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Nominating Committee Eligibility

Abstract

The IETF Nominating Committee (NomCom) appoints candidates to several IETF leadership committees. RFC8713 provides criteria for NomCom membership that attempt to ensure that NomCom volunteers are members of the loosely defined IETF community, by requiring in-person attendance in three of the past five in-person meetings. In 2020 and 2021, the IETF had six consecutive fully online plenary meetings that drove rapid advancement in remote meeting technologies and procedures, including an experiment that included remote attendance for NomCom eligibility. This document updates RFC8713 by defining a new set of eligibility criteria from first principles, with consideration to the increased salience of remote attendance.

Discussion Venues

This note is to be removed before publishing as an RFC.

Source for this draft and an issue tracker can be found at <https://github.com/ietf-wg-elegy/rfc8989bis>.

Status of This Memo

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1. Introduction

[RFC8713] defines the process for the selection of the Internet Architecture Board (IAB), Internet Engineering Steering Group (IESG), IETF Trust, and one IETF LLC Director. A key actor in the process is the Nominating Committee (NomCom), which nominates a single candidate for each open position, subject to confirmation by other bodies.

NomCom voting members are volunteers that have met certain eligibility requirements. The actual NomCom is selected at random from the pool of eligible volunteers. Thus, it is important that members of the pool be IETF participants likely to have knowledge of

IETF processes and practices. There are restrictions to ensure that no more than two volunteers with the same primary affiliation are chosen.

[Section 4.14](#) of [\[RFC8713\]](#) requires that volunteers must have attended three of the previous five meetings. In practice, this has meant that the volunteer picked up their registration badge at an in-person meeting. Current members of the Internet Society Board of Trustees and bodies for which the NomCom nominates members are ineligible.

[\[RFC8989\]](#) specified an experiment in the wake of six consecutive fully online meetings from 2020 to 2021, where the historic interpretation of the requirement would have resulted in no eligible volunteers. It extended the attendance requirement to define meeting attendance as including logging in to at least one session of a fully-online IETF meeting.

RFC8989 also created two other tracks to obtain eligibility: (1) serving as a working group chair or secretary in the past three years, and (2) author or editor of an IETF Stream RFC in the past five years, including internet-drafts in the RFC Editor queue.

This document discusses some of the first principles that inform the design of NomCom eligibility, and makes recommendations on how the process of qualification based on attendance should work.

This document replaces the attendance criteria in the first two paragraphs of [Section 4.14](#) of [\[RFC8713\]](#) with criteria based on those in [\[RFC8989\]](#), and obsoletes RFC8989 to make it clear that that document has been superseded. All other text in [\[RFC8713\]](#), including the other paragraphs of Section 4.14, remains unchanged.

2. NomCom Principles

The NomCom is intended to be composed of randomly selected members of "the community." For many years, in-person attendance was a reasonable proxy for the commitment associated with being a member. Two days of travel and an attendance fee is a relatively large expenditure of time and money. Additionally, in-person attendance is thought to increase personal familiarity with candidates for leadership positions and with the spirit of the IETF, although there is no mechanism to ensure any interactions.

A basic principle is that the community should govern itself, so volunteers must have a demonstrated commitment to the IETF. Limiting the number of volunteers sponsored by any one organization avoids the potential for mischief that disrupts IETF operations or works against the interests of the community as a whole.

However, attitudes to business travel evolve, and remote meeting technology continues to improve, to the extent that many longstanding community members choose to participate remotely. A

requirement for in-person attendance has always excluded some from qualification from the NomCom, due to cost or personal reasons. Further, the NomCom has completed two cycles using entirely online tools.

Counting remote attendance lowers the barriers to entry. As the IETF has historically provided a fee-free remote participation option, via waiver or otherwise, the only required investment is to log on once per meeting at a specific time (sometimes a locally inconvenient hour). While this document does not formally impose a requirement for the NomCom to function entirely remotely, including remote-only attendees in the pool is likely to effectively require a remote component to NomCom operations.

Finally, overly restrictive criteria work against getting a broad talent pool.

