



Conference Opening

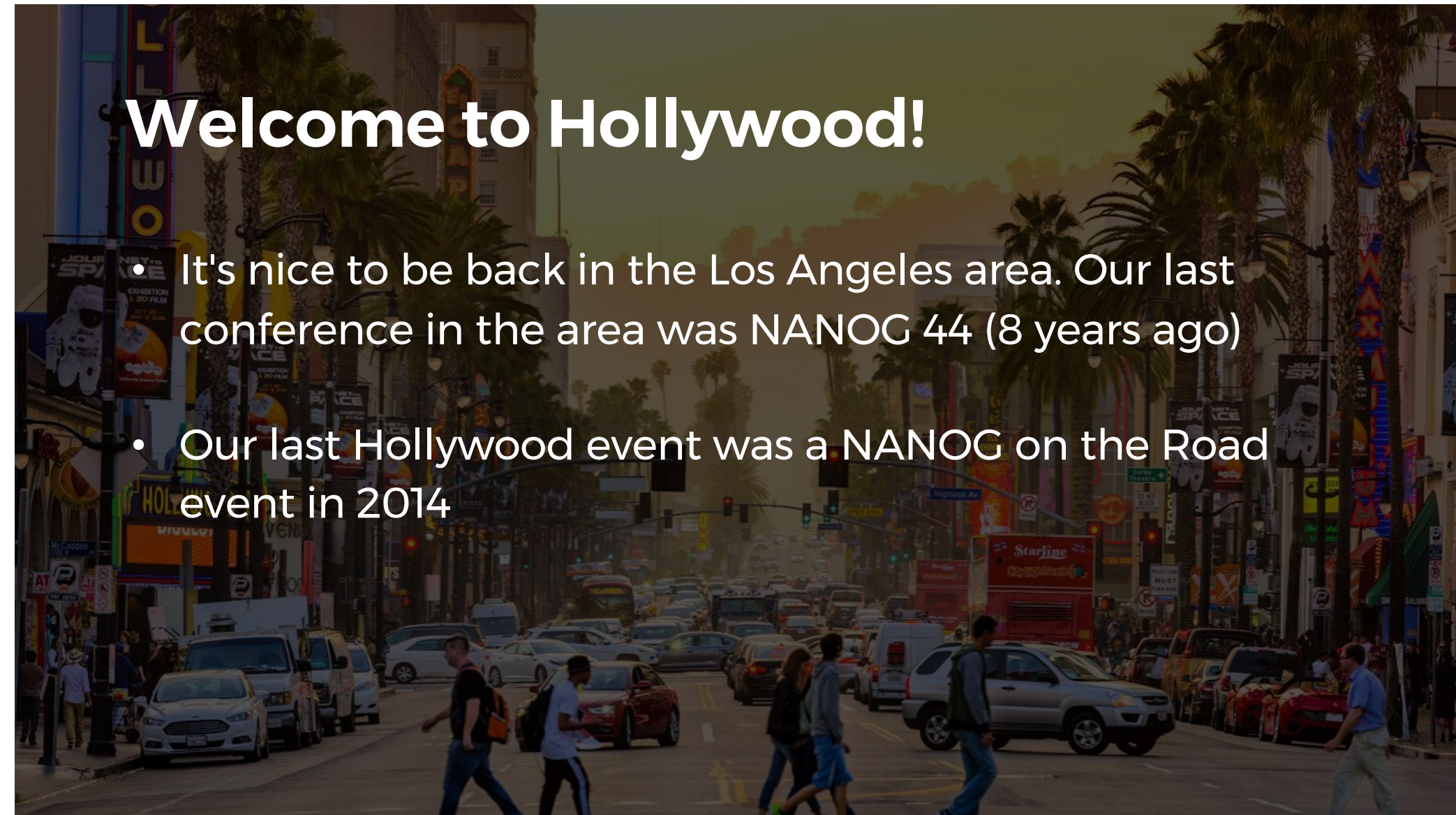
Tina Morris
NANOG Board Chair



NANOG®

Welcome to Hollywood!

