

AIHEC CI STRATEGIC PLANNING

SELF-ASSESSMENT

Executive Summary

Introduction

The American Indian Higher Education Consortium (AIHEC) Cyberinfrastructure (CI) Team developed the Cyberinfrastructure Strategic Planning (CISP) Campus Assessment to initiate the strategic planning initiative for the cyberinfrastructure of the Tribal Colleges and Universities (TCUs). The AIHEC CI team assembled a team of expert and experienced consultants to develop this Campus Assessment tool and its guiding questions for consideration by each TCU campus to start their CISP effort. A comprehensive Campus Assessment establishes the current boundaries and status of the institution's cyberinfrastructure, becoming the foundational

document to the strategic planning process. A completed Campus Assessment establishes a baseline for the TCU response team and the AIHEC consultants to develop a gap analysis that will guide the first draft of a CI Strategic Plan. A full assessment of the current cyberinfrastructure assures that the subsequent gap analysis document and draft CI strategic plan is based on the current definition, operation, and impact of the cyberinfrastructure at the TCU.

An important part of this process is the determination of who the TCU considers its stakeholders - those individuals or institutions who are significantly impacted by the activities of the TCU, or have influence over its goals and objectives. The list of stakeholders will vary between TCUs - some will be on-campus, like students, faculty, and administration, and some will be off-campus, such as tribal governance, key vendors, or other cooperating TCUs. The stakeholders in a particular TCU should be a key partner in developing the CISP.

The three topical areas of the Campus Assessment will identify the current alignment of the IT organization, the impact on and effect of the campus and external stakeholders on the IT organization, and the current technical and foundational attributes of the IT organization.

- 1. IT Organizational Alignment: This topical area looks at how the IT organization serves the needs of the entire campus community. The AIHEC Consultant team recommends that the TCU's response team address this topical area.
- 2. Stakeholder Engagement Survey: The AIHEC consultant team recommends that a group of stakeholders address this section, such as administration, faculty, staff, and students recruited by the TCU's response team.
- 3. Technical and Foundational: This topical area assesses the current state of IT infrastructure and IT services. The AIHEC CISP Consultant team recommends that the IT organization address this topical area.

Process Narrative

This section generally describes how the AIHEC CISP Team will guide the Tribal Colleges through the entire AIHEC Cyberinfrastructure Strategic Planning activity. The process arc is subject to customization by the AIHEC CISP Team depending on the individual need, size, and intentions of each participating Tribal College.

AIHEC Cyberinfrastructure Strategic Planning Process Overview

Overview and Introduction	Objective 1: Project Initiation and Campus Assessment	Objective 2: Complete the Campus Assessment	Objective 3: Analysis and Plan Development	Objective 4: CI Strategic Plan Approval and Implementation
 TCU: Overview meeting with AlHEC Receive planning preparation documents Introduce Consultant Team and the Campus Assessment Tool ESTIMATED TIMELINE: ONE DAY 	 TCU: Identify and recruit TCU Response Team Develop list of broad stakeholders Determine TCU process for campus assessment ESTIMATED TIMELINE: TWO WEEKS AlHEC Consultants: Assist TCU Response Team with assessment planning 	 TCU Response Team: Initiate and complete campus assessment Engage AIHEC Team as needed Provide AIHEC Team the completed campus assessment ESTIMATED TIMELINE: THREE WEEKS AIHEC Consultants: Support Response Team Campus Assessment Engage in stakeholder conversations (as needed) Identify potential TCU community outreach candidates 	 AIHEC Consultants: Review TCU Campus Assessment and develop gap analysis and recommendations Refine TCU planning documents with TCU Response Team Introduce CI Strategic Plan template Support TCU drafting CI Strategic Plan ESTIMATED TIMELINE: FIVE WEEKS TCU Response Team: Review and refine planning documents Draft CI Strategic Plan, refine with campus leadership 	 TCU Response Team: Deliver Strategic Plan to TCU leadership and stakeholders, with recommendations for implementation and reporting Work with key stakeholders to implement plan ESTIMATED TIMELINE: FOUR WEEKS AIHEC Consultants: Support TCU Response Team in Strategic Plan presentation to leadership Remain available for ongoing engagement during implementation

