



# NANOG

## North American Network Operators' Group

Working together, to build the Internet of tomorrow ®



# Topics to Discuss

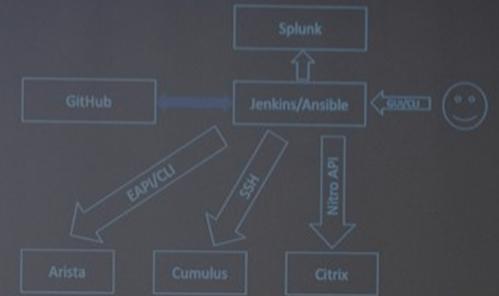
- NANOG Governance
- Program Update
- Events Update
- Education and Mentorship Programs
- Diversity, Equity, and Inclusion Programs
- Development Update
- Community Updates

NANOG 75



## 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



# NANOG Governance

Board + NANOG Staff



# 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



Edward McNair  
Member/Exec Director

# Staff



Edward McNair  
Executive Director



Darriex "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



# The NANOG Program

Curated by industry professionals

# Updates to the Program

- Rolling call for submissions - Talks can be submitted for future meetings.
- In addition to Shepherds, the Program Committee (PC) added Content Reviewers to support the approval process.
- Moderator sub-committee that focuses on improving the submission process.
- Scripts for session moderators provide a better event flow.
- Extensive data analysis of previous talks and speakers. Laying the groundwork for the upcoming NANOG Knowledge Base.
- Release a complete rewrite of the PC Tool.

# @TeamNANOG YouTube Channel

- 21K total subscribers
- 2.7 million lifetime page views
- 25.1k views per month
- 3.5k hours of viewing per month
- 212+ subscribers added per month
- Top video for 2022: Everything You Always Wanted to Know About Optical - 15.2k views
- Top video ever: Tutorial Everything You Always Wanted to Know About Optical Networking - 172k views

# Events Update

# NANOG 87 Atlanta (Feb 13-15)

- 710 in-person attendees + 184 virtual attendees
- 45 event sponsors
- 38 talks + 6 lightning talks
- NANOG College Immersion (NCI) - 4 students from CU Boulder
- Introduced a new tool that allow participants to schedule tables for individual meetings.

# Future Events

- NANOG 88 - Seattle, WA (12-14 Jun 2023)
- NANOG 89 - San Diego, CA (16-18 Oct 2023)
- NANOG 90 - Charlotte, NC (5-7 Feb 2024)
- NANOG 91 - Kansas City, MO (10-12 Jun 2024)



# CaribNOG 25

A young man with glasses and a mustache, wearing a dark jacket, is looking at a laptop screen. A young woman with dark hair, wearing a white t-shirt and a red lanyard, is leaning over the laptop, pointing at the screen. They are in a classroom or workshop setting with other people in the background.

# Education + Mentorship Programs

Supporting the next generation of network professionals

# Educational Program

Vendor-neutral courses developed and taught by knowledgeable Internet professionals.

All courses are vetted by a committee of industry professionals; to assure that all content is relevant to current industry working standards.

The courses are designed to aid students, junior engineers and career professionals advance their skills in a competitive marketplace.

# 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.
- Created a DEI Committee to develop a strategic vision for NANOG's DEI initiatives.

# NANOG Ombuds



**Tony Farmer**  
Associate, Future of SEL



**Future Cain**  
CEO of Future of SEL



**Mark Lewis**  
Associate, Future of SEL

A photograph of two men in a meeting. 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 at a laptop screen. The background is blurred, showing other people in a meeting room.

# Development Updates

# UI Upgrades

Making nanog.org more accessible





## Working together to build the Internet of tomorrow<sup>®</sup>

NANOG is a community of Network Operators, Engineers, and Internet Professionals dedicated to the ongoing advancement of an open, secure, and robust Internet.



### NANOG 87 Talks are LIVE

Have you subscribed to our YouTube channel?