- It's nice to be back in the Los Angeles area. Our last conference in the area was NANOG 44 (8 years ago)
- Our last Hollywood event was a NANOG on the Road event in 2014



Fun Facts about Hollywood

- When a person is nominated for a square on Hollywood Blvd, a benefactor must also pay \$40,000 for the star.
- Hugh Hefner encouraged a group of nine other donors to raise \$250,000 to refurbish the Hollywood sign.
- Ironically, Walt Disney the creator of Mickey, was actually afraid of mice.
- Muhamad Ali Hollywood Star Is Not on the Ground, it's on a wall in the Dolby Theatre.
- Over 10 million tourist visit Hollywood Blvd each year.

NANOG 2022 Elections

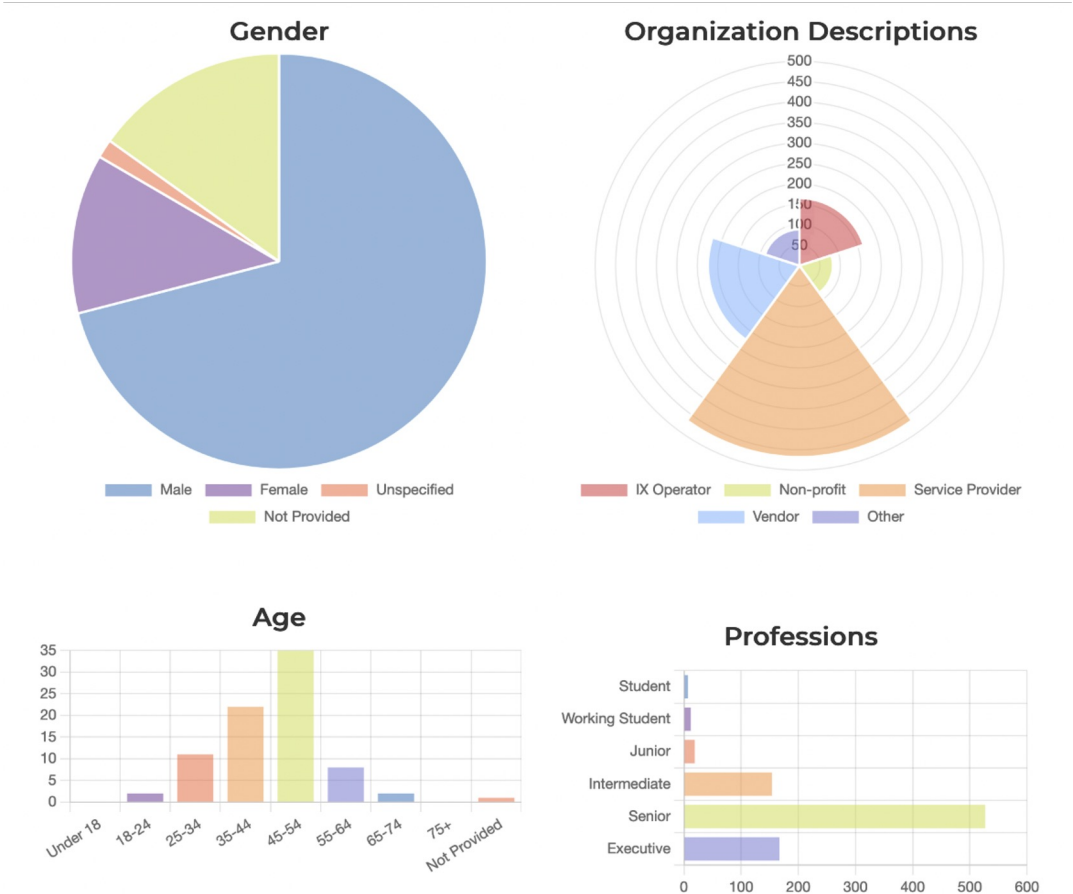
- You must be a NANOG Member in good standing to vote.
- Voting begins at 5:15pm PDT Tuesday, 18-Oct and ends at 12:00 PDT Wednesday, 26-Oct.
- Candidates will be notified after the election has concluded, followed by members, and then the community.
- If you are not a Member, and you wish to vote, you have until 11:59 pm tonight to become a member (Pacific).

