



# Conference Opening

Leslie Daigle

NANOG Board Chair

# Meet our new Executive Director



**Jonathan Black**

[jblack@nanog.org](mailto:jblack@nanog.org)

**Watch the video at [nanog.org/jblack](https://nanog.org/jblack)**

An aerial photograph of Kansas City, Missouri, taken at sunset. The sky is a mix of orange, yellow, and blue, with scattered clouds. The city skyline is visible in the background, featuring several tall skyscrapers. In the foreground, a multi-lane highway runs through the city, flanked by green trees and a large, modern building with a swimming pool and tennis courts. The text "Welcome to Kansas City!" is overlaid in the center of the image in a large, white, sans-serif font.

Welcome to Kansas City!

# Fun Facts about Kansas City

- “City of Fountains” - over 200 fountains can be found scattered throughout the city
- Walter Cronkite began his career in Kansas City
- Most populous city in Missouri
- Over 50 companies located in the greater Kansas City area with a focus in either cloud, cybersecurity, enterprise, information technology, or internet of things

# Conference Wireless



NANOG

WPA3 Pre-Shared Key

PSK: **nanognanog**

NANOG-Legacy

No Encryption thus No Password

NANOG-V6 Only

No Encryption thus No Password

On a subnet with only IPv6 services

no IPv4 Gateway or DHCP server

Need assistance? Email: [nanog-eng@nanog.org](mailto:nanog-eng@nanog.org)