Overview and Introduction

- The AIHEC CI Team will provide the planning documents and a process overview. Planning documents for the TCU to consider include the:
 - ČISP Executive Summary,
 - o Strategic planning Campus Assessment,
 - AIHEC strategic planning template.
- Separately, the NSF Tribal College Program (TCUP) is providing \$49,999 to support CI Planning at Tribal Colleges and Universities. Interested TCUs can reach Jeremy Guinn at NSF TCUP for more details on the proposal process (jguinn@nsf.gov).
- The AIHEC CI Team will introduce the TCU Response Team to their AIHEC CISP consultant team (biographies referenced below).

Objective 1: Project Initiation and Campus Assessment Tool

- The TCU identifies and recruits the individuals at their institution that will be responsible for leading the planning process and producing the final CI Strategic plan. The CISP documents refer to this group as the *TCU Response Team*.
- The TCU develops a list of broad stakeholders based on the definition noted in the glossary below.
- The TCU determines a customized process for completing the Campus Assessment at their campus (how stakeholders will be engaged, how Campus Assessment responses will be developed, what collaborative writing tools will be used, etc).
- The AIHEC CISP Consultants will assist the TCU Response Team with planning for the Campus Assessment at their campus and customizing the Campus Assessment tool to the campus.

Objective 2: Complete the Campus Assessment

- The TCU Response Team leads engagement with stakeholders to complete the Campus Assessment.
- The TCU Response Team will engage their AIHEC CISP Consultants as needed during stakeholder meetings.
- The AIHEC CISP Consultants will check with the TCU Response Team on their progress periodically and provide assistance and guidance, if needed.
- The TCU Response Team presents the completed Campus Assessment to their AIHEC CISP Consultant Team.
- The AIHEC CISP Consultant Team will identify members of the TCU's Response Team to share their Campus Assessment best practices and lessons learned with other TCUs' Response Team members engaged in CI Strategic Planning.

Objective 3: Analysis and Plan Development

- The AIHEC CISP Consultant Team reviews and discusses the TCU's Campus Assessment internally.
- Based on the Campus Assessment, the AIHEC CI Consultant Team drafts a gap analysis, current state assessment, and recommendations to draft the initial CI strategic plan.
- The AIHEC CISP Consultant Team presents the analysis, assessment, and recommendations drafts to the TCU Response Team and both teams work together to refine and finalize the documents.
- The AIHEC CISP Consultant Team re-introduces the strategic plan template to the TCU Response Team.
- The TCU Response Team and the AIHEC CISP Consultant Team will work from the documents developed above to draft a strategic plan, as well as implementation and reporting recommendations.
- The TCU Response Team reviews the draft strategic plan with stakeholders, with input and participation from the AIHEC CISP Consultant Team, as needed.
- The TCU Response Team and AIHEC CISP Consultant Team considers stakeholder feedback and develops a final version of the cyberinfrastructure strategic plan.

Stage 4: CI Strategic Plan Approval and Implementation

- The TCU Response Team delivers the final version of the strategic plan as well as implementation and reporting recommendations to the TCU leadership, Response Team, and stakeholders, with input and participation from CISP Consultant Team as needed.
- The TCU Response Team and AIHEC CI Consultant Team will confer as to who on the TCU Response Team might be inclined to assist fellow TCUs with their future CISP efforts.
- The full implementation plan will be an included section in the cyberinfrastructure strategic plan. The AIHEC CI Team is available to the TCU to provide technical assistance on the implementation of the cyberinfrastructure strategic plan.

