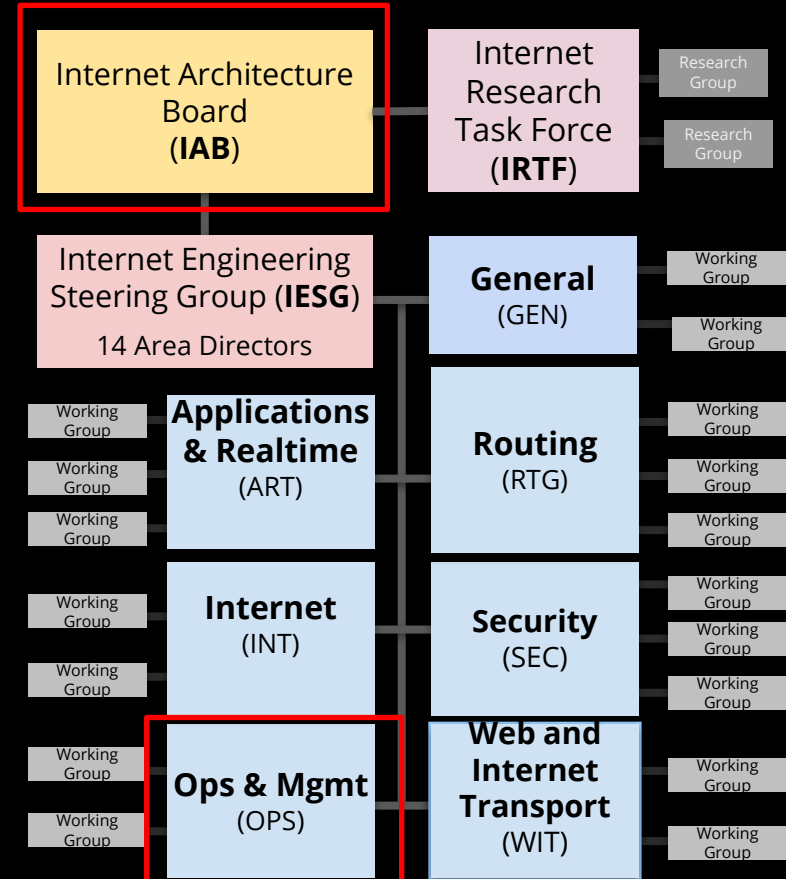


# Read out of IETF Session

Mahesh Jethanandani  
Area Director, IETF OPS Area  
Distinguished Engineer, Arcus

# Internet Architecture Board (IAB)

- Architectural oversight
- Runs workshops to:
  - address current challenges
  - explore emerging technologies
  - create input for future workwithin the IETF and IRTF
- Runs programs to address long term perspectives/issues
- Liaison management



# Why Was I Here?

- To announce that the IETF/IAB is conducting a workshop on network management
  - Where: Virtual Online
  - *You're invited!*
- I was here to help, during the week: questions, feedback, helping with the survey, etc.

○ Survey:

[https://ietf.iad1.qualtrics.com/jfe/form/SV\\_9vQxBRiZqDntarc](https://ietf.iad1.qualtrics.com/jfe/form/SV_9vQxBRiZqDntarc)



# Working Together

IETF has a long tradition of collaborating with \*NOG

- NANOG, RIPE, LACNOG, AutoConn, Apricot

IETF wants to understand Operator's current and perceived future issues

- Not well represented

To address this

- Outreach efforts
- Network Management Operation (NMOP)
- IAB workshop called Next Era of network Management Operations (NEMOPS)



# RFC 3535:

## Overview of 2002 IAB Network Management Workshop

### 3. Operator Requirements

During the breakout session, the operators were asked to identify needs that have not been sufficiently addressed. The results produced during the breakout session were later discussed and resulted in the following list of operator requirements.