[Watch Playlist Now](#)

Make a difference, become a  
NANOG Member

[Become a Member](#)

NANOG 86 sessions are now  
available on YouTube

[Watch Now](#)

Join the Conversation at  
[community.nanog.org](https://community.nanog.org)

[Login Now](#)



## Events

- [Upcoming Events](#)
- [Past Events](#)
- [About NANOG Events](#)
- [NANOG Swag](#)

## Sponsoring NANOG Events

- [Value of Sponsorship](#)
- [Sponsors Resources](#)
- [Sponsorship Opportunities](#)
- [Sponsorship Agreement – Terms and Conditions](#)

## Stories



### The (Tech) Road Less Taken

**Marlin Martes Shares How to Make the Impossible Possible**  
"What I've found most surprising is that most people don't have a straightforward path to tech either. Everybody has different backgrounds. If you can get over the shame..."



### Meet NANOG's New Board Chair

**Q + A with Leslie Daigle**  
Chief Technical Officer (CTO) of Global Cyber Alliance and former Chief Internet Technology Officer (CITO) of Internet Society (ISOC), Leslie Daigle, helms the NANOG Boa...

[View all posts →](#)

# NANOG 87 Talks are LIVE

Have you subscribed to our YouTube channel?

[Watch Playlist Now](#)

Join the conversation at  
[community.nanog.org](https://community.nanog.org)

[Login Now](#)

STORIES

STORIES

STORIES

STORIES

## Featured Stories

The (Tech) Road Less Taken

STORIES

Meet NANOG's New Board Chair

STORIES

What's Your Favorite N87 Moment?

STORIES

Road Less Traveled: Alex Latzko

NEWS

'NANOG Jeopardy' Takes the N87 Stage





# Registration is open!

Early Registration rate ends 9 April

[Register Now](#)

**69**  
Days

**18**  
Hours

**3**  
Minutes

**36**  
Seconds

Register for the  
NANOG 88 Hackathon

[Learn More](#)

Hotel Information

[Learn More](#)

[Events](#) | NANOG 88

[Overview](#) [Attendees](#) [Letter of Invitation](#) [Register](#) [Hotel Information](#) [Our Sponsors](#)

# NANOG 88 Seattle

*Our 88th community-wide gathering is 12-14, June, 2023.*



# Program Tool v2

A rewrite of our tools to support the NANOG Program Committee



# Program Committee Dashboard

Viewing the dashboard for NANOG 87

NANOG 87

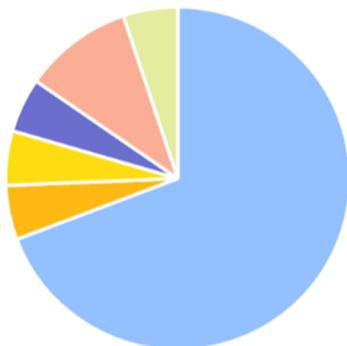
GO

## EVENT CALENDAR

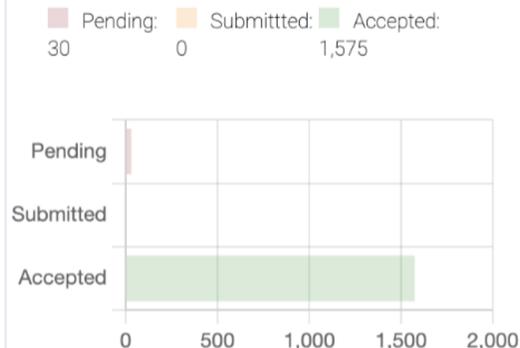
- Nov. 14, 2022** CFP Reminder Announcement
- Dec. 12, 2022** CFP Reminder 2 Announcement
- Jan. 9, 2023** DRAFT Presentation Slides Due
- Jan. 16, 2023** Topics List Published
- Jan. 30, 2023** Meeting Agenda Published
- Feb. 6, 2023** In-Person Final Slides DUE
- Feb. 12, 2023** On-Site Lightning Talk Submissions Open

## ACCEPTED TALKS

- General Session
- Panel
- Research Forum
- Tutorial
- Track
- BoF
- NANOG Content
- Lightning Talk



## MINUTES BY STATUS



## 11 TALKS WITHOUT MATERIALS

Export

## 1 PENDING TALKS WITH MATERIALS

Export

Reviewers		Talk Info				
Shepherd	Content Reviewer	ID	Title	Author	Session Type	Duration
➔ Steve Meuse		<a href="#">4691</a>	Improving the Inference of Sibling Autonomous Systems	Zhiyi Chen	Lightning Talk	
➔		<a href="#">4704</a>	NANOG 87 Conference Closing	Cat Gurinsky	NANOG Content	30
➔		<a href="#">4703</a>	NANOG 87 Conference Closing	Cat Gurinsky,	NANOG Content	30

