



UKNOF

Building a National NOG Community

The UK Network Operators' Forum, 2005-2023

Keith Mitchell

NetUK3, London

July 6-7th 2026

Overview

- UKNOF back-story, motivation, formation, Charter
- UKNOF's history, growth and successes
- Sustainability challenges
- What worked and what didn't work
- Lessons learned on NOG sustainability and governance
- Professional development through Community
- UKNOF's Legacy and Archives

*This talk is in a **personal** capacity, and I do not speak for any other current or formerly affiliated organisation*

My Career History

- Graduated Computer Science: ed.ac.uk, ucl.ac.uk
- Acorn Computer, Spider Systems 1984-1991
- Co-founder: PIPEX, LINX, Nominet, UKNOF, XPE
- President: DNS-OARC 2006..2012-2023
- First RIPE NCC Board Chair; RIPE WG Chair & Arbiter
- ISC (VP Eng) and various other nonprofits
- Now “*mostly retired*”, still self-employed and trying to be useful:
 - OARC Co. Secretary, NANOG Mentorship Committee
- TL;DR: <https://www.keithmitchell.co.uk/biography.html>

Inspiration/Motivation for UKNOF

- Network Operator Groups in other regions and countries
 - NANOG, RIPE
 - Switzerland, France in early noughties
- Need for **open** forum
 - Closed membership model of existing UK ISP bodies (something I quit LINX over in 2000)
- Skills shortage, need for professional development
- Geographic over-centralisation of UK ISP industry
- National infrastructure sovereignty

UKNOF Pre-formation

- It seemed to me around 2002 that a UK national NOG could be a good idea, but my then-employer, despite being motivated to open up the IXP space, would not approve the commitment to support the project
- Some young folks created a “UKNOG” initiative around 2003-ish, but it did not gain traction
- Per-capita wrt respect to NANOG and RIPE regions (about 1/5th-1/6th the population), a UK NOG ought to be able to pull in 150-200 people regularly
- But even at ~200 attendees * £100 registration * 3 days per year, it was never going to pay for anyone to run it full-time

UKIF and UKNOF Formation

- I took a career break in 2004-05, and was finally able to pursue setting up UKNOF
- At the same time, some other usual suspects were trying to set up an alternative UK ISP Trade Association, the “UK Internet Forum”
 - UKIF Ltd legal entity
 - Company limited by guarantee
 - Operated on not-for-profit basis
- By making UKNOF one of its 3 fora, this helped a lot with the overheads and sustainability challenges
- Another essential step was recruiting a Programme Committee
- (there was of course some Very British detraction..)

UKNOF's Mission and Charter

- From Charter https://index.uknof.org.uk/charter-v1_1.html :
 - *“To act as an **open** forum for operational, technical and engineering information exchange, co-operation and co-ordination between Internet, Ethernet and other public telecommunications network operators within the United Kingdom.”*
 - *“To pro-actively support the sharing of knowledge, ideas and best practices to enhance the effective, stable and secure operation of the UK's Internet infrastructure as a whole.”*
 - *“UKNOF's remit is technical”*
 - *“To hold meetings at least 3-4 times a year, operate informational mailing lists, and host a web site in support of the aims.”*
 - *“at least one meeting per year each inside, and outside of, London area”*

First Meeting – UKNOF1!

```
From: Keith Mitchell <keith.mitchell@ukif.org.uk>  
Organization: UK Internet Forum  
User-Agent: Mozilla Thunderbird 0.7.1 (X11/20040626)  
To: uknof@ukif.org.uk  
Subject: [UKNOF] UKNOF1 Meeting Tomorrow - Final Reminder  
Date: Tue, 24 May 2005 16:55:00 +0100
```

This is just a quick note to remind you of tomorrow's inaugural UKNOF event. You can find the agenda at:

<http://www.ukif.org.uk/page.php?cid=279>

and the directions to the venue at:

<http://www.ukif.org.uk/page.php?cid=329>

We have a full day of confirmed speakers, and around 50 people have committed to attending. If you have not registered but still plan to attend, please let us know ASAP. Thank you all for your interest and support this far, looking forward to meeting you all tomorrow.