3. Criteria

The following text replaces the first two paragraphs of [Section 4.14](#) of [\[RFC8713\]](#):

Members of the IETF community must satisfy the conditions in one of three paths in order to volunteer. Any one of the paths is sufficient, unless the person is otherwise disqualified under [Section 4.15](#) of [\[RFC8713\]](#).

Path 1: The person has registered for and attended three out of the last five IETF meetings, either in-person or online. In-person attendance is as determined by the record keeping of the Secretariat. Online attendance is based on being a registered person who logged in for at least one session of an IETF meeting.

Path 2: The person has been a Working Group Chair or Secretary within the three years prior to the day the call for NomCom volunteers is sent to the community.

Path 3: The person has been a listed author or editor on the front page of at least two IETF Stream RFCs within the last five years prior to the day the call for NomCom volunteers is sent to the community. An Internet-Draft that has been approved by the IESG and is in the RFC Editor queue counts the same as a published RFC, with the relevant date being the date the draft was added to the RFC Editor queue. For avoidance of doubt, the five-year timer extends back to the date five years before the date when the call for NomCom volunteers is sent to the community.

4. Security Considerations

4.1. NomCom Capture

The most potent threat associated with NomCom eligibility is that an organization or group of coordinating organizations could attempt to obtain a majority of NomCom positions, in order to select an IETF

leadership in support of an agenda that might be self-serving and against the interests of the community as a whole.

Note that [[RFC8713](#)] lets the NomCom Chair decide the NomCom voting requirement, so a simple majority may be inadequate. However, seven of ten forms a quorum, so at worst seven NomCom members working together can almost certainly impose their will.

Whatever the merits of admitting remote attendees, it reduces the minimum cost of creating a NomCom-eligible volunteer from three in-person trips of around five days each over the course of at least eight months, to zero financial cost and the time required to log in three times over at least eight months. Some organizations might not be deterred in either case, while others might.

4.1.1. A Surge of Volunteers

A large number of legitimate volunteers makes it quite difficult to control six of ten NomCom slots. Setting aside limitations on the number of selections from any organization, basic probability shows that to have even a 50% chance of controlling six or more NomCom positions, an attacker needs roughly 60% of the volunteer pool. For example, if there are 300 "legitimate" volunteers, an attacker must produce 365 volunteers to exceed a 50% chance of NomCom capture (see [Appendix A](#)).

A sudden surge in the number of volunteers, particularly of people that no one recognizes as a part of the community, is an early-warning sign. Anyone with concerns about the integrity of the process should bring those concerns to the IESG to further investigate, and where needed take action as defined in RFC 8713 Section 3.7.3 to invalidate such candidates.

While loosening eligibility criteria lowers the cost to an attacker of producing eligible volunteers, it also increases the number of legitimate volunteers that increases the difficulty of an attack.

4.1.2. The Two-Per-Organization Limit

The two-per-organization limit in [[RFC8713](#)] complicates such an attack. To circumvent it, an organization must either (1) coordinate with at least two like-minded organizations to produce a NomCom majority, (2) incentivize members of other organizations (possibly through a funding agreement) to support its agenda, or (3) propose candidates with false affiliations.

While the IETF does not routinely confirm the affiliation of volunteers, as part of an investigation it could eliminate volunteers who have misrepresented said affiliation. Publishing the list of volunteers and affiliations also gives the community an opportunity to review the truth of such claims.

Assuming that 300 legitimate volunteers are all from different organizations, three conspiring organizations would need 771 volunteers (257 per organization) for a 50% chance of NomCom capture (see [Appendix A](#)).

4.1.3. One Year of Participation

Attendance at three meetings requires at least eight months of waiting. Given the volume of volunteers necessary to capture the process, an attack requires a surge in attendees over the course of a year. Such a surge might trigger a community challenge to the list of eligible volunteers, and/or a leadership investigation to detect suspicious behavior (e.g., logging in to a single session and then immediately logging out). In the event of abuse of process, the leadership would then have months to adjust policy in response before the NomCom cycle begins, and/or disqualify candidates.