Reviewers		Talk Info				
Shepherd	Content Reviewer	ID	Title	Author	Session Type	Duration
➔		<a href="#">4741</a>	Can Optical Channel Margins Help Alleviate Congestion at the IP Layer?	Cengiz Alaettinoglu	General Session	30

# PC Talk List

NANOG 87



NANOG 87 Summary - 82 talks in the hopper, 2 pending, 0 submitted, 60 accepted, 6 deferred

Pending

Submitted

Accepted

Deferred

Export All

Export Current View

Show:  My Vote  Vote Count  Avg Vote

Reviewers		Talk Info					
Shepherd	Content Reviewer	ID	Title	Author	Session Type	Duration	
		<a href="#">4741</a>	Can Optical Channel Margins Help Alleviate Congestion at the IP Layer?	Cengiz Alaettinoglu	General Session	30	
	Steve Meuse	<a href="#">4691</a>	Improving the Inference of Sibling Autonomous Systems	Zhiyi Chen	Lightning Talk		
	Jeff Bartig	<a href="#">4684</a>	Enabling Passive Measurement of Zoom Performance in Production Networks	Oliver Michel	General Session	30	
	Stevan E Plote	<a href="#">4687</a>	Uncommon Paths to Beginning Network Automation	Jordan Villarreal	General Session	30	
	John Kristoff	<a href="#">4613</a>	V6 - Don't do it wrong	Alex Latzko	General Session	30	
	Mike Starr	<a href="#">4662</a>	Network Automation Tools Show Down	Cat Gurinsky, Nick Bogle, Thomas Donnelly, Matt Griswold, Mauricio Rojas, Rick Sherman	Panel	90	
	Chris Woodfield	<a href="#">4617</a>	Simplified Troubleshooting through API Scripting	Cat Gurinsky	General Session	30	
		<a href="#">4723</a>	Monday Breakfast		Non-session Content	30	
		<a href="#">4724</a>	Tuesday Breakfast		Non-session Content	30	
		<a href="#">4725</a>	Wednesday Breakfast		Non-session Content	30	

The Calendar is set to NANOG 87's timezone (US/Eastern)

February 2023

Week Day Agenda < >

	Sun 12	Mon 13	Tue 14	Wed 15	Thu 16	Fri 17	Sat 18
all-day							
7 AM							
8 AM		Monc Brea 8:00 AM - 9:45 ...	Monc Meet Regi: 8:00 AM - 5:00 PM	Tues Brea 8:00 AM - 9:45 ...	Tues Meet Regi: 8:00 AM - 5:00 PM	Wed: Brea 8:00 AM - 9:45 ...	Wed: Meet Regi: 8:00 AM - 5:00 PM
9 AM	NANOG 87 Hackath 8:30 AM - 5:00 PM	NANC Keyn The	NAN 87	Keyn A	NANC	NANC	
10 AM	NANOG Educativ Class: Explorin the Fundam of DNS Can You Dig It? 10:00 AM - 4:00 PM	The Oper		Leg	Retr	Kube 101 for Netw Prof	World
11 AM		Inter Innov with Inter Hall	Monc Netw Lunc 12:00	Tues Netw Lunc 12:00			Mana Digit NANC
12 PM		Uncc				Wed: Lunc (On Your	
1 PM		Cloud Netw Engir	XKL 400c	Care in the Age of Unce	Netw Auto Tools Show Down ARIN	Get more V6	gNM - an intuit
2 PM		4002	Simp			BGP	
3 PM		Monc		Tues		Wed: Peri	
4 PM	Sunday Meeting	Can	Impo	Netw Engir		Enab	

## Accepted Talks

Accepted, unscheduled talks appear here. A simple drag and drop interface allows talks to be placed in any time slot.

# Appointment Tool v0.5

Making meetings easier



# Registered Attendees

My Calendar

Quick access to your calendar.