Conference Statistics

In-Person Attendees*	892
Member	265
Non-Member	618
Student	9
First NANOG	256
Virtual Attendees	120
First NANOG	
Total Attendees	1030

* Don't be concerned if the categories below do not add up to the total number of attendees. It is possible that a registrant might fit more than one category.

Conference Statistics



Conference Statistics

View the statistics all week long on our Meeting Statistics page

<https://www.nanog.org/events/nanog-86/meeting-stats/>




231 CLIENTS

V6ONLY: 10 CLIENTS

RX: 13.3 MBPS

TX: 13.3 MBPS



MEETING WIRELESS SSIDS

NANOG

[802.1X SECURED (2.4GHZ & 5GHZ)]
USERNAME: nanog
PASSWORD: nanog

NANOG-LEGACY

[UNENCRYPTED NETWORK (2.4GHZ & 5GHZ)]
OPEN — NO PASSWORD REQUIRED

NANOG-V6ONLY

[UNENCRYPTED NETWORK (2.4GHZ & 5GHZ)]
OPEN — NO PASSWORD REQUIRED

NEED ASSISTANCE?

EMAIL: NANOG-ENG@NANOG.ORG

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TO OUR
SPONSORS**



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NETFLIX

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EST. 2018



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Peering Sponsors



Monday Breakfast Sponsor



Monday Lunch Sponsors



Monday Break Sponsors



Tuesday Breakfast Sponsors



Women In Technology Lunch Sponsor

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 NANOG[™]

Tuesday Lunch Sponsors

ThousandEyes 

 **Unity**



 **NANO**™

Tuesday Break Sponsors



Wednesday Break Sponsors



Sunday Night Social Host



Sunday Night Social Co-Hosts



Monday Night Social Hosts



Tuesday Night Social Hosts

ciena[®]

zayo[®]

Virtual Meeting Fellowship Sponsor



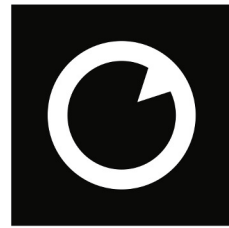
Service Sponsors



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FLEXOPTIX

Hackathon In-Kind Sponsors



CONTAINERlab

NANOG Ombuds



Future Cain
CEO of Future of SEL



Vince Brantley
CEO of Veritas

Code of Conduct

We will not tolerate the following:

- Aggressively pushing your own services, products, or causes.
- Distribution or consumption of alcohol at NANOG-sponsored in-person venues (alcohol not served by hotel-licensed providers).
- Audio or video recordings of the few sessions where such recording is not permitted.

Code of Conduct (Cont.)

We will not tolerate the following:

- Offensive verbal comments or physical contact because of sex, sexual orientation, gender identity, gender expression, age, disability, physical appearance, personal appearance, race, color, national origin or religion (or lack thereof).
- Sexual images of any kind, displayed in public spaces.
- Deliberate intimidation, stalking, threatening, or following.

Code of Conduct (Cont.)

We will not tolerate the following:

- Harassing photography or recording of any kind.
- Sustained disruption of a presentation or other event.
- Inappropriate physical contact.
- Unwelcome sexual attention.

Code of Conduct (Cont.)

We will not tolerate the following:

- Engaging in any activity that is illegal, or violates NANOG's or its sponsors' contracts with venues or contractors.
- Demeaning or disruptive behavior or speech.