# Conference Statistics

<https://www.nanog.org/stats>

198

Members

398

Non-Members

6

Students

602

Total In-Person

7

Virtual

11

Virtual Comp

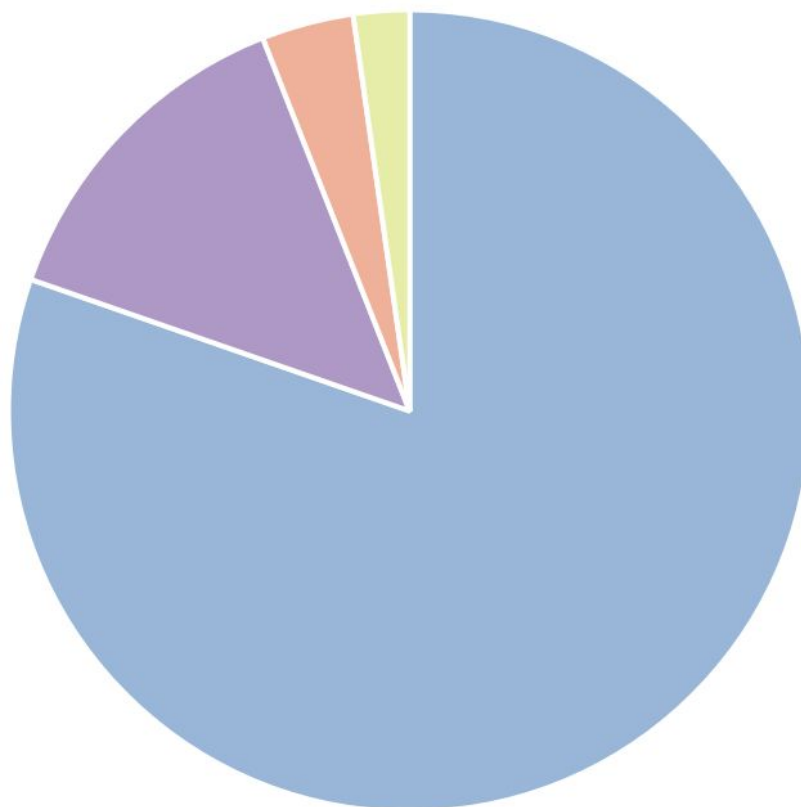
18

Total Virtual

158

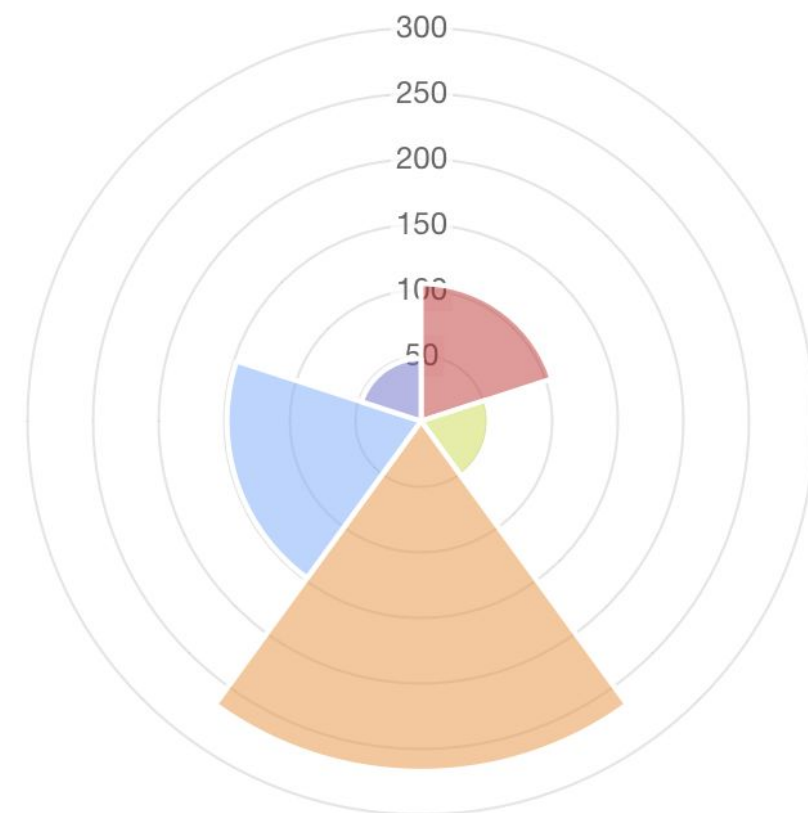
First NANOG