1. Ease of use is a key requirement for any network management technology from the operators point of view.
2. It is necessary to make a clear distinction between configuration data, data that describes operational state and statistics. Some devices make it very hard to determine which parameters were administratively configured and which were obtained via other mechanisms such as routing protocols.
3. It is required to be able to fetch separately configuration data, operational state data, and statistics from devices, and to be able to compare these between devices.
4. It is necessary to enable operators to concentrate on the configuration of the network as a whole rather than individual devices.
5. Support for configuration transactions across a number of devices would significantly simplify network configuration management.

### 6. Recommendations

1. The workshop recommends that the IETF stop forcing working groups to provide writable MIB modules. It should be the decision of the working group whether they want to provide writable objects or not.
2. The workshop recommends that a group be formed to investigate why current MIB modules do not contain all the objects needed by operators to monitor their networks.
3. The workshop recommends that a group be formed to investigate why the current SNMP protocol does not satisfy all the monitoring requirements of operators.
4. The workshop recommends, with strong consensus from both protocol developers and operators, that the IETF focus resources on the standardization of configuration management mechanisms.
5. The workshop recommends, with strong consensus from the operators and rough consensus from the protocol developers, that the IETF/IRTF should spend resources on the development and standardization of XML-based device configuration and management technologies (such as common XML configuration schemas, exchange protocols and so on).



22 Years Later, It Is Time To Review Where We Are  
(Again)

# **IAB / IETF NM Workshop 2024**

## **Next Era of Network Management Operations (NEMOPS)**

December 3-5  
Virtual Online

# How to Participate with NEMOPS



- To participate in the Workshop (online call)  
“expression of interest” to [nemops-workshop-pc@iab.org](mailto:nemops-workshop-pc@iab.org)
- Submit the online NEMOPS survey
- Speak with NEMOPS PC

Time /  
Commitment



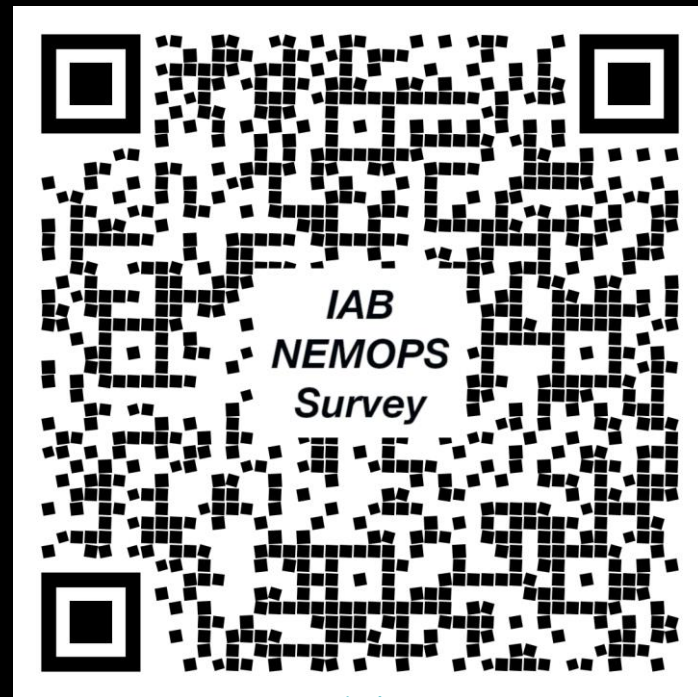


NEMOPS Workshop Page:  
<https://datatracker.ietf.org/group/nemopsws>

Feel free to contact the program committee  
with any further questions:  
[nemops-workshop-pc@iab.org](mailto:nemops-workshop-pc@iab.org).

We need your voice! Join the mailing  
list: [nemops-interest@iab.org](mailto:nemops-interest@iab.org)

Please consider attending the workshop!



[Link](https://ietf.iad1.qualtrics.com/jfe/form/SV_9vQxBRiZqDntarc)

# Feedback

- Monitoring
  - Equivalent of SNMP
  - Valid data (maps to a schema)
  - How to map a CLI output to an API call?
- Configuration
  - How to map a config to an API?
  - Lack of documentation

Questions?