Keith

1st UK Network Operators' Forum Meeting

Date: Wednesday 25th May 2005
Venue: SOCITM, London
Sponsor: TelNic
Chair: Keith Mitchell
Admin: Steve Harris

Schedule

- 09:30 Coffee
- 10:15
 - Introductions
 - Agenda updates
 - UKIF Introduction and Rationale, Willie Black, UKIF Chair
 - [UKNOF Introductory Presentation](#), Keith Mitchell, UKNOF Chair
 - Questions/discussion
- 11:15 [Ofcom and Internet Technology](#): Steve Unger, Ofcom Technical Director
- 11:45 [ISP VoIP Issues and Opportunities](#): Tim Brooks, Technical Director, CIMOL technologies
- 12:15 [Registry Update](#): John Dickinson, Nominet
- 12:45 Lunch
- 14:00 Updates from UK Internet Exchange Operators
 - [LINX](#): Mike Hughes
 - [LIPEX](#): Panny Malialis
 - [LoNAP](#): James Rice
 - [MaNAP/NWIX](#): Nick Whittaker
 - [MCIX](#): Marcus Hopwood
 - [Union IXP](#): Fearghas McKay
- 15:00 [UK Internet Infrastructure Protection](#): Bob Downie, NISCC
- 15:30 Discussion: Need for UK NSPSEC group ?
- PGP signing
- 15:45 Coffee
- 16:00 [IP Address Aggregation Best Practice](#): James Rice, Jump Networks
- 16:15 [Alternative Access Technologies](#): Malcolm Corbett, Access to Broadband Campaign
- 16:45 Audience Participation: "[Peering Personals](#)"
- 17:15 Final Q&A, wrap-up, next meeting

Last updated 05-Oct-05

Early Days

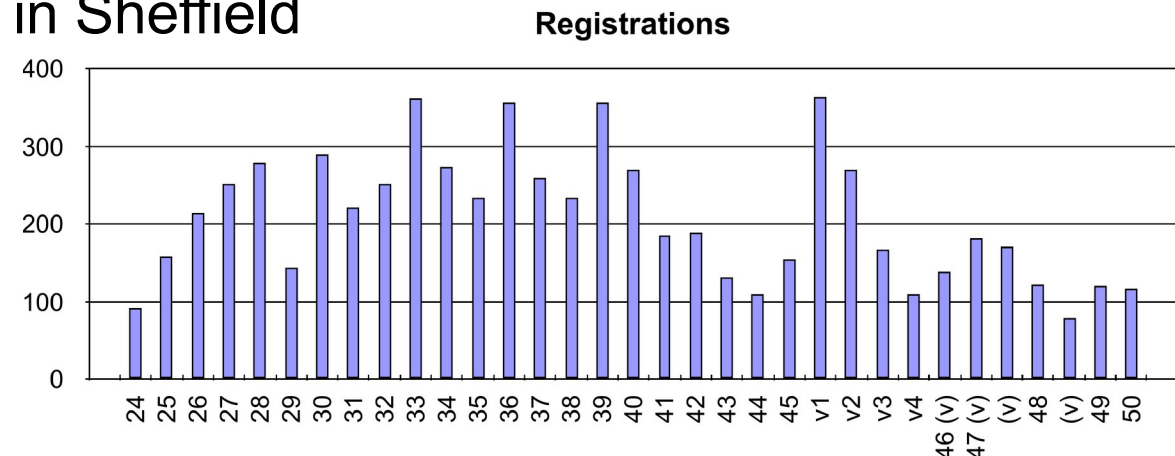
- For the first 20-odd meetings, things were run fairly informally
 - donated venues, platforms
 - the PC, Board, and a few other volunteers did nearly everything
- Attendance steadily grew from 50 to over 120 registrations 2005-12
 - clearly we were filling a need
 - but sometimes the wheels fell off logistically: packed venues, waitlists, technical scrambles, bad food, flaky sponsors
 - this was the era of the pre-meeting curry :-)
 - I was juggling with a US-resident \$dayjob
- As all this happened, it began to feel like a distinct community

