



Welcome to NANOG 89

San Diego, CA

16-18 OCT 2023

 NANOG™

NANOG HACKATHON
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NANOG[®]

North American Network Operators' Group

Working together, to build the Internet of tomorrow [®]

 **NANOG**[™]

What is NANOG?

- We are a community-driven nonprofit organization.
- Our roots date back to 1987, when Merit Network was tasked with re-engineering and managing the NSFNET.
- NANOG's original charter was formed in 1994.
- In 2011, the NANOG community voted for independence from Merit Network.
- NANOG was the first, and is still the largest, Network Operators' Group.

What does NANOG do?

- Conferences that showcase innovative, educational content that aims to drive new solutions to the networking community's greatest challenges.
- Mentoring the next generation of networking professionals.
- Empowering those supporting Internet access in underserved communities across North America.
- Actively encouraging diversity, inclusion, and collaboration within our community.

Our community

13,000+ industry professionals and students.

900+ attend NANOG conferences.

200+ are first-time NANOG attendees.

20+ countries around the world represented.



NANOG Resources

- NANOG Mailing List:
<https://mailman.nanog.org/mailman/listinfo/nanog>
- NANOG Community Forum:
<https://community.nanog.org/>
- Conference presentations + tutorials:
<https://www.youtube.com/user/TeamNANOG/>
- Outreach:
<https://www.nanog.org/outreach/>
- Articles:
<https://www.nanog.org/stories/>

A photograph of two men in a meeting, looking at a laptop screen. The man on the left has a beard and glasses, wearing a maroon polo shirt. The man on the right has glasses and is wearing a light blue hoodie. They are both looking intently at the laptop. The background is slightly blurred, showing other people in a meeting room.

Network Operators' Groups

Come for the opportunities, stay for the community.

 NANOG™

What's a NOG?

- Community organizations committed to supporting local and regional Internet professionals.
- Guided by the principle of an open exchange of knowledge and expertise.
- Formed by network operators, engineers, and other experts in the Internet community.
- Efforts that improve the quality and availability of the Internet within their regions.

What's special about NOGs?

- They're driven by individuals, not corporations – all are equal.
- They're educational – technical presentations are available to all.
- They're local – designed to focus on the needs within their communities.
- They're neutral – non-commercial, and non-political.

How can you benefit from NOGs?

- Learn current best practices from experienced industry professionals.
- Obtain knowledge and training on the latest Internet technologies.
- Discuss current issues and challenges faced by the community.
- Form strategic business relationships.
- Form crucial peering arrangements.

Industry Job Facts

- 383,000 people are employed in the field of network operations.
- Yet there are currently 30,863 unfilled network engineering jobs on indeed.com.
- It will increase by an additional 19,000+ each year.
- The industry competes with 700,000 open tech jobs.

A photograph of a man in a white shirt standing and speaking to a group of people seated at tables in a conference room. The man is wearing a yellow lanyard. In the background, other people are visible, including one wearing a blue t-shirt with "#fiberiscomg" on it. The scene is dimly lit, typical of an indoor event.

NANOG Governance

How NANOG is run

 NANOG™

Board of Directors



Leslie Daigle
Board Chair



Vincent Celindro
Vice Chair



David Siegel
Treasurer



Cat Gurinsky
Secretary/ PC Chair



Michael Costello
Board Member



Steve Feldman
Board Member



Tina Morris
Board Member

Staff



Darrieux "Dé" Harvey
Meeting + Events
Director



Valerie Wittkop
Program Director



Claudia Bristol
Controller + HR



Leigh Brooks
Senior Designer



Elizabeth Drolet
Marketing Content
Creator



Shawn Winstead
Bus. Development
Specialist



Greg Newman
Software Craftsperson



Edward McNair
Special Advisor to the Board



NANOG Committees

- Program Committee (standing)
- Elections Committee
- Audit Committee
- Compensation Committee
- Diversity, Equity + Inclusion Committee
- Mentorship Committee
- Education Committee
- Scholarship Committee
- Outreach Committee

NANOG 75
SAN FRANCISCO



Framework – GitHub/Jenkins/Ansible

- Initially deployed for Open Networking (Cumulus)
- Playbooks stored in GitHub for version control, change MGMT, and code/peer review
- Playbooks run from Jenkins for centralization, security, auditing, logs, etc. (logs all jobs and results to Splunk)
- Ansible and associated plugins/modules installed on Jenkins server

