Support document for Voting Options for RIPE NCC General Meetings

Introduction

All members of the RIPE NCC Association are entitled to attend the RIPE NCC General Meetings and full members can participate in the Executive Board elections.

Although members can be represented by an employee or by a proxy, the number of members who vote during the Executive Board elections continues to represent less than 5% of the RIPE NCC membership.

The current voting system that is used during the elections is repeated balloting, whereby rounds of voting continue until one candidate achieves a majority. This process can be time consuming.

The RIPE NCC members have requested that the Executive Board and the Management Team:

1. Consider a more efficient voting method that would reduce or eliminate the need for multiple rounds of voting

2. Investigate different voting systems in order to increase the participation of members in the Executive Board elections.

These points are discussed in detail below.

1. Voting Methods

The RIPE NCC has evaluated the following alternative voting methods:

1.1 Single Voting Round

This system allows for a single voting round, regardless of the number of open seats in which the candidate(s) with the highest number of votes take(s) the available seat(s). A candidate does not require a majority to be elected.

1.2 Instant Run-off Voting

This method determines the winning candidate by the majority vote (of those votes cast) without requiring several voting rounds. The voter ranks the candidates in order of preference (first choice, second choice, etc.). If, after the first round of voting, no candidate has a majority, the candidate with the least number of votes is dropped. All ballots assigned to the dropped candidate are re-counted and the second preference is used to reassign the vote to one of the remaining candidates. This process is then repeated until a candidate achieves a majority vote.

The RIPE NCC prefers Instant Run-off Voting as it maintains the principle of a

majority vote while using only a single instance for casting a vote. Instant Run-off Voting is allowed under Dutch law. However switching to either one of these methods would require changing the Articles of Association.

2. Voting Systems

The RIPE NCC has investigated three different voting systems:

1. Postal voting via paper balloting
2. Remote voting using the LIR Portal
3. Remote voting via an online system

A variety of requirements were used to assess these three voting systems, including reliability, accuracy, security and assurance of integrity of results.

Unlike the current system, all three of the options mentioned above have the following advantages:

- Those members not attending the General Meeting will be able to cast their vote
- Proxy voting is no longer needed, as all Members are able to cast their own vote
- The systems are simple, transparent and user-friendly

The one disadvantage with all three voting systems in comparison to the current system is that, due to the registration of each voting member and the registration of each vote that takes place, there is no absolute way to guarantee anonymity.

2.1 Postal Voting via Paper Balloting

Registration for this voting system takes place via email. Those members registering for postal voting will receive an information package via email. This email includes an electronic paper ballot form. The member then prints out the ballot, fills in a vote and returns the paper ballot to the RIPE NCC via post. The RIPE NCC then collects and registers all incoming ballots. The