## Gender



Male Female Unspecified  
Not Provided

## Organization Descriptions



IX Operator Non-profit  
Service Provider Vendor Other

**A SPECIAL  
THANKS TO OUR  
SPONSORS**



# Meeting Host





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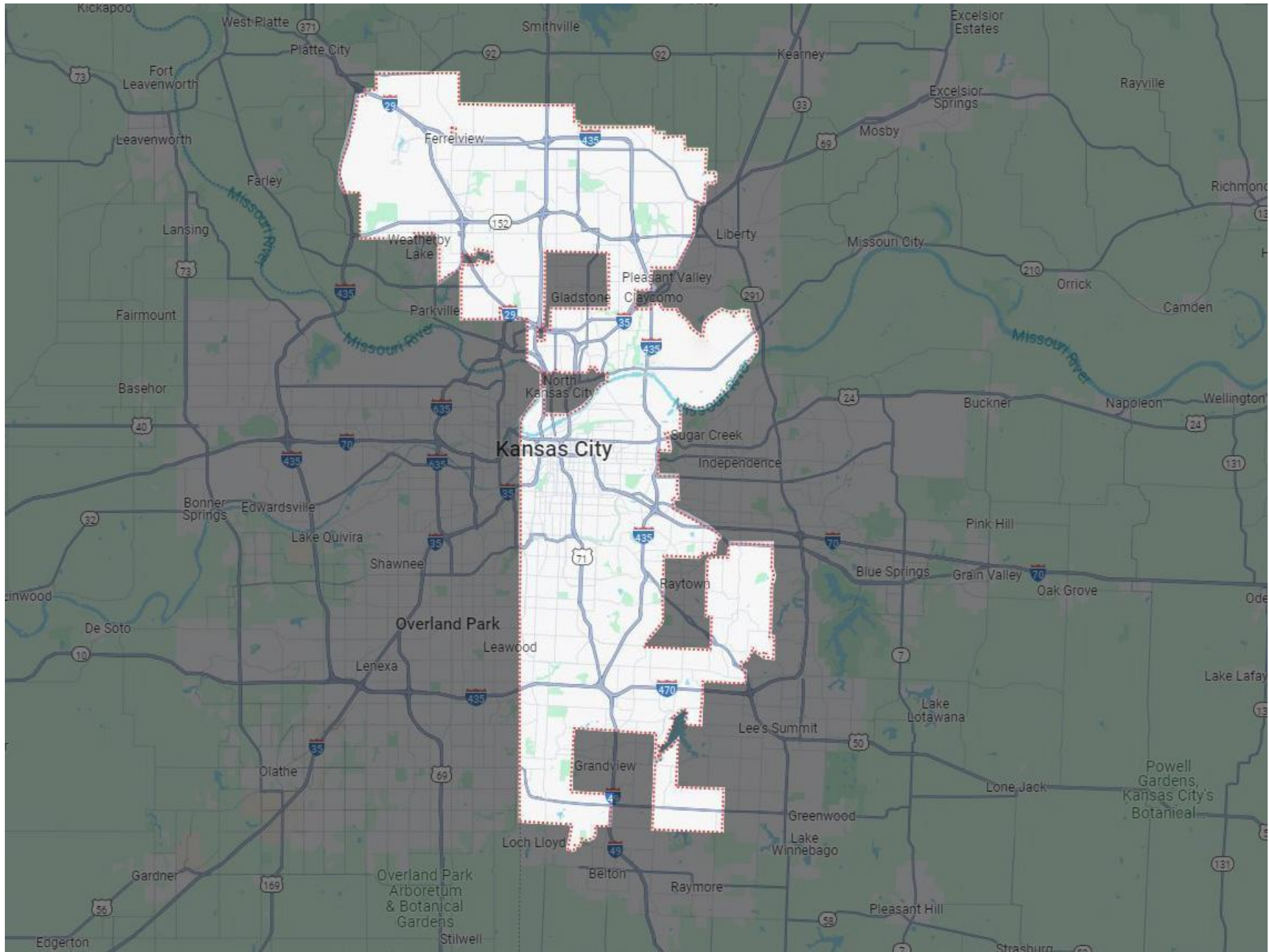
WELCOME