AIHEC CISP Consultant Team

Along with Dale Smith and Jim Bottum, the AIHEC CI strategic planning consultant team include:

Gwendolyn (Wendy) Huntoon

Wendy has worked in the fields of high-performance networking and computing for over 30 years and is currently co-PI on the NSF funded Women in IT Networking at SC (WINS) project aimed at addressing the prevalent gender gap that exists in Information Technology (IT). Throughout her career she has worked to enhance high performance networking infrastructure, technology, and services for the research community, including cyberinfrastructure deployment and network performance analysis and tuning.

From 2014 – 2019 she was the president and CEO of KINBER, the Keystone Initiative for Network Based Education and Research where she expanded KINBER's PennREN network, increased the service offerings, and enhanced the support for campus and regional network infrastructure in support of science drivers and applications. Prior to joining KINBER, she was the Director of Advanced Networking at the Pittsburgh Supercomputing Center and also served in Intenet2's CTO's office as the Senior Director of Research and Science Engagement. Huntoon is currently a member of the DoE Advanced Scientific Computing Advisory Committee. She has a Masters Degree in Electrical Engineering from Northeastern University and a Bachelor's Degree in Mathematics and History from Bowdoin College.

John H. Moore

John is currently volunteering as a member of the Ecosystem for Research Networking Steering Committee (ernrp.org). He retired from Internet2 in 2019 where he was an Associate Vice President (for both Research & Infrastructure Strategy and Network Architecture & Planning) working to help build the infrastructure and multi-institutional collaborations that support large-scale science in the United States. Prior to joining Internet2, he spent nine years with MCNC, the regional Research and Education (R&E) network operator in North Carolina, where he held several technical and senior executive positions in the areas of service development, strategy, innovation and cybersecurity. John has been involved with the R&E networking community since 2000, starting with his position at North Carolina State University, where he focused on network technology testing as Director of the Centaur Lab and the NC Internet2 Technology Evaluation Center.

Prior to his work with the R&E community, John spent fifteen years working in the private sector as a networking consultant, development engineer, product planner and standards representative in organizations ranging in size from IBM to his own one man consulting company. John received a BS in Electrical Engineering from Case Western Reserve University in 1985.

Patrick Schmitz

Patrick Schmitz is founder and principal consultant at Semper Cogito, providing strategic technology consulting in academic research IT. Schmitz is an active contributor to a number of Campus Research Computing Consortium (CaRCC) working groups, and co-chairs the Research Computing and Data Capabilities Model and RCD Career Arcs working groups. Prior to this, he spent 12 years at University of California Berkeley as Associate Director of Research IT for Architecture and Strategy, providing IT strategy and solutions in support of campus research; and Director of Berkeley Research Computing. In addition to his experience in academia, he was a researcher at Microsoft Research, Yahoo! Research, and CWI in Amsterdam, and co-founded a series of tech startups.

Paul Schopis

Paul served as the executive director of OARnet, from 2015 to 2019 and as the chief technology officer from 2009 through 2019. In the role of executive director he implemented a new business plan to more closely align with the needs and uses of the network as well as create greater equity amongst users. He also worked closely with chancellor's and governor's offices to expand high speed networking and resilient infrastructure to support research and real time critical applications such as drone flight control, first responders and NG911. As CTO, Schopis led the team that designed OARnet's network, one of the nation's leading statewide and multi-

state, high-speed networks for research and education, and was involved in all phases of its creation, including RFP process, procurement, deployment and operation. Schopis also provided the budgetary network design for BDREN, the Bangladesh national R&E network that resulted in funding from the World Bank as well as participating in the final design and training of the network operators. He also acted as CTO for GOHi (Global One Health Initiative) and participated in programs in Ethiopia, Kenya and Tanzania. Schopis previously served as senior engineer for Ohio's Internet2 Technology Evaluation Center (ITEC-Ohio).

Schopis served on The Quilt board and executive committee and served two and half terms as chair of the executive committee. Among his contributions to the community, Schopis founded Internet2's NTAC and was a founding member of the Advanced Testing and Monitoring Team, in partnership with ITEC-Ohio, NC-ITEC, Spirent, British Columbia Institute of Technology and San Diego Supercomputing Center. He also was a founding member of the Big Ten OMNIpop's Technical Advisory Committee. Schopis has also been a co-author for various technical and professional publications. Schopis holds a bachelor's degree in mathematics and physical science from The Ohio State University and graduated cum laude.