NANOG Ombuds

Confidential
support for our
community

ombuds@nanog.org





Host Sponsor

Ryan Planchart
NETFLIX

NANOG 86 Conference Opening

Ryan Planchart
Netflix Open Connect

October 17, 2022
Hollywood, California



\$ id -F

Ryan Planchart

rplanchart [at] netflix.com

he/him/his



= Fallston, MD, USA

Netflix Open Connect since 2014

- 2014: Network Engineering
- 2018: Network Architecture
- 2020: Engineering Manager

Comcast before that

- Core Network Operations

NETFLIX



ARCTIC

OCEAN

PACIFIC

ATLANTIC

OCEAN

INDIAN

OCEAN

OCEAN

TELEPHONE WIRES AND RADIO UNITE TO MAKE NEIGHBORS OF NATIONS

A world map is displayed on a wall made of square tiles. The map is in a dark brown color and shows the continents and oceans. The words 'ARCTIC OCEAN', 'PACIFIC', 'ATLANTIC', and 'INDIAN OCEAN' are written in capital letters above and below the map. At the bottom of the wall, the text 'TELEPHONE WIRES AND RADIO UNITE TO MAKE NEIGHBORS OF NATIONS' is visible. On the right side of the wall, there are two flags: the United States flag and another flag with a red and white design. The text 'Netflix Open Connect: It's about.. connecting' is written in white on a red rectangular background in the upper center of the image.

Netflix Open Connect: It's about.. connecting

Investing in ISP partnerships

Netflix Partner Portal
Service Management Team

Investing in emerging talent

Netflix college internships and new-grad programs

Investing in NANOG

NANOG Education Committee (Kevin Epperson)

NANOG on the Road (Dekia Blackmon)

Sponsoring NANOG 86 (hi)

