

Please provide the following information to get access to the SDN testbed at Caltech and send it to hep-wheel@caltech.edu.

1. Project description:
 - Goal of this project is to develop a software stack to identify a service or application specific network traffic flow, collect flow statistics and integrate into end-to-end analysis to provide monitoring and troubleshooting functions for users. We use the Caltech SDN testbed resources to build part of the development environment for prototyping the software stack.
2. Project funding:
 - ESnet internal fund
3. Project PIs:
 - Please list all PIs in your project.
 - Xi Yang: xiyang@es.net
 - Tom Lehman: tlehman@es.net
4. Project timeline:
 - Project approval dates (based on Funding)
 - Started in March 2021 and ongoing
 - How long will you need access to the Caltech SDN Testbed to run tests?
 - At least until the end of 2023 and may need to extend from there.
5. Project Goals and Success metrics:
 - What are the project goals and success metrics in terms of using Caltech SDN Resources?
 - Demonstrate the ability to collect and integrate per-flow monitoring data in real time and present in meaningful form for end-to-end service monitoring and troubleshooting.
6. Project Requirements in terms of Hardware:
 - Can your application run inside a Kubernetes container? OR
 - Do you need a dedicated server?
 - The software stack can run in a bunch of Kubernetes containers. We also need access to the host of a server that is a monitoring target.
7. Project Requirements in terms of Software, tools, and System tuning:
 - Is there any known Software needed (besides outside connectivity and Kubernetes)?
 - Docker, Python, Cron, Go
 - Is there any known System tuning needed?
 - No.
8. Project Requirements in terms of Networking and Network connections - LAN/WAN:
 - Any specific LAN Requirements? Dedicated links, VLANs? Private network?
 - Dedicated VLANs connecting from target host out to CENIC
 - Any specific WAN Requirements? A dedicated path between sites? QoS?
 - Need to connect from Caltech to UCSD via CENIC. QoS may be needed.
 - Do you need a public IPv4 Range? What is the minimum range required? Do you need any DNS records for those IPs?

- Not needed.
- Do you need a public IPv6 Range? What is the minimum range required? Do you need any DNS records for those IPs?
 - Note needed.
- 9. In case you do need sudo/root access - please explain why
 - Given security and repeatability - sudo/root access is limited to a few people. Please explain why you think you will need sudo/root access (if you need one, of course). Most of the things on Caltech SDN Testbed are automatically configured using Puppet - and we want to ensure in case of node loss or disk loss - we can fastly redeploy nodes and bring you back up to speed with all config. (So, we need to ensure system changes are present inside the puppet)
- 10. In case you do need to have 'configure' or console access to switches - please explain why:
 - Most of the Network Resources in Caltech SDN Testbed are controlled by SiteRM - which covers 90% of all use cases projects require. In this something special - please explain the need - so we can find the best way to achieve and accommodate it.
- 11. Which users will need access to SDN Testbed (Whom the account should be created for):

Any user needing access must have a Tier2/SDN account created. Please list all users assigned to this project and who should get a Tier2/SDN account.

- Zhenbo Yan: zhenboyan@lbl.gov
- Pratyush Muthukumar: pmuthukumar@lbl.gov
- Xi Yang: xiyang@es.net
- Tom Lehman: tlehman@es.net