Glossary of Terms

AIHEC – The American Indian Higher Education Consortium (AIHEC), a non-profit organization chartered, organized, and directed by the presidents of the 37 Tribal Colleges and Universities (TCUs). AIHEC serves as the collective voice of the 37 TCUs.

AIHEC CISP Consultant Team – A team of six (6) consultants hired and directed by AIHEC with an expertise in cyberinfrastructure strategic planning who will guide each TCU Response Team through the strategic planning process for their cyberinfrastructure.

CISP – An abbreviation for Cyberinfrastructure (CI) Strategic Planning.

Cyberinfrastructure (CI) – An institution's computing systems, data storage systems, advanced instruments and data repositories, visualization environments, and PEOPLE, all linked by high-speed networks to accomplish a collective mission or objective.

Enterprise Systems –large scale software packages that are able to track and control all of the complex operations of a business such as Jenzabar, Empower, Populi, etc.

FTE – Full Time Equivalent

IT Organization – the people who comprise the IT expertise and efforts at the institution.

Non-Campus User – People who use or rely on the institution's cyberinfrastructure but are not associated with the campus.

Stakeholder - Any individual, social group, or actor who possesses an interest, a legal obligation, a moral right, or other concern in the decisions or outcomes of the TCU. Direct stakeholders are students, faculty, administration and staff, more broadly other stakeholders could be tribal governments, tribal members or other persons or groups not directly affiliated with the TCU.

TCU Response Team – A team of TCU staffers designated by the President of the college to lead the cyberinfrastructure strategic planning process at their campus.

Technology Literacy – Level of understanding and proficiency with technology resources such as software, hardware, and applications.



AIHEC CI STRATEGIC PLANNING

IT ORGANIZATIONAL ALIGNMENT

IT Organizational Alignment

This topical area looks at how the IT organization serves the needs of the entire campus community. The AIHEC Consultant team recommends that the TCU's response team address this topical area.

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Campus Information	1
IT Relationship to Campus Mission	1
IT Organization Level Planning	2
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Campus Policy Structure	3
IT Staffing	3

Campus Information

- 1. What is the institutional FTE count (full-time equivalent faculty, staff, and students)?
- 2. Is the institution a two-year or four-year school, and does the institution grant advanced degrees?
- 3. How many campuses does the institution own or operate?
- 4. If the institution has more than one location, is one campus considered the main campus? If so, which one??

Relationship to Campus Mission

- 5. Who does the IT organization report to and why?
- 6. Is the IT organization represented at the President's cabinet/council? And if so, who is the representative?
- 7. Does the campus have a comprehensive campus-wide strategic plan?
 - a. What is the process used for developing a campus-wide strategic plan?
 - b. How is the IT organization included in campus planning efforts (both strategic and tactical)?
 - c. Is it published?
 - d. Is it updated regularly?
 - e. Does the strategic plan determine budget priorities?
 - f. Are campus (Academic, Administrative, IT, etc.) departmental priorities, goals, and activities informed by and in support of the campus-wide strategic plan?
- 8. How do faculty, staff, and students engage the IT organization around requirements definition and solution development to support educational and research needs? (This could include strategy, equipment and software choices, etc.)
 - a. Is there a formal process for creating or changing services based on faculty, staff and student requests, or are new services developed in response to tactical needs (e.g. fixing what's broken)?
 - b. Does a standard method exist for the faculty to engage the IT organization for assistance with developing educational and research tools and strategies?
- 9. Does a formal IT governance structure exist?