TELEPHONE WIRES AND RADIO UNITE TO MAKE NEIGHBORS OF NATIONS



25 years of Netflix

And >10 years of Open Connect, our purpose-built CDN

#netflix everywhere

NETFLIX

NETFLIX

← DVDs by mail

2007
Netflix launches
streaming

2009
3rd party CDNs

2011
Open Connect

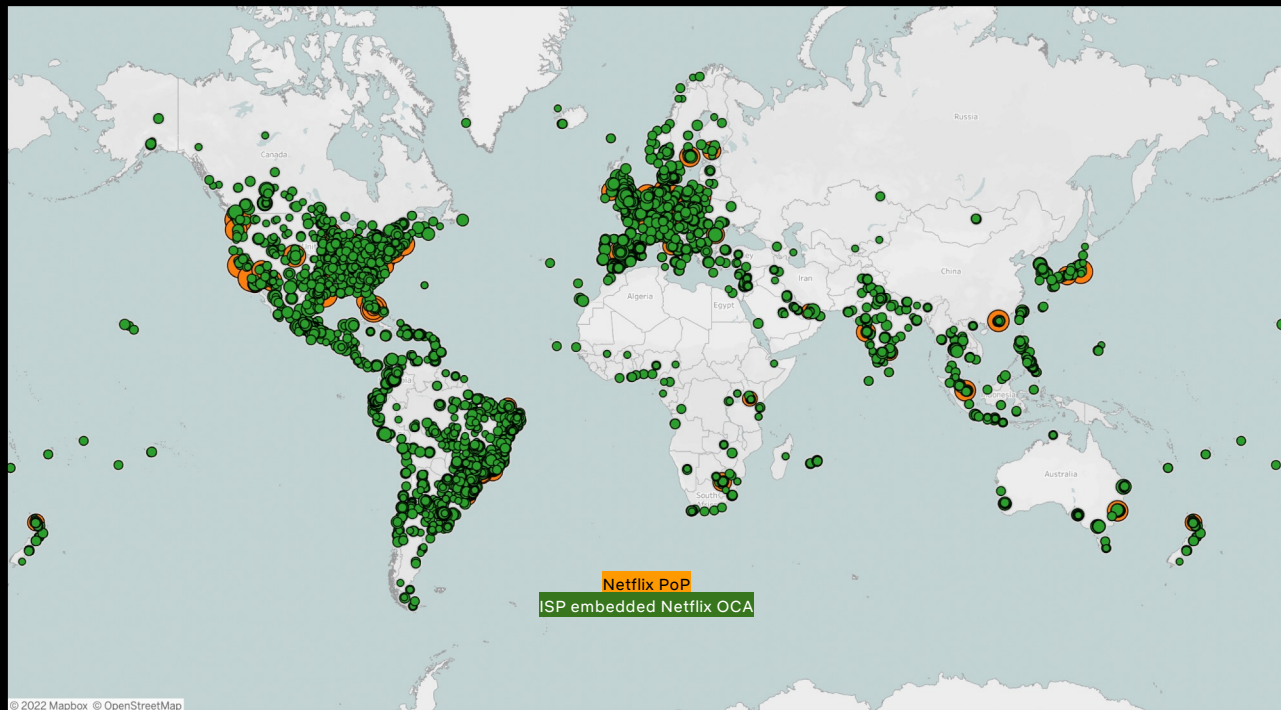
2016
Netflix global launch

2020
Netflix surpasses 200
million members

20K+ CDN Servers (OCAs)
170+ Countries
1M+ Requests per Second

Open Connect: The Netflix CDN

Thousands of Open Connect Appliances (OCAs) embedded directly into ISP networks all over the world (all provided free of charge)