Scaling Step Functions

- Around 2012, it was clear UKNOF's potential was being limited by various “success disaster” scaling issues
- There were also some opportunities
 - non-UKNOF activities at UKIF had withered
 - I changed employment and had more time to devote to UKNOF
 - Denesh became available to proactively bring in sponsor money
- Changes were made:
 - key volunteers co-opted onto Board
 - additional committees, Meetings, Advisory
 - UKIF Ltd legal entity became dedicated solely to running UKNOF
 - use new revenue streams to pay for right-sized venues, cloud platforms, and professional services

Peak Years 2013-2019

- Highest in-person attendance 360 at UKNOF33 in London, Jan 2016
- Highest online attendance 365 at virtualUKNOF, May 2020
- Internet history presentations from Nigel Titley, Rob Blokzijl, Cliff Stanford, Daniel Karrenberg, Grahame Davies, Paul Thornton, et al
- Tim Robinson's WISP presentation at UKNOF34 most-viewed on YouTube
- UKNOF11 in the Broadcasting House Council Chamber
- UKNOF32 with UK&Ireland Peering Forum in Sheffield
- Steam-powered social
- West Country Cream Tea breaks
- Many pints and packets, and pints...



...and some not so high points



- PoE flex
- Stadia shortfall
- Navigating Edinburgh with 2D maps
- Monetize all The Things
- Leeds floor-tile lifting competition

A Cold Sustainability Wind

- I have worked in and with various countries, and ISTM that the UK has a uniquely tight-fisted corporate culture when it comes to professional development and training of IT staff
 - many UKNOF attendees were having to take time off, and fund their own travel, for events which were directly benefitting their day jobs with knowledge not readily obtainable elsewhere
- In recognition of this, UKNOF meetings had always been free to attend and entirely sponsor-funded
- Around 2018-19, sponsor funding was getting harder to secure, so we did various experiments on registration charging and income diversification, but with mixed success and popularity
- Things were mostly still working, but it was also getting harder to bring in fresh blood to help run things, especially the boring non-techie tasks

A Plague Upon UKNOF's House

- Then in 2020, along came COVID-19 🙄
- **Everything** had to pivot to online, especially conferences
- At the same time, all of society was heavily dependent on the Internet infrastructure being run by NOG participants
- An online place of both community, and operational co-ordination, became really important
- As well as running more frequent online-only events, we also set up a Mattermost-based chat platform
- All of this was a **lot** of work
- But in common with many other NOGs, we lost nearly all of our registration revenue, and much sponsor revenue, burning cash reserves

Incomplete Restoration From Backup

- The recovery from the pandemic was tricky
- Participation and attendance never really got back to “before”
- We ran several successful hybrid/in-person meetings 2021-23, but hybrid was much more demanding, and UKNOF’s financial and human resources became depleted to non-viability
- Final meeting  was UKNOF52 in Sep 2023
- Wrap-up background at:

<https://indico.uknof.org.uk/event/63/page/391-uknof-2023-annual-meeting>

UKNOF Retrospective in Numbers

- 52 full meetings
 - 2 online, plus 6 virtualUKNOFs
- Around 8,700 total attendee registrations
- 680+ speaker presentations
- 25 venues in 14 cities
- Several dozen currys...