- a. For example, is there an IT committee or similar governing body that regularly meets to discuss IT issues and priorities?
- b. Are there other groups or committees that provide formal review and feedback to the IT organization?
- 10. How does the TCU understand, evaluate, and address all areas of risks to the campus?
 - a. Is the IT organization included in the evaluation of risk areas to the campus?
 - b. Does the college provide education, outreach, and training for faculty, staff, and students regarding the identified risk areas?
- 11. Is the IT organization organized with separate, clearly defined responsibilities for applicable services (i.e., classroom equipment, network support, support of the learning management system, etc.)?
 - a. Please provide a concise description of the significant products or services that the IT organization supports for the entire campus community.
- 12. Describe the grant-funded research activities on campus that impact the IT organization.
 - a. If there is a tracking system for these grants, please provide a report of active and recent grants.
 - b. Please consider grant-funded research activities that may include data management, computing, instruments, and/or other infrastructure that relates to IT.
 - c. How well do current IT services meet the needs of researchers?
- 13. Who are the stakeholders who should be included in the development of a CI strategic plan for the IT organization?
- 14. Which external entities (tribal government, federal agencies, research organizations, community members, etc.) collaborate with the institution?
- 15. Does the IT organization provide services and/or support to non-campus users?
 - a. Who are the non-campus users?
 - b. How does the IT organization engage with the non-campus users?
 - c. Does the IT organization provide the non-campus community an opportunity to participate in CI Strategic Planning?

Planning

- 16. Does a comprehensive short-term or long-term plan exist for the IT organization and is it published?
 - a. Is the IT organization plan updated regularly? And if so, how often?
 - b. Do tactical and strategic priorities identified in the IT organization plan impact the organization's budget?
 - c. How well are the IT staff responsibilities and duties aligned with the IT organization plan?
 - d. How are the IT organization goals and objectives tied to the IT organization plan?
- 17. Describe the periodic review process used to gauge the effectiveness of platforms used to support campus activities. (Examples: LMS, Student Records System, Campus Portal, etc.)
 - a. If such a process exists, how are students, faculty and staff represented in the review process?
- 18. Does the IT organization have a formal process to explore, assess, and incorporate new methods, services, technologies, and programs into its operations?
- 19. How does the IT organization's staff members engage in dialogue about ideas for new areas of services, technologies, and programs?

20. How does the IT organization track the current industry landscape regarding trends and innovative practices?

Budget and Finance

- 21. Approximately what percentage of the institutional budget is used for IT infrastructure, services, and/or support?
- 22. Does the campus have a sustainable financial model for paying for both capital and recurring IT expenses?
- 23. How are IT expenses budgeted and tracked?
 - a. Is there a formal process for budgeting and tracking expenses?
 - b. Who is involved in the review of budgeting and tracking expenses?
- 24. Who provides budget recommendations and prioritization for new and/or ongoing IT projects and requests?
- 25. How are strategic priorities used to determine IT budget allocations?

Campus Policy Structure

- 26. Does the campus have a set of policies governing the use of information technology, data, and services (e.g., Data Governance, Acceptable Use, etc.)?
 - a. If IT or data policies exist, please provide a list of these policies and the topical areas they cover.
 - b. Who oversees the implementation of these IT and/or data policies?
 - c. How does the TCU enforce the policies?
- 27. How does the campus classify different types of data?
 - a. What types of classifications are defined (e.g., public, non-public, confidential, etc.)?
 - b. Describe how the data policy governs access to data of each classification.

Staffing

- 28. How many staff members are employed in IT, including student staff or interns?
 - a. Please provide an IT staff organizational chart if one exists.
 - b. What is the general responsibility of each staffer?
 - c. Is the IT organization staff size sufficient for the scope of their work?
 - d. How does the IT organization work to recruit and train students or graduates?
- 29. Does the campus outsource portions of their IT support?
 - a. Which portions are outsourced and to whom?
- 30. Are there other campus organizations that provide IT functions (e.g. distance education coordinator, enterprise systems, computer etc.)?
 - a. Which functions and which departments?
 - b. How are activities between this/these departments and the IT organization coordinated?
- 31. How well do IT staff members understand their levels of accountability and authority?