Open Connect: The Netflix CDN

98 managed peering locations (PoPs) with a fleet of thousands of OCAs



^ Dallas, TX

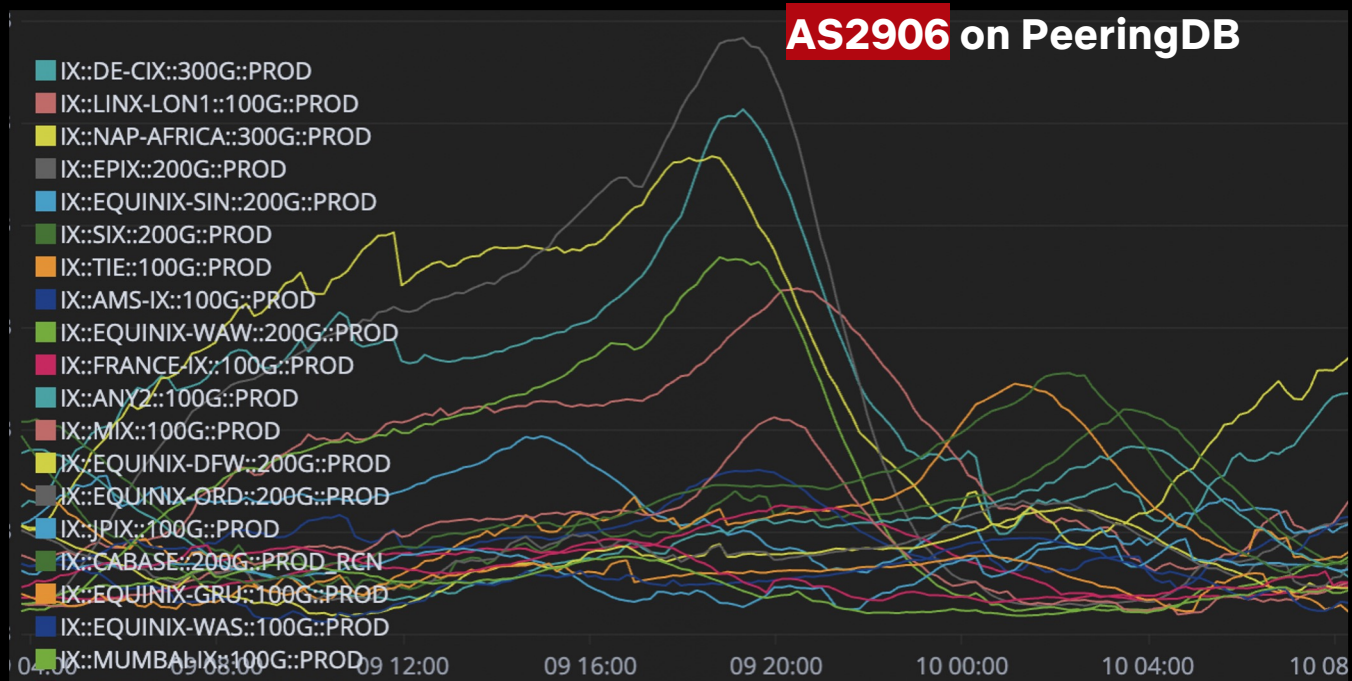


Open Connect: The Netflix CDN
The most efficient CDN caches in the world



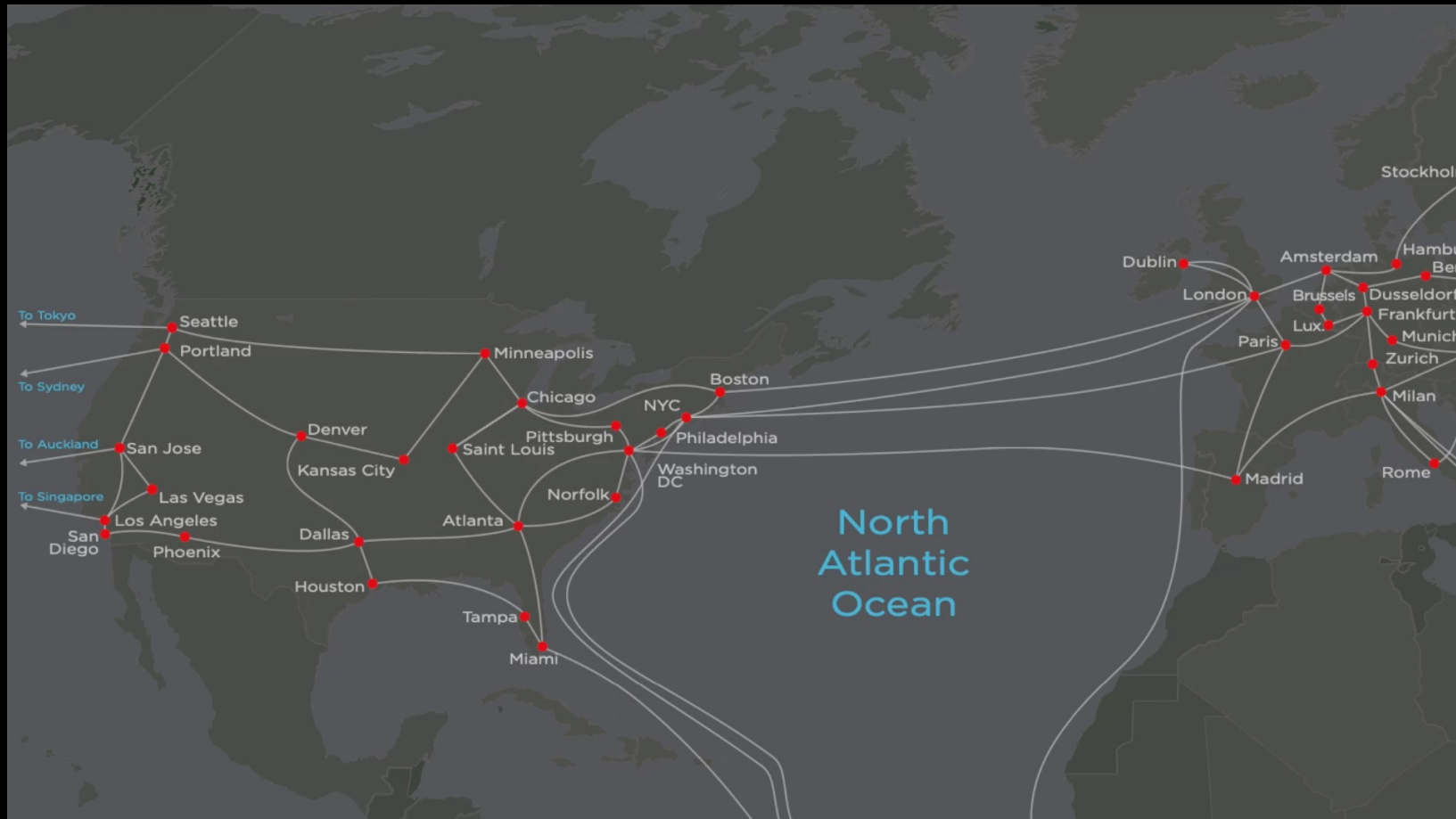
Open Connect: The Netflix CDN

Peering on over 100 Internet Exchange Points (IXPs)



Open Connect: The Netflix CDN

Private, fully redundant, multi Tbps global backbone





Thank you

Netflix AS2906

N



Program Overview

Cat Gurinsky

NANOG Program Committee Chair

Program Notes

- 24 peer-reviewed presentations, including keynotes
- 24 members of the NANOG Program Committee
 - Moderating program sessions and networking sessions
 - Self-governing

Program Committee Members

Cat Gurinsky - Chair
Apple

Elizabeth Culley - Vice Chair
Comcast

Anna Valsami - Secretary

Melchior Aelmans - Member
Juniper

Kam Agahian - Member
Oracle

Aaron Ali Atac - Member
Akamai Technologies

Jeff Bartig - Member
Internet 2

Tom Beecher - Member
Yahoo

Jason Bothe - Member
Moody's Corporation

Mark Buell - Member
Internet Society

Mikael Holmberg - Member
Extreme Networks

Bryan Jong - Member
Bigleaf Networks

John Kristoff - Member
NETSCOUT

Alex Latzko - Member
Deft.com

Marlin Martes - Member
Amazon Web Services

Fearghas McKay - Member
FLEXOPTIX GmbH

Steve Meuse - Member
Kentik

Stevan Plote - Member
Plote & Associates

James Shank - Member
Team Cymru, Inc.

Alankar Sharma - Member
Comcast NBC Universal

Mike Starr - Member

Steve Ulrich - Member
Arista Networks

Michael Voity - Member
University of Vermont

