

## CAMPUS CYBERINFRASTRUCTURE PLAN

(up to 5 pages – **anything bold & underlined is REQUIRED**)

<NAME OF YOUR INSTITUTION>

### A. INTRODUCTION

- a. 1 paragraph describing your institution
- b. What is your **coherent campus-wide driving strategy**? If there is a university strategic plan for IT, mention it especially if it includes support for the academic part of the campus (includes libraries, teaching, & research); new situations that are driving change at your institution
- c. Key academic partnerships with the IT organization

### B. PROGRAM(S) THAT BENEFIT FROM CAMPUS CI

- a. Describe primary research programs, education, outreach programs that are the focus for CI support
- b. Describe your primary CI goals (*enable X, expand Y, introduce Z – describe function, not equipment*)

### C. DESCRIBE YOUR NETWORK INFRASTRUCTURE (*if any of this was paid for by EPSCoR, NSF, or other federal or state funds, mention that*)

- a. Local area network (what routers, how connected) – backbone speed
- b. Building switches & fiber connections – speed to buildings
- c. R&E connection – speed & point of connection
- d. Commodity WAN
- e. Campus Wireless (describe equipment)
- f. **IPV6**
- g. Any special connections (eg. A Planetarium used by the public)
- h. Any of the network items in the table below that have been implemented
- i. A little campus network diagram is nice
- j. Future Directions

### D. COMMUNITY CLUSTER AND RESEARCH STORAGE REPOSITORY

- a. If you have a cluster, provide brief technical description & who gets to use it
- b. Use of national resources – Open Science Grid or XSEDE

### E. IDENTITY MANAGEMENT AND COLLABORATION

- a. Do you have a central identity store – describe (LDAP, AD....)
- b. Do you support campus single sign-on authentication and authorization
- c. Are you a **member of the InCommon federation**?
- d. **Have you installed Shibboleth ?**
  - i. **If yes, do you release R&S attributes**
- e. Do you participate in **eduroam ? (requires InCommon & Shibboleth)**

## F. CYBERSECURITY

- a. How does your campus provide cybersecurity for researchers, their equipment & data?
- b. What is your campus approach to data and privacy?
- c. address the relevant cybersecurity issues and challenges related to their proposed activities

## G. EDUCATION AND OUTREACH

- a. Do you provide any on-campus training in how to use any of the CI?
- b. Do you have any %FTE dedicated to CI support?
- c. ongoing opportunities for student engagement, education, and training
- d. How will students be involved in installing or operating the CI?
- e. How will the CI provide new training and education opportunities for students?

## H. SUSTAINABILITY AND RESPONSIBILITY FOR MAINTAINING FEDERAL INVESTMENTS

- a. Sustainability -- Something about ongoing maintenance and support for equipment, or continued funding for a person. Refer to a letter of support in Supplementary documents.  
Regional network organization

---

Consider everything below this line to be NOTES.

You're telling a story here – This is our institution; here's what's important to our institution, and here's where CI for research and education fit in our big picture. We have this vision/goals – here's where we are on the path to that vision, here's how we've funded it so far, and here's where some extra CI funding will impact our research, scholarship, teaching, and students.

### Here is what the NSF requires for CC\* solicitation Campus CI Plans:

- A. "All proposals into the CC\* program must include a Campus Cyberinfrastructure (CI) plan within which the proposed CI improvements are conceived, designed, and implemented in the context of a coherent campus-wide strategy and approach to CI that is integrated horizontally intra-campus and vertically with regional and national CI investments and best practices. "
- B. "Proposals are expected to address within the Campus CI plan the sustainability of the proposed work in terms of ongoing operational and engineering costs."
- C. "The plan should also describe campus IPv6 deployment and use of the In Common Federation global federated system, and if applicable, campus federation approaches to supporting scientific Virtual Organizations"
- D. "Since security and resilience are fundamental issues in Campus CI, the campus CI plan should address the campus-wide approach to cybersecurity in the scientific research and education infrastructure, including the campus approach to data and privacy."
- E. "All proposals submitted to CC\* are expected to address the relevant cybersecurity issues and challenges related to their proposed activities. Depending on the type of proposal, these issues may include, but are not limited to: data integrity, privacy, network security measures, federated access and identity management, and infrastructure monitoring."
- F. "funded activities should represent ongoing opportunities for student engagement, education, and training. Proposals that demonstrate opportunities to engage students directly in the

deployment, operation, and advancement of the CI funded activities, consistent with the required Campus CI plan, are welcome.

G. *(not needed in this plan, but might be needed for future network submissions)* “Also, for proposals into the Data Driven Networking Infrastructure for the Campus and Researcher area, the Campus CI plan should address efforts to prevent IP spoofing by potential adoption of “**BCP 38**”. If it is determined that “BCP 38” cannot be deployed due to cost or technical reasons, discussing those reasons is an acceptable form of addressing the issue.”

- 1) This CI Plan template meets the requirements named in the CYBERTEAM solicitation. When applying for other NSF programs that require a CI plan, check for any new requirements that might be listed in the solicitation
- 2) The elements listed in the table below are components that **could** be integrated into an overall CI plan . You don’t need to address all of these topics nor do you have to have implemented all of these in 3 years. Elements that are required are highlighted in yellow.
- 3) You don’t need to use this table format; you can describe the topics in text.
- 4) Think about describing HORIZONTAL integration across your campus, and VERTICAL integration with regional and national cyberinfrastructure.

ITEM	CURRENT	FUTURE
<b>NETWORK</b>		
• Campus Backbone speed		
• Commodity Internet speed		
• Campus to Internet2 R&E Network speed		
• CAT5 cabling or better to researchers’ desktops?		
• <b>IPV6 implemented</b>		
• PerfSONAR installed		
• Campus Network Monitoring		
• Research & Scholarship DMZ		
• Software Defined Network (SDN)		
• Anti-spoofing BCP38		
<b>IDENTITY AND COLLABORATION</b>		
• <b>Member of the InCommon Federation</b>		
○ If yes, release R&S attributes?		
• <b>“eduroam” wireless</b>		
<b>HIGH PERFORMANCE COMPUTING</b>		
• On-campus HPC clusters & management		
• Use of Open Science Grid		
<b>STORAGE</b>		
• Data Transfer Node		
• Research data storage & management		
<b>SUPPORT</b>		

<ul style="list-style-type: none"><li>• Technical staff to support campus researchers' use of the cyberinfrastructure, eg: a CI Engineer or CI Facilitator.</li></ul>		
<ul style="list-style-type: none"><li>• XSEDE campus champion</li></ul>		