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graph TD; GitHub[GitHub] -- EAP/OCI --> Jenkins[Jenkins/Ansible]; Jenkins -- SSH --> Arista[Arista]; Jenkins -- SSH --> Cumulus[Cumulus]; Jenkins -- SSH --> Citrix[Citrix]; Jenkins -- Nitro API --> Splunk[Splunk]; Jenkins -- social --> Social[Social Icon];
```

Program Committee

The "Heart" of the NANOG Experience

Program Committee

- The Program is the very heart of NANOG.
- Made up of industry professionals, the PC is selected by the board.
- The PC self organizes and selects its own leadership.
- The PC reviews and selects talks submitted by NANOG's community to curate a program of the highest possible quality and relevance.

Program Committee Updates

In an effort to better serve our community, the PC has several sub-committees:


- Keynote Speakers
- Moderators
- Lightning Talks
- Tutorials & Tracks
- Hackathon

This allows committee members with various types of expertise to focus their knowledge on specific areas important to the development of NANOG programming.

A photograph of a woman in a red jacket and a man in a cap looking at a laptop in a workshop. The woman is wearing a red jacket over a black t-shirt with the text "YOUR WERNER CARE" and a lanyard. The man is wearing a grey t-shirt and a checkered cap. They are in a room with other people working at laptops in the background.

Outreach

Empowering people, and inspiring change.

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What's NANOG Outreach?

Education is central to NANOG's mission. Through outreach to colleges and universities, affiliate NOGs, and more remote tech communities, we're able to provide greater access to NANOG's tools, resources, and educational programming, which is designed and taught by industry professionals committed to the ongoing advancement of the Internet in North America.

What is our focus?

NANOG Outreach programs are focused on three distinct areas of need:

- Industry education for networking professionals.
- Educational and career development for college + graduate students.
- Training within underserved regions of North America.

A photograph of a woman with glasses and a blue quilted jacket speaking into a microphone at a conference. She is standing and smiling, looking towards the right. The background shows a dimly lit room with other people seated at tables, some looking towards the speaker. The overall atmosphere is professional and focused.

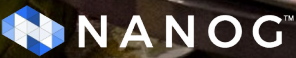
Mentorship Program

Mentorship Program

- Key to building the "Internet of tomorrow" is to engage and inspire those who will build tomorrow's Internet.
- Mentorship is an essential component of professional development.
- Mentees in our program will have the opportunity to be guided by seasoned industry professionals.
- Mentors and mentees will be paired at NANOG conferences, create a personalized mentorship program to help the mentee achieve their goals.



Diversity, Equity + Inclusion Programs



Pursuing a more inclusive Community

To support our efforts of diversity, equity and inclusion. NANOG has done the following:

- Partnered with a DEI consulting firm to provide independent Ombuds support to our community.
- Ombuds are onsite during events and can be reached via email at anytime. In addition they provide reports to board and community on our DEI progress.

NANOG Ombuds

Confidential
support for our
community

ombuds@nanog.org





DEI Activities at NANOG Meetings

To support our efforts of diversity, equity and inclusion, the NANOG DEI Committee has done the following:

- Created table topics for networking at lunches
- Solicit DEI speakers, with follow-up at a DEI lunch
- Plan Women in Tech mixers
- Promote various affinity groups



NANOG 89 San Diego

Program Highlights



NANOG 89 Keynotes



Monday Keynote:

The Expanding Landscape of Internet Governance: Why Network Operators Need a Global View w/ President and CEO of ARIN, John Curran



Tuesday Keynote:

Fireside Chat with Chief Operating Officer of Arista Networks, Anshul Sadana + NANOG Producer Elizabeth Drolet

General Presentations

This meeting presents 23 talks on various topics including:

- BGP
- RPKI
- Measurement
- Monitoring
- Panels
- Optics

Tutorials

- Monday
 - Building Virtual Labs
- Tuesday
 - Optical Networking
- Wednesday
 - Kubernetes LoadBalancer



Get Social!

MONDAY

- Networking Lunch
- Women in Tech Mixer
- Peering Coordination Forum
- NANOG Social

TUESDAY

- NANOG Pickleball
- Diversity, Equity, + Inclusion Lunch
- Networking Lunch
- Beer n' Gear
- Sponsored Social

WEDNESDAY

- NANOG Pickleball
- ARIN Happy Hour

Get involved on a broader scale

Participating on a broader scale helps ensure our future generations will get to enjoy the same benefits you have.


Ways to get involved at NANOG:

- **Vote:** Become a member to help shape NANOG's future.
- **Mentor:** The next generation of network engineers.
- **Teach:** The best way to reinforce your knowledge is to teach others.
- **Present:** Share your knowledge and experience with others.
- **Evaluate:** Serve on the Program Committee to help shape the NANOG program.
- **Sponsor:** Support NANOG's education and outreach programs, meetings and events.



Thank you

We hope you'll join us in building the Internet of tomorrow.

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