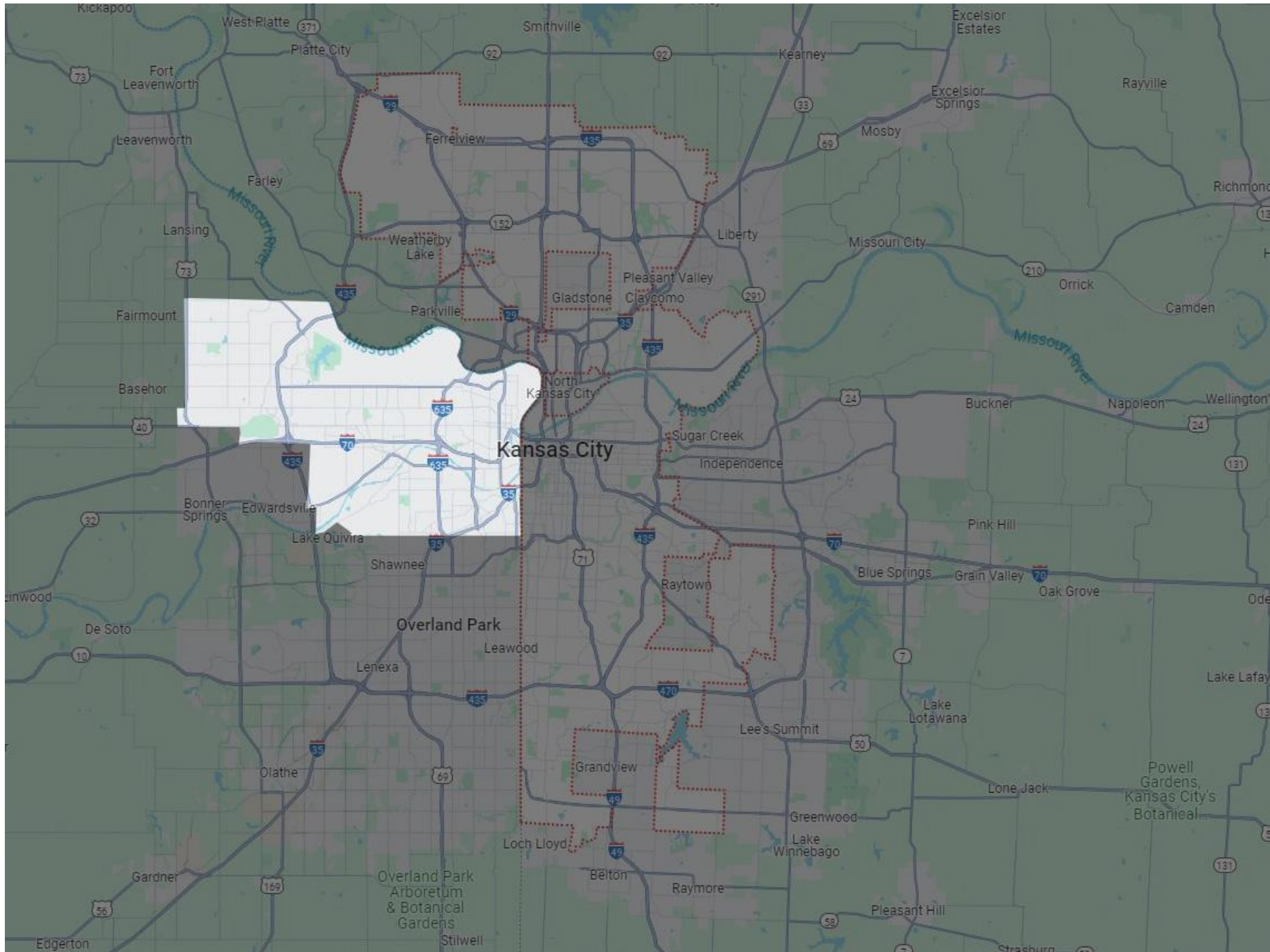


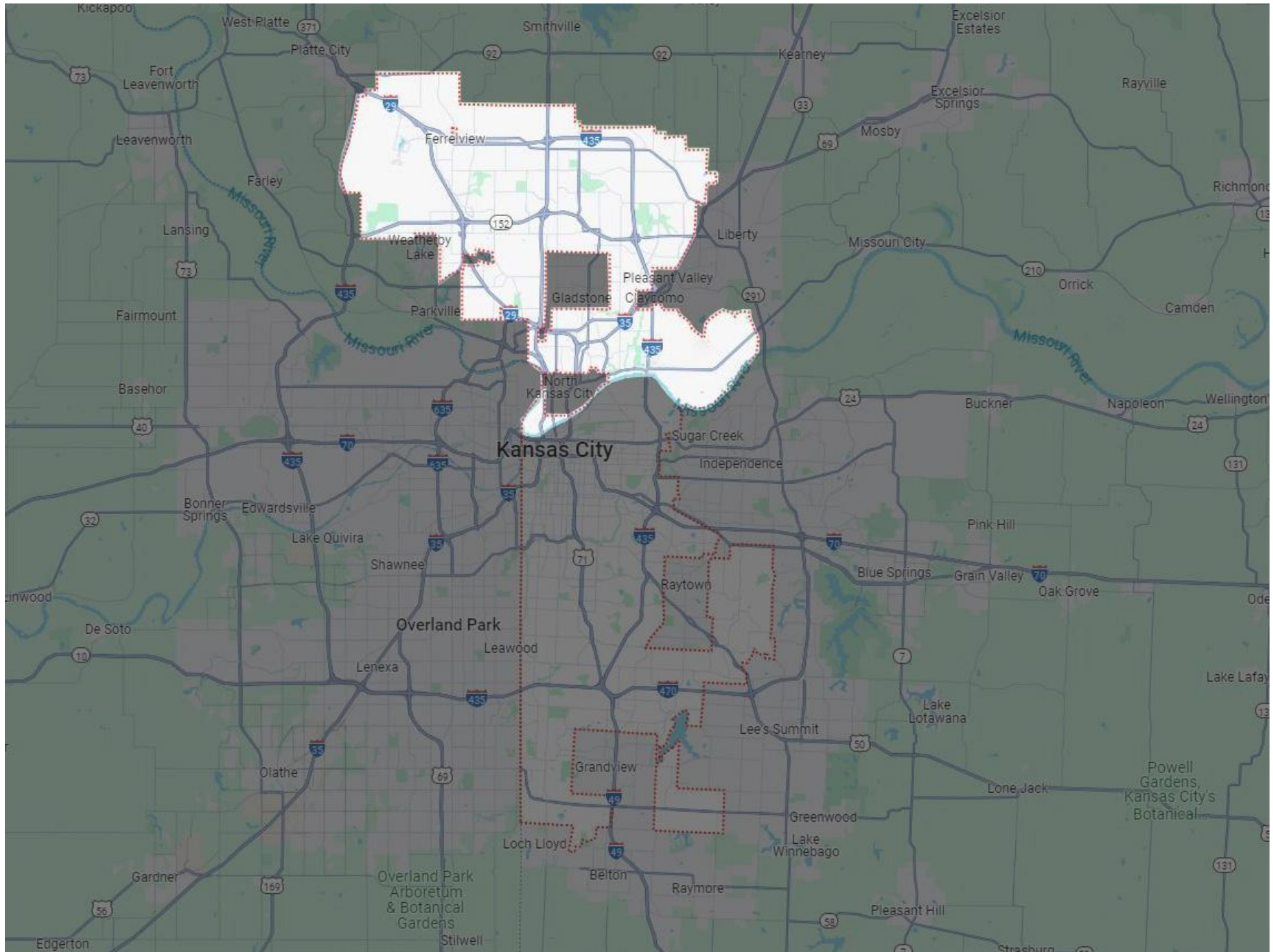
TO KANSAS CITY

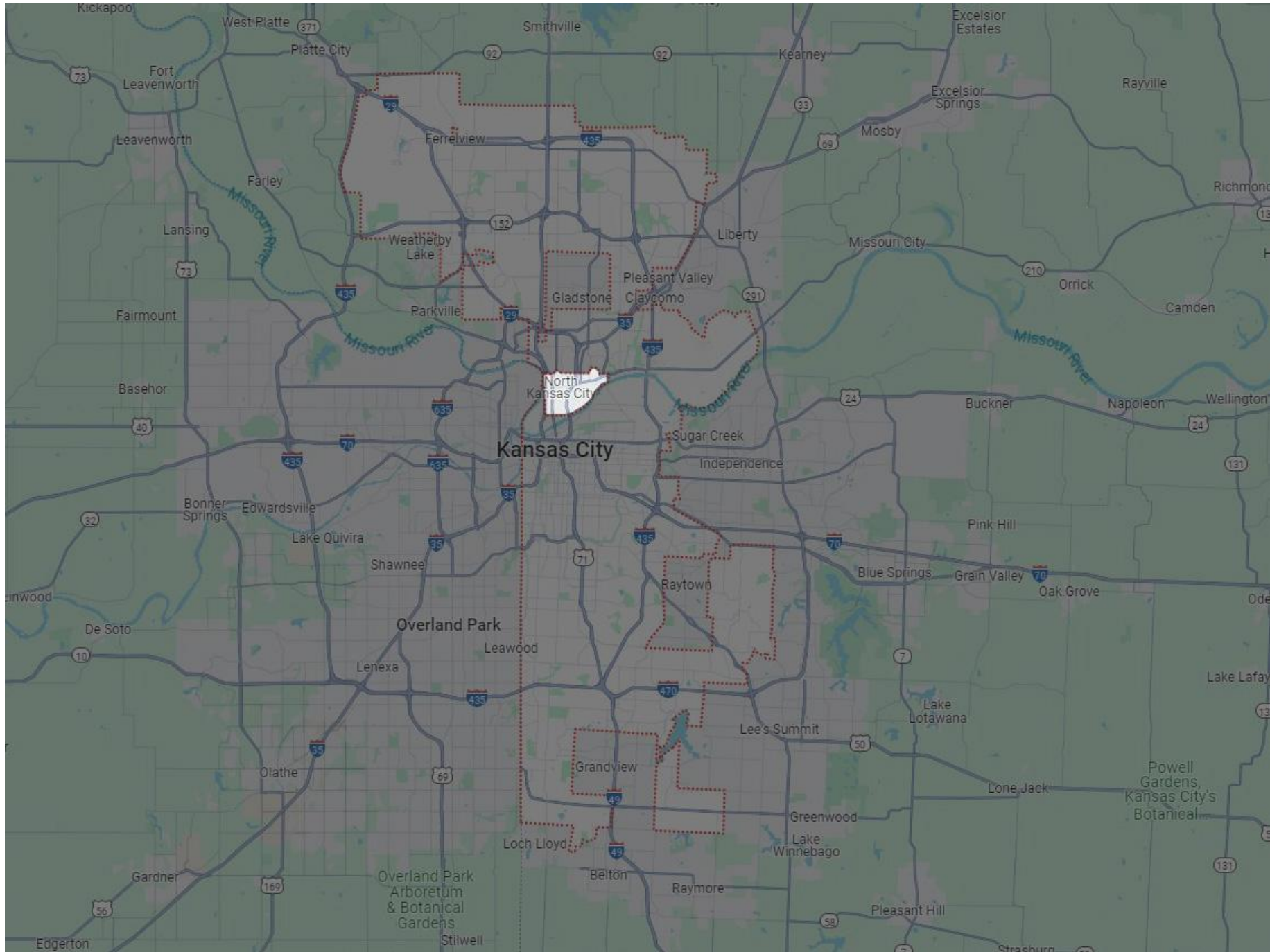
NANOG 91 | June 2024

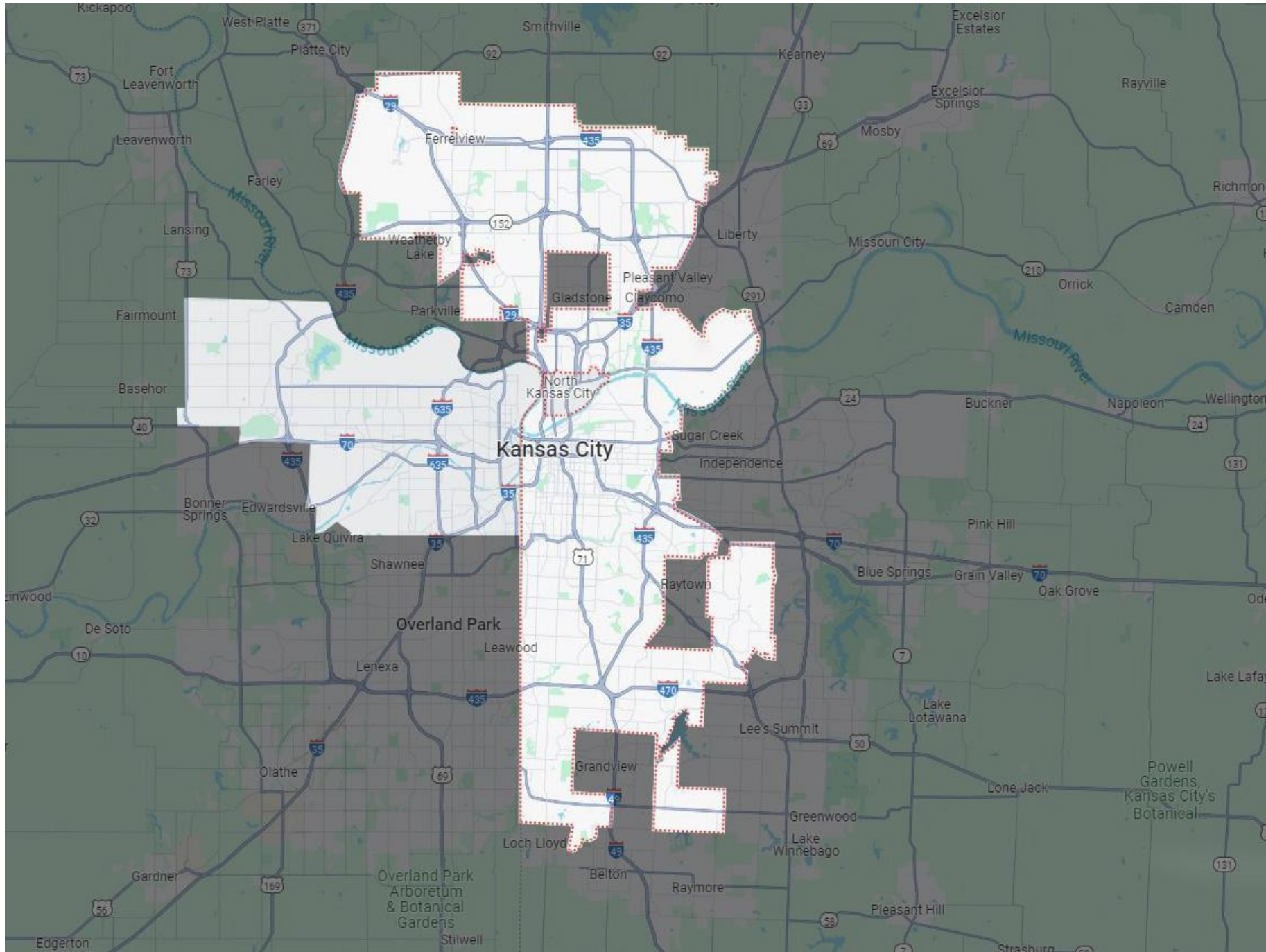








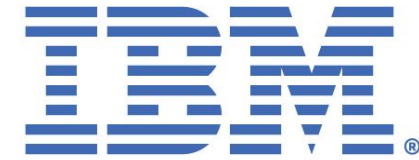






# Premium Sponsors

## Platinum



## Gold



VERISIGN™



# Meeting Connectivity



**A note from  
connectivity  
sponsor**

**Jared Mauch**

# In the past

- Many T1's
- DS3
- Wireless links
- Fiber built into venue (Bellevue)
- Structured cable built in venue (Bellevue)
- Nanog 37 (a case of venue issues)

# Plan C:

- Microwave from the Hilton to Joe Pucik's 13th Floor office at Mae-West →
- Fiber from 13th fl. Office to 2nd floor Meet-Me room (Cartyle Group) →
- Cross connect to Chris Quesada's Switch&Data Metro Lan →
- Across S&D Lan to PAIX Palo Alto →
- VLAN to Jared Meuch (NTT/US) for Transit

# Plan D:

Hilton has fiber run to SJCC infrastructure.

