the responses for the student success technologies maturity index. (Check all that apply.)

☐ Chief information officer (CIO)  ☐ Associate vice president

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Learn more on the Core Data Service website: www.educause.edu/coredata
1c. For analysis purposes, please select the areas of responsibility of the individual who completed and approved the responses for the student success technologies maturity index. Check all areas this person oversees regardless of whether they are in-sourced or outsourced.

- Academic transformation
- Applications development or operations
- Data, analytics, and BI
- Desktop services/client support
- Design, media, and web
- Enterprise and administrative systems
- Institutional research
- IT leadership
- IT operations and service delivery
- Library
- Networks and systems
- Policy
- Privacy
- Research computing/cyberinfrastructure
- Security
- Student success
- Teaching and learning/instructional technology
- Other (please specify)

Q2 | Student Success Technologies Deployment

Digital Capabilities

Q2 | Student Success Technologies Deployment

2. Please describe the status of the following systems and technologies as they relate to student success technologies at your institution as of June 30, 2019, using the following scale:

1. **No deployment.** None of this technology or service is in place and no work is under way or resources committed for this technology or service.
2. **Tracking.** Staff are assigned but are restricted to monitoring and understanding this technology or service (much more than just reading articles).
3. **Planning, piloting, and initial deployment.** This technology or service is not yet available to users, but meaningful planning for deployment is under way. A plan for deployment is either in development or in place. Staff are investing significant time (multiple person-weeks of effort) and resources planning to deploy this technology or service. This includes evaluating options with an expectation of deployment within a defined time frame. Evaluation involves at least multiple person-weeks of staff time developing options, a proposal for required funding, and possibly piloting the technology or service.
4. **Deployment to parts of the institution.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with potential access by selected users, but not institution-
5. **Deployment institution-wide.** Full production-quality technical capability or service is in place, including ongoing maintenance, funding, etc., with deployment supporting potential access institution-wide.

6. **Planning to sunset.** This technology or service is or was in place and is now being removed from the service catalog and no longer receives resources or support.

<table>
<thead>
<tr>
<th>No deployment</th>
<th>Tracking</th>
<th>Planning, piloting, and initial deployment</th>
<th>Deployment to parts of the institution</th>
<th>Deployment institution-wide</th>
<th>Planning to sunset</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

a. Degree auditing

b. Advising center management

c. Advising case management system for student interaction tracking

d. Education plan creation/tracking system

e. Credit transfer/articulation system/dual enrollment

f. Academic early alert system

g. Course/program recommendation system

h. Student extracurricular activities management system

i. Student co-curricular activities management system

j. Student self-service referral to social/community resources

k. Student success analytics dashboards

l. Student success data warehouse/operational data store

m. Student success analytics system (i.e., predictive modeling)

n. Application for students to access their data (e.g., current academic standing, tips for improvement, resources)

o. Consent platform for students to opt in/out of data collection/analytics

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Q3–4 I Supplemental Information

**Digital Capabilities**

Q3–4 I Supplemental Information

3. Please provide, in a paragraph or two, any background information about student success technologies at your institution that could be useful to other CDS participants who may be using your data in their benchmarking. Examples: We are engaged in a yearlong assessment of student success technology service capabilities. (optional)
4. Please provide the name and e-mail address of the person to contact regarding your institution's responses to this module of the CDS survey. (optional)

Q5–8 | Module Feedback

Digitally Capabilities

Q5–8 I Module Feedback

5. EDUCAUSE welcomes your feedback on this survey module. Please let us know of any technologies, innovations, or challenges important to your institution that are not addressed or are inadequately addressed in this year’s survey. We'd also like to know if any questions in this module are not relevant to your institution. How else could this module of the CDS survey be improved? (optional)

6. How many people participated in preparing and completing the answers to the questions in this module? (optional)

- 1
- 2–4
- 5+

7. Approximately how much time did you spend on the following? (optional)

<table>
<thead>
<tr>
<th>Number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquiring and processing question data prior to entering data into the survey</td>
</tr>
<tr>
<td>Entering data into the survey</td>
</tr>
</tbody>
</table>

8. How easy was it for you to complete this module? Please take into consideration the amount of time it took, the ease of gathering information needed to answer the questions, the ease of identifying people at your institution to supply the answers, the clarity of the questions, etc. (optional)

- Very difficult
- Difficult
- Somewhat difficult
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