914 Total Registrants

79 Virtual

835 In-Person

Search

Search to narrow down attendees

Name		Info			
First	Last	Company	ASN	Meet	Type
Majdi S.	Abbas	PacketFabric, Inc.	4556		
Milad	Abdelmessih	KDDI/ Telehouse/ NYIIX	13538		
Mauricio	Abella	Internexa S.A.			
Lauri	Abrahamson	DE-CIX Management GmbH - Cologne	Multiple		
Edgar	Acosta	i3D.net	49544		
Christopher	Adams	ZiPLY	20055		
Parth	Adroja	Meta	32934		
Frank	Aguilar	Orange	5511		
Manny	Aguilar	Iron Mountain, Data Centers			
Suhaib	Ahmad				
Altaf	Ahmed	Juniper Networks			
Mattias	Ahnberg	Netnod AB	8674		
Satish	Ahuja				
Matthew	Aiken	Conterra Networks	32505		
Cengiz	Alaettinoglu	Ciena			
Jason	Alert	Meta	32934		

Indicates that someone is available for appointments.

Can only be accessed if you are a registered in-person attendee and have also enabled availability for appointments.

Be Aware. Any company offering to sell you the fraudulent.

## Registered Attendees

914 Total Reg

nano

Name		Info			
First	Last	Company			
Leigh	Brooks	NANOG	19230		
Vincent	Celindro	Juniper Networks   NANOG			
Elizabeth	Drolet	NANOG	19230		
Darrieux	Harvey	NANOG			
Alex	Latzko	DEFT / NANOG	23352 19230		
Edward	McNair	NANOG	19230		
Shawn	Winstead	NANOG, Inc.	19230		
Valerie	Wittkop	NANOG	19230		

Cancel Invite Leigh Brooks Add

Title

Description

Location

Starts

Ends

# My Calendar

Please note that this is a Public Beta. Please provide any feedback here [↗](#)

Requested Appointments >

Incoming Invites

Sent Invites

You do not have any incoming invites to display or they are non-actionable.

The Calendar is set to NANOG 86's timezone (US/Pacific)

NANOG 86

October 2022

Week

Day

Agenda

Sat 15

Sun 16

Mon 17

Tue 18

Wed 19

Thu 20

all-day

5 AM

6 AM

7 AM

8 AM

9 AM

Test meeting  
8:00 AM -

Setup

Breakfast with Shawn  
8:00 AM - 9:15 AM

Blocked  
7:00 AM - 10:15 AM

Incoming meeting requests can be viewed on the first tab.

Time zone reminder – All event times correspond to the physical event location.

Click and drag to create an appointment or drag an appointment to reschedule.

# My Calendar

Please note that this is a Public Beta. Please provide any feedback here [↗](#)

Requested Appointments >

Incoming Invites

**2 Sent Invites**

**Outgoing meeting invitations can be viewed on the first tab.**

- Test meeting 2022-10-15 8:00 (60m)
- Breakfast with Shawn 2022-10-17 8:00 (75m)

The Calendar is set to NANOG 86's timezone (US/Pacific)

## NANOG 86

October 2022

Week Day Agenda < >

	Sat 15	Sun 16	Mon 17	Tue 18	Wed 19	Thu 20
all-day						
5 AM						
6 AM						
7 AM				Blocked 7:00 AM - 10:15 AM		
8 AM	Test meeting 8:00 AM -		Breakfast with Shawn 8:00 AM - 9:15 AM			
9 AM						

# My Calendar

Please note that this is a Public Beta. Please provide any feedback here [📧](#)

- Requested Appointments >
- Incoming Invites
- 2 Sent Invites**

**Test meeting** 2022-10-15 8:00 (60m)

**Description:** This is a test meeting to see if the appointment tool is working.  
**Location:** Hotel Lobby  
**When:** 2022-10-15 8:00 - 2022-10-15 9:00 (60m)  
**Attendees:** Leigh Brooks

**Edward McNair** 2022-09-22 13:34  
Hello there!

**Edward McNair** 2022-08-11 13:15  
HELLO!

**Comment:**

**⚠️ Comments will be sent to all attendees**

[Comment](#) [Delete this event](#)

Clicking an appointment allows you to see details and to communicate with invitees.

**Breakfast with Shawn** 2022-10-17 8:00 (75m)

**When:** 2022-10-17 8:00 - 2022-10-17 9:15 (75m)



# Reserve A Table At NANOG 87

**How to reserve a table:** Select the date of your reservation, table size, and up to three desired time(s) by completing the form below. Name/Organization is required but can be a nickname or pseudonym. Please note this is the alpha release of the software. Considering its alpha status, the Space Reservation system is currently free of charge. This tool will ultimately be integrated into the Appointment Tool. At that point, there will be a fee for table rentals. If you encounter any bugs or wish to suggest additional features, please do on NANOG's Discourse [Community Forum](#).