Trango 54mb Microwave from Hilton to Dave  
"Bungi" Rand's 18th Floor Penthouse Roof at 50  
West San Fernando

Fiber from Bungi to Switch & Data at Palo Alto  
Cross connect to Jared Mouch (NTT/US) for  
Transit

"Nothin' but net" - 45mb sustained!!!

# Consistent problem these days

- Hotel internet has improved over the years
- Technical needs of the conference have generally stayed the same with some important caveats
- Venues have identified revenue sources
- Connectivity donors reluctant to do a short-term or free deal
- Mega-telcos do brand wide deals locking hotel owners in
- Venues want to charge us for fiber we installed ourselves

# Carrier quotes can be high

- \$70-80k per conference
  - \$160/person @ 500 people
- Reasonable quotes:
  - \$1800/mo@12m - \$43/person @ 500 people

# What can you do?

- Look at the upcoming meetings list
- Identify what locations you may be able to serve
- Donate connectivity?
- Donate Money?
- Eliminate connectivity sponsor and make NANOG purchase bw?
- Also a problem for IETF



# Upcoming meetings

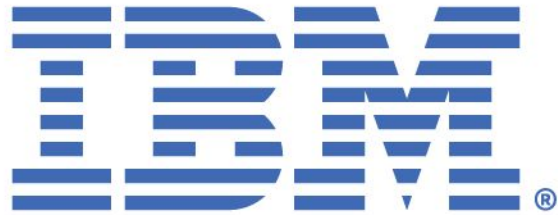
- Atlanta, GA
- Arlington, TX
- San Francisco, CA
- <https://nanog.org/events/future/>

# An ending

- Always trying to help in the background
- A lot of work goes into making this happen, thank the staff and be patient with them this week
- Spend some modest marketing budget, fiber or cash to cover this

# Espresso Bar

# Network Lounge



# Hackathon

# Beer 'N Gear

Adtran

Akamai

CISCO

DE CIX

H5 DATA CENTERS

Infinera

IPv4.GLOBAL  
By Hilco  
Streambank

Jane Street

JUNIPER  
NETWORKS

kentik

LightRiver  
powered by  
ciena

NOKIA

opengear  
A DIGI COMPANY

PRECISION  
OPTICAL TECHNOLOGIES

radware

sinewave  
INC

# Peering Sponsors

**IONOS**

**JPIX**

# Showcase Sponsors



# DEI Lunch

# WIT Mixer





# Social Events



# Virtual Meeting Fellowship

# Service





# Code of Conduct + Ombuds

# Building Community

The Code of Conduct sets the behavior expectations of the NANOG Community (You agree to follow the CoC when you register for this meeting.)

The Ombuds are here as a neutral party to help us navigate each unique situation

# Ombuds, Is this Necessary?

Yes! There have been incidents

There have been 2-5 reported incidents at each NANOG event where we have Ombuds representation for reporting and tracking.

In each case the Ombuds worked with the reporter to ensure they were safe and heard.

In most cases mediation was scheduled and all parties involved reported a positive outcome.

An anonymized report is prepared for the Exec leaders of the NANOG Board to bring awareness and highlighting potential improvements.

The Exec Director of NANOG will be briefed if removal is recommended.