4.2. Disruptive Candidates

Note that the counting remote participation towards NomCom eligibility allows for a single individual to mount an attack that previously required coordination. By registering for remote attendance to IETF meetings using a number of different identities over a year, an individual can make each of those identities NomCom eligible and then serve under any one of them that is selected for the NomCom. Once selected, an individual could seek to disrupt the process or prevent the timely conclusion of its work. Less severely, an attacker could simply improve their chances of being selected for NomCom.

This attack is much harder to detect or prevent than equivalent attacks were previously, as it does not require coordination among multiple attendees. While the attacker cannot be sure of fee waivers for some or all of the different identities, the lower cost for remote participation also makes this attack more feasible than it would have been under prior rules.

However, the voting member recall procedure in [Section 5.7](#) of [\[RFC8713\]](#) exists to allow removal and replacement of disruptive figures.

4.3. Additional Remedies

Additional changes to the process to further obstruct attacks against the NomCom are beyond the scope of this document. However, a challenge process against volunteers with a suspicious reported affiliation, or that might be aliases of a single volunteer, could trigger an investigation.

Similarly, the challenge to the random selection described in [Section 4.17](#) of [\[RFC8713\]](#) can explicitly include appeals against the data used to qualify the volunteer, rather than the randomization process.

5. IANA Considerations

This document has no IANA actions.

6. References

6.1. Normative References

[RFC8713] Kucherawy, M., Ed., Hinden, R., Ed., and J. Livingood, Ed., "IAB, IESG, IETF Trust, and IETF LLC Selection, Confirmation, and Recall Process: Operation of the IETF Nominating and Recall Committees", BCP 10, RFC 8713, DOI 10.17487/RFC8713, February 2020, <<https://www.rfc-editor.org/rfc/rfc8713>>.

6.2. Informative References

[RFC8989] Carpenter, B. and S. Farrell, "Additional Criteria for Nominating Committee Eligibility", RFC 8989, DOI 10.17487/RFC8989, February 2021, <<https://www.rfc-editor.org/rfc/rfc8989>>.

Appendix A. NomCom Capture Calculations

[Section 4](#) offers some mathematical results for the probability of NomCom capture. This appendix shows the work.

Note that the number of combinations of b items chosen from a population of a items is often expressed as

$$\binom{a}{b} = \frac{a!}{(a-b)!b!}$$

Figure 1

A.1. No per-organization limit

The first computation assumes there is no limit of two per organization, or equivalently, no organization produces more than two volunteers.

Let L be the number of "legitimate" volunteers (i.e. those not allied with an attacker) and A be the number of attacking volunteers. Then there are

$$\binom{L+A}{10}$$

ways to select a NomCom. The number of outcomes where attackers capture the NomCom is

$$\sum_{i=6}^{10} \left[\binom{A}{i} \binom{L}{10-i} \right]$$

Figure 2

and the probability of capture is therefore

$$\sum_{i=6}^{10} \frac{\binom{A}{i} \binom{L}{10-i}}{\binom{L+A}{10}}$$

Figure 3

For L = 300, this probability crosses 50% at A = 365.

A.2. Two per Organization

Assume that the population of L is drawn from L different organizations (this assumption is unfavorable to the attacker). Assume also that there are three conspiring organizations. Then no more than 6 members can be drawn from A.

Let B be the number of nominees per attacking organization, so that A = 3B.

The number of combinations to pick exactly N attackers, N <= 6, is

$$C(N) = \binom{L}{10-N} \sum_{i=0}^{\min(N,2)} \left[\binom{B}{i} \sum_{j=0}^{\min(2,N-i)} \left(\binom{B}{j} \binom{B}{\min(2,N-i-j)} \right) \right]$$

Figure 4

And the probability of capture is

$$\frac{C(6)}{\sum_{i=0}^6 C(i)}$$

Figure 5

For L = 300, the A required to exceed a 50% probability of capture is 771.

Appendix B. Change Log

RFC Editor's Note: Please remove this section prior to publication of a final version of this document.

B.1. Since draft-duke-elegy-rfc8989bis-00

*Added more security considerations

*Editorial improvements

B.2. Since draft-duke-gendispatch-rfc8989bis-00

*Matched normative section to RFC8989

*Added security considerations and appendix

Appendix C. Acknowledgments

Brian Carpenter and Stephen Farrell wrote RFC8989, which provides the core of this document.

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