## 1 PICK A TABLE SIZE

PREMIUM Seats 6	<input type="checkbox"/>	\$0 / hr
STANDARD Seats 4	<input checked="" type="checkbox"/>	\$0 / hr

## 2 PICK A DATE

FEB 13, 2023	<input type="checkbox"/>
FEB 14, 2023	<input checked="" type="checkbox"/>
FEB 15, 2023	<input type="checkbox"/>

## 3 PICK TIMES (EST)

08:00	<input type="checkbox"/>
09:00	<input type="checkbox"/>
10:00	<input type="checkbox"/>
11:00	<input checked="" type="checkbox"/>
12:00	<input checked="" type="checkbox"/>
13:00	<input checked="" type="checkbox"/>
14:00	<input type="checkbox"/>
15:00	<input type="checkbox"/>
16:00	<input type="checkbox"/>
17:00	<input type="checkbox"/>

## 4 NAME / ORGANIZATION

What name or organization do you want to appear on your reservation?

Kang the Conqueror	<input checked="" type="checkbox"/>
--------------------	-------------------------------------

### SUMMARY

TABLE	STANDARD
NAME ON RESERVATION	KANG THE CONQUEROR
DATE	FEB 14, 2023
TIMES	11:00 12:00 13:00
TOTAL	\$0

COMPLETE RESERVATION

ALPHA RELEASE

# Next Development Projects

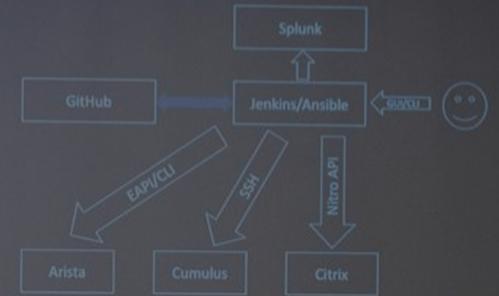
- Completion of UI updates
- Registration System Upgrades
- Sponsor Tool
- Badge Printing
- Appointment Tool v1 (including meeting space scheduling)
- Virtual Platform Upgrades
- Interactive Reporting
- Exploring enabling NOGs to use our Event tools

NANO675



## 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



# Community Update

Working together to build the Internet of tomorrow.

# Shift to Ranked Choice Voting

- For future elections we will be implementing Rank Choice Voting. Also known as Single Vote Transfer.
- Our Elections Committee is soliciting feedback from the community, as they develop a proposed system for board approval.
- Once a system has been approved by our board of directors, the new system will be announced to our community.

# COMMUNITY FORUM



Welcome! The NANOG Community Forum is a digital space that inspires community building, fosters mentorship, and provides ongoing support for students and professionals in Internet technology. By joining the forum, you'll also have the opportunity to share your insights and provide feedback as we work together to build the Internet of tomorrow. By using this forum you are agreeing to abide by NANOG's [Usage Guidelines](#), and [Code of Conduct](#).

all categories ▶

all tags ▶

Categories

Latest

New (3)

Unread (3)

Bookmarks



+ New Topic

Category

Topics

Latest

## Mailman List

A public category this is a read only mirror of the NANOG Mailing list. It is currently read only, and serves as a modern, searchable archive.

54.4k

3 unread  
2 new



FCC proposes higher speed goals (100/20 Mbps) for USF providers

■ Mailman List

65  
4h

## General Technical Discussions

This community-moderated forum is open to all, and a great place to discuss topics related to network engineering. Ask questions,

7



Comcast: "Reloading Statics" today

■ Mailman List

0  
6h



AERINIC vote buying

0

# Affinity Groups

- The new forum allow us to offer more diverse engagement for our community
- In addition to our mailman mirror, there are several affinity groups designed to offer more opportunities for engagement.
- Topics include:
  - Network Automation
  - Women in Tech
  - LGBTQ+
  - Running
  - Coffee
  - Walking
  - Whiskey Connoisseurs
  - Diversity in Tech
  - ...and more



# Thank you

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



AKSHAT  
HACKATHON

Q+A