# Ombuds Reports

## What happens?

1. A report is made to the Ombuds
2. The Ombuds investigate to determine validity and next steps
3. If another party is involved and the person that filed a report is comfortable a mediation is scheduled to resolve the issue
4. If a resolution can not be found via mediation the matter is closed
  - a. If the violation is severe other actions might be taken such as a ban from a NANOG event and/or a ban from future events

# Code of Conduct

## We will not tolerate the following:

- Aggressively pushing your own services, products, or causes
- Engaging in any activity that is illegal
- 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
- Demeaning or disruptive behavior or speech
- Sustained disruption of a presentation or other event
- Inappropriate physical contact and/or unwelcome sexual attention

Full list can be found here: <https://nanog.org/about/code-conduct/>

# NANOG Ombuds



**Future Cain**  
CEO of Future of SEL



**Justin Williams**  
Associate, Future of SEL



# NANOG Ombuds

Confidential  
support for our  
community

[ombuds@nanog.org](mailto:ombuds@nanog.org)





# Program Overview

**Steve Plote**

NANOG Program Committee Chair

# Program Committee Members

Stevan Plote - Chair  
Plote & Associates

Adair Thaxton - Vice Chair  
Internet2

Elizabeth Culley - Secretary  
Comcast

Phil Bedard - Member  
Cisco

John Brown - Member

Dan Chioreanu - Member  
Apple Inc

Kate Gerry- Member  
NetActuate, Inc

Mikael Holmberg - Member  
Extreme Networks

Alex Latzko - Member  
Kentik

Nimrod Levy - Member  
AT&T

Fearghas McKay - Member  
FLEXOPTIX GmbH

Steve Meuse - Member  
Kentik

Sergey Myasoedov - Member  
NetArt Group

Nagendra Nainar- Member

Yingzhen Qu - Member  
IETF

Arul Sekar - Member  
Google

Krassimir Tzvetanov -  
Member

Steve Ulrich - Member  
Arista Networks

Michael Voity - Member  
University of Vermont

Les Williams - Member  
Amazon Web Services

Jeffrey Zhang - Member  
Juniper Networks

Board Liaison - Cat Gurinsky

# General Session + Tracks

NANOG 91 has 30 talks on topics including:

- Automation
- BGP
- RPKI
- Security Track
- Industry Updates
- Monitoring
- IPv6
- Tutorial

# Diversity, Equity + Inclusion Programs

DEI events are about Inclusion and building Community

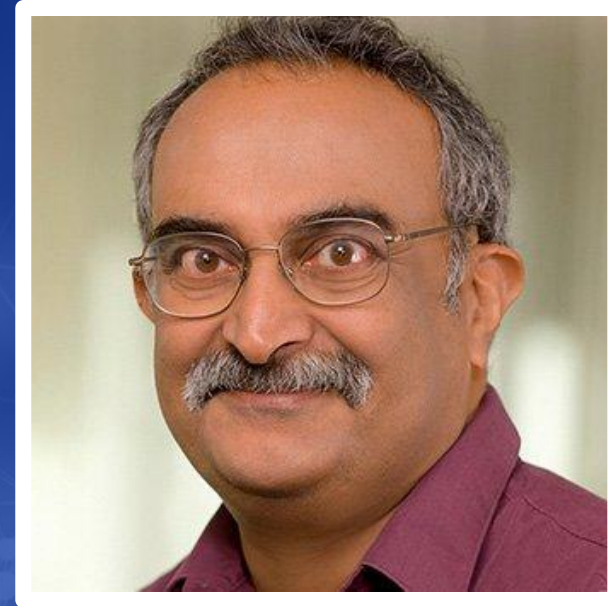
- Women In Tech Mixer (Sunday)
- DEI Lunch to further the conversation (Tuesday)
- Table Topics (Monday and Tuesday)

# NANOG 91 Keynotes



**TCP Terminates on the  
Floor: The Ebbing Tide of  
Networking Expertise**  
Corey Quinn - The Duckbill Group

**Monday 10:15 AM  
City Beautiful D/E Ballroom**



**Network Digital Twin**  
Kireeti Kompella - Juniper Networks

**Tuesday 10:00 AM  
City Beautiful D/E Ballroom**

# 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

# Submit Lightning Talks!

- Reminder Lightning Talks are **in person**
- Two lightning talk time slots this meeting:
  - 5:30pm-6:00pm CDT Tuesday
  - 4:15-4:45pm CDT Wednesday
- Submit abstracts by 3:30 PM CDT the day before you wish to speak
- PC will send notifications the evening prior
  - Please include cell # in profile to be notified via text!
- Final slides due 12:00 PM CDT day of presentation



# NANOG 91 Surveys

- Surveys online
  - <https://www.nanog.org/surveys>
    - Daily Survey available for Monday, Tuesday, Wednesday  
Complete the daily survey each day to enter the drawing for a \$100 gift card
  - Surveys close Friday, June 14, 2024



Enjoy our Program