Technology Steering Committee
Meeting Agenda - Friday, July 19, 2019
9:00 a.m. - 3:00 p.m.

Host & Location:
CENIC Offices
16700 Valley View Avenue, Suite 400
La Mirada, CA 90638

Remote Conferencing:
Join URL: https://zoom.us/j/547306221 [UPDATED LINK]

By Phone: +1 720 707 2699 (Meeting ID: 547-306-221)

8:30 - 9:00 a.m. Arrival - Check-In - Breakfast + Coffee

9:00 a.m. **Welcome and Introduction**
Jared Reder and Tony Nguyen, CENIC
Justin introduced Jared and Tony to the group. Jared is the project manager for CENIC. Tony is the Sr. Director of Engineering at CENIC.

9:15 a.m. **Introductions**
A round of introductions went around the room and Zoom participants.

Broadband & Student learning
Justin called on several COEs to share their stories of getting connected via K12HSN / CENIC. Joe Griego, Steve Monahan, and Francisco shared their stories.

9:30 a.m. **Digital California Project (DCP)**, the early days
Tony Nguyen, CENIC; Luis Wong & Teri Sanders, K12-HSN

- Jared and Tony shared a VHS video of the Digital California Project.
- Luis Wong and Teri Sanders discussed the birth of HSN and the initial RFP that went out to build the initial version of K12HSN in 2004. K12HSN is now connected to all Counties, and 500M students. Year over year growth is around 40-50%.
- Teri wanted to let people know there is still time to apply for BIG2 wave 5.
- Overview provided for prior programs that K12HSN supported.
- CENIC may look at expanding to serve more branches of governments and non university affiliated hospitals.

9:45 a.m. **Distributed Denial of Service (DDoS)**
Mike Gong & Philip Romero, CENIC

CENIC Network Operation Center (NOC)
Stan Han, CENIC

- Mike, Philip and Stan gave a presentation on CENIC's staffing and NOC. They also shared some of the tools they use for monitoring such as Camel, Science Logic, BGPWatcher, Jira, and Cricket.
- Provided examples of several outages and how they were handled.
- Philip provided an overview of the DDOS pilot
- Mike and Phil discussed how DDOS is triaged today, and how such attacks are analyzed and detected.
- Stan provided recommendations for troubleshooting when encountering network issues.
- CENIC has a NOC Internship program, which has resulted in a number of permanent hires.

10:30 a.m. ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ Break ~ ~ ~ ~ ~ ~ ~ ~ ~ ~

10:45 a.m. **Cloud Service Offering** (CENIC peering, MS/AWS/Etc..)
Nick Plunkett, CENIC

- Nick is in the Internet Services group
- Provided an overview CalREN's external connectivity

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- 85%+ of external internet traffic is exchanged directly through settlement free links via CalREN's Peering infrastructure. This includes AWS, Azure, and GoogleCloud (and much more).
- Peering makes connecting outside California often more performant than many options via normal internet. (AWS in Oregon was touted as being cheaper to use than in other states).
- There are multiple direct CENIC 100G connections to the internet, but peering is the preferred routing mechanism.
- Other peering partners… Apple, Netflix, Facebook, twitch, Dropbox.
- Some ability to turn up bandwidths as peak events / streaming occurs.
- AWS, Azure, Google each have 300G+ dedicated peering paths, with bursting capability for "flash crowds"/events.
- Discount on egress traffic for Peering paths, but it depends on the vendor. Microsoft Azure does not charge for egress for K12. AWS however is difficult to deal with at times. There should be some sort of "CENIC Peering Discount Coupon"!

CENIC Network Overview (Peering, Backbone)
Sana Bellamine, CENIC

- Sana provided an overview of the CENIC Network including the Optical Infrastructure backbone.
- Core topology is based on 100G layer 3 interfaces at select nodes (Sunnyvale, Los Angeles, Riverside, Emeryville, and Sacramento). The goal is to get to 3x100G on the core ring. About 40-50% utilization on the network.
- Some sites have 100G equipment but as they are Layer 2, they are not part of the core, they connect via backhaul to the closest layer 3 node.
- Working on a 400G connection from LA to Riverside (colorless, directionless, contentionless is the goal). Currently piloting Cisco transponders.

12:00 p.m. **Lunch + Networking'**

12:45 p.m. **CSIS SIS/SES Update**
Martha Friedrich, CSIS

- Martha provided an update on CASEMIS to CALPADS transition
- Partnering with a number LEAs, SELPAS and vendors to test
- UAT will last until end of August
- Asking COEs to work with LEAs to prepare, work on gaps, getting LEAs trained on CALPADS
- Training will be online in Bridge (CALPADS coordinator should have access)
- Martha email Justing with a few documents. Justin will distribute training links.
- Fall submission is coming up. Make sure your SELPA is prepared to approve the data in concert with your CALPADS coordinator beforehand.
- CDE would be happy to come out to clarify and discuss along with stakeholders regarding the migration and Fall submission reporting implications.

12:50 p.m. **Group discussion:**
Connectivity in K12
Shareout in small groups based on some thought questions:

- What connectivity services are provided by your COE to another COE and/or Districts?

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- How does K12-HSN & CENIC help with the role and work of the COE?
- What should your superintendent know about the value of K12-HSN & CENIC

1:30 p.m. ~~**TSC Sub-committee reports**~~

~~**TSC Star Award**~~

Assignment Monitoring update

- Serette provided an update

2:15 p.m. **CIS Controls presentation**
David Thurston, San Bernardino

- David provided an overview of CIS Controls version 7
- Learning objective: Demonstrate working knowledge of SANS critical security controls for effective cyber defense

3:00 p.m. **Adjourn - Safe Travels**