Chris Woodfield - Member
Twitter

Program Tips

- Virtual Chat How-To:
 - Use the “Chat” tab to talk with other attendees
 - Use the “Q+A” tab to ask a question during a presentation
 - Even in person attendees can submit questions this way!
 - Use the “Help” tab to receive technical support
- Agenda + Presentation Materials

Program Notes

- Newcomers Orientation (breakfast)
 - We recorded this; if you were not able to attend in person, check out our YouTube channel next week for the video.
- Main Breakfast & Lunches every day
 - Ray Dolby Ballroom Salons 4-6
 - **NOTE:** Wednesday lunch is on your own
- Tuesday Women in Tech - open to all attendees
 - Hollywood Studio ABC
 - Speaker: Hang Black - Embrace your Edge

Submit Lightning Talks!

- Reminder Lightning Talks are **in person**
- Two lightning talk time slots this meeting:
 - 5:45pm-6pm PDT on Tuesday AND Wednesday
- Submit abstracts by 3:30 PM PDT the day before you wish to speak
- PC will send notifications the evening prior
 - Include cell # in profile to be notified via text!
- Final slides due 12:00 PM PDT day of presentation

NANOG 86 Surveys

- Surveys online @ <https://www.nanog.org/surveys>
 - New Format since N85: simple/clean/quick
 - Daily Surveys available
 - Complete a daily survey + enter drawing for a \$100 gift card
 - Hackathon Survey available
 - Surveys close Friday, October 21st, 2022



NANOG 85 Monday Survey

Please provide an overall quality rating for the presentations you attended

NANOG 85 Conference Opening

- Thumbs Up
- Thumbs Down
- Did Not Attend

Comments/Feedback for Speaker(s)



Enjoy our Program