What Worked

- Engaged, pro-active Programme Committee leading to high-quality content
- Editorial/Operational separation
- Online platforms
 - Indico open-source conference management
 - Chat great for meetings, less so in-between
- Getting ahead of scaling step-functions

What Worked

- Free registration model
- Well-conducted, welcoming community
- Cross-UK regional engagement
- Regular rotating venues
- British ex-pats were some of our strongest supporters

What Didn't

- Donated venue challenges
- Migration to paid registration
- Succession planning is hard
- Leadership as a side-hustle necessitates short-cuts
- Volunteer techies don't like doing sales or finance
- Attendee and Board diversity, an industry-wide problem

Sustainability Challenges

- Post-pandemic:
 - in-person event attendance levels lower
 - hybrid events more complex to produce
 - higher venue and meeting services costs
 - reduced volunteer engagement across nonprofit Internet industry sector
- Poor health of post-Brexit UK economy
- Reluctance/opposition to conference attendee registration fees
- More difficult vendor sponsorship budgets & expectations
- Lack of people willing and/or able to take on business support roles

Community Building

- Community building takes years
- In 30+ years' of running Internet non-profits and membership orgs, I've observed two broad philosophies:
 - Communitarian, building upon volunteering and in-kind donations
 - run your NOG like a kibbutz
 - Capitalistic, building upon sustainability and accountability
 - run your NOG like a small business
- As a pragmatic engineer, I think it takes a disciplined balanced mixture of these to succeed
 - but being centrist is a great way of being demonised by one side as the embodiment of the worst of the other 😞

UKNOF/UKIF Governance

- This was always a bit of a pragmatic bodge
- Given UKNOF's very finite resource base, we took a lightweight approach, which emphasised transparency and accountability (e.g. Advisory Committee) over direct stakeholder democracy
 - Board Directors co-opted rather than elected
- It worked until it didn't, in particular a legal entity succession faceplant at the end

It was however, a lot of fun

- 50+ meetings between 2005-2023
- I like to think we made a difference
- **Community** deserves gratitude and credit for this

Special recognition and remembrance is due to Fearghas McKay, who was a stalwart supporter of UKNOF throughout its history, and is sadly no longer with us

Professional Development through Community

- Your industry peers are among the best people to learn from
- Develop skills that are grounded in first principles, theory, maths, algorithms, soft-skills, rather than getting too locked-in to specific technologies
- Build your network by volunteering, nonprofit, international, activity
- Diversify income sources, nurture that side project/hustle
- Pivot from *doing* yourself to *enabling, mentoring, promoting & teaching* others
- NOGs are the perfect place to do all these

UKNOF's Legacy

- Professional and personal growth and development
- Knowledge sharing and education
- Networks Built
- Friendships made
- World-class international speakers brought to UK audience
- British technical talent and innovation showcased internationally
- Much Clue distributed
- Baton passed to NetLdn, NetMcr, NetUK

The UKNOF Archives



- Meetings, presentation slides: <https://indico.uknof.org.uk/>
- Presentation videos: <https://www.youtube.com/user/uknofconf>
- Old-style meetings index: <https://index.uknof.org.uk/>
- Public mailing lists have been preserved, but need anonymisation
- Non-public content has been taken offline, deleted
- Various private copies of above public content have been scraped & saved
- It has also been flagged/pushed to Internet Archive.org
 - lack of interest from British institutional archivists
- Additional mirrors of the above are welcome
- Major thanks to Marek Isalski at Faelix for hosting the archives

More Personal Internet History

- Other “Keith’s memoirs” presentations:
 - *The DNS is interested in you:* 1985-2023 [OARC46]
<https://indico.dns-oarc.net/event/56/contributions/1206/>
 - *Great British IXP Failures:* 1997-2010 [UKNOF32]
<https://indico.uknof.org.uk/event/34/contribution/30/material/slides/0.pdf>
 - *Welcome to my Duality:* 2017- 2025 [RIPE91]
<https://ripe91.ripe.net/programme/meeting-plan/sessions/24/FYNFZJ/>
- To follow:
 - PIPEX ISP: 1991-1996
 - LINX IXP: 1994-2000

Questions ?

<https://www.smoti.org>

<https://www.linkedin.com/in/keithmitchell>

<https://mastodns.net/@dualkei> (professional)

<https://hachyderm.io/@dualkei> (personal)

<https://medium.com/@dualkei>