- a. What process, policy, procedure, or mechanism does the institution implement that allows time-critical, risk mitigating IT decisions to be made?
- b. Is the mechanism above documented and regularly reviewed for effectiveness?
- 32. What mechanisms or processes does the campus use to enable knowledge, information, and documentation sharing between the IT staff?
- 33. How does the IT organization provide professional development for the IT staff (e.g. training, attending conferences, etc.)?
 - a. How does the professional development above include collaborating with peers and colleagues at other organizations?



AIHEC CI STRATEGIC PLANNING

Stakeholder Engagement Survey

Stakeholder Engagement Survey

The Stakeholder Engagement Survey is optional, but it might be useful to the campus response team to gather information about the current *perception and future aspirations* of the IT organization and services across the campus community. The AIHEC CISP Consultant team recommends that the response team meet with the various IT stakeholder groups using the Stakeholder Engagement Survey section as a guide to obtain feedback on the cyberinfrastructure from the campus community to better inform the campus CI strategic plan. The AIHEC CI Strategic Planning team acknowledges that in many TCUs, individuals serve in multiple roles. These individuals should provide feedback on any general role that they serve at their college.

Note: The Stakeholder Engagement Survey is an information gathering exercise to inform the strategic plan. It is not a process of scoring or rating your IT organization and services.

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Administrators	1
Faculty	2
Staff	2
Students	3

Administrators

Discuss IT operations, problem solving, and the use of resources.

- 1. In terms of the IT organization service portfolio, please tell us what you would like the IT organization:
 - a. To continue doing
 - b. To discontinue doing
 - c. To start doing
- 2. Is the Information Technology budget adequate to support the needs of the institution?
- 3. How do you provide input to the IT organization about technology needs?
 - a. How is this input used in making technology decisions?
- 4. Does Internet connectivity on campus meet your needs?
- 5. Does the WiFi coverage and speed on campus meet your needs?
- 6. Does your institution's enterprise systems (e.g. Jenzabar, Empower, Populi, Campus Café, Quickbooks, etc.) meet your needs?
- 7. Do the additional tools provided by IT (e.g. AirTable, Quickbooks, Learning Management System, Office 365, Google Suite, etc.) meet your needs?
- 8. Does your department utilize a unique application and does IT support that tool?
- 9. How effectively does your staff use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills?
- 10. How effective is your staff in cybersecurity best-practice literacy and confidence, for example addressing phishing emails or with preventative measures such as password managers?

Faculty

Discuss faculty experience of IT services for instruction, access to research and education resources, role of faculty in IT decision-making, recommendations for improvement.

- 11. In terms of the IT organization service portfolio, please tell us what you would like the IT organization:
 - a. To continue doing
 - ${\tt b}$. To discontinue doing
 - $_{\rm C}$. To start doing
- 12. Does Internet connectivity on campus meet your needs?
- 13. Does the WiFi coverage and speed on campus meet your needs?
- 14. Do you feel that your input on how you use or want to use technology is considered in making technology decisions?
- 15. Does your institution's enterprise systems (Jenzabar, Empower, Populi, Campus Café, etc.) meet your needs?
- 16. Do the additional tools provided by IT (e.g. AirTable, Quickbooks, Learning Management System, Office 365, Google Suite, Dropbox, etc.) meet your needs?
- 17. Does your department utilize a unique application for teaching and learning and does IT support that tool?
- 18. Does the institution provide faculty development and training specific to academic technology whether remote or in the classroom?
- 19. How effectively does your faculty use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills?
- 20. How effective is your faculty in cybersecurity best-practice literacy and confidence, for example addressing phishing emails or with preventative measures such as password managers?
- 21. How can the TCU improve your ability to use technology in your classes?
- 22. Do you have any other comments you would like to share about technology provided by your institution?
- 23. Do the students have access to the resources (hardware, software, connectivity, training) they need to effectively participate in educational activities (on campus and/or at home)?
- 24. How well do you think the campus IT services meet the needs of the students?

Staff

Discuss staff experience with IT services as relates to their work, recommendations for improvement.

- 25. In terms of the IT organization service portfolio, please tell us what you would like the IT organization:
 - a. To continue doing
 - ${\tt b}$. To discontinue doing
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- 26. Does Internet connectivity on the TCU campus meet your needs?
- 27. Does the WiFi coverage and speed on the TCU campus meet your needs?
- 28. Does the institution provide training and support for your IT needs?
- 29. Does your institution's enterprise systems meet your needs?
- 30. Do you have any other comments you would like to share about technology on your campus?

October 4, 2022

Students

Discuss students' experience of IT services for instruction, social networking, Internet research, etc., and recommendations for improvement. Consider having different focus groups for in-person vs. remote/online students.

- 31. Does Internet connectivity at home meet your academic needs?
- 32. Does Internet connectivity on campus meet your academic needs?
- 33. Do you have access to the resources (hardware, software, training) you need to effectively participate in educational activities (on campus and/or at home)?
- 34. Does the WiFi coverage and speed on campus meet your needs?
- 35. How could the college use IT to enhance the student experience?
- 36. What would be the best technology that your college could bring to campus?
- 37. What campus technologies or services do you rely on the most as a student?
- 38. What do you see as the most effective use of technology at the college?
- 39. How should the campus receive input from students on an ongoing basis?
- 40. Does the college provide digital literacy training and support for your IT needs?
- 41. What improvements, if any, would you like to see related to computer lab facilities?
- 42. Which tools do you wish your instructors used more often? Less often?
- 43. Do you have any other comments you would like to share about technology on your campus?

External Stakeholders

Determine which individuals or institutions outside of the TCU (locally, regionally or nationally) that significantly impact campus activities, or have some influence over its goals and objectives. Examples are tribal leadership, libraries, high schools or higher education institutions, government entities, research and education network providers, companies, key vendors, other TCUs, etc. Drill down into specifics about how the campus IT organization does or ideally could interact with the stakeholder. Target important external stakeholder/s to send the questionnaire to discuss the partnership/relationship with the IT organization of the TCU.

- 44. What is your organization's relationship with the TCU?
- 45. Are there additional opportunities for collaboration?
- 46. Have there been any barriers to collaborations?
- 47. What mechanisms (technologies, procedures, policies, resources, etc.) could improve the ability of your organization to partner with the TCU?



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- 22. Do you have any other comments you would like to share about technology provided by your institution?
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- 33. Do you have access to the resources (hardware, software, training) you need to effectively participate in educational activities (on campus and/or at home)?
- 34. Does the WiFi coverage and speed on campus meet your needs?
- 35. How could the college use IT to enhance the student experience?
- 36. What would be the best technology that your college could bring to campus?
- 37. What campus technologies or services do you rely on the most as a student?
- 38. What do you see as the most effective use of technology at the college?
- 39. How should the campus receive input from students on an ongoing basis?
- 40. Does the college provide digital literacy training and support for your IT needs?
- 41. What improvements, if any, would you like to see related to computer lab facilities?
- 42. Which tools do you wish your instructors used more often? Less often?
- 43. Do you have any other comments you would like to share about technology on your campus?

External Stakeholders

Determine which individuals or institutions outside of the TCU (locally, regionally or nationally) that significantly impact campus activities, or have some influence over its goals and objectives. Examples are tribal leadership, libraries, high schools or higher education institutions, government entities, research and education network providers, companies, key vendors, other TCUs, etc. Drill down into specifics about how the campus IT organization does or ideally could interact with the stakeholder. Target important external stakeholder/s to send the questionnaire to discuss the partnership/relationship with the IT organization of the TCU.

- 44. What is your organization's relationship with the TCU?
- 45. Are there additional opportunities for collaboration?
- 46. Have there been any barriers to collaborations?
- 47. What mechanisms (technologies, procedures, policies, resources, etc.) could improve the ability of your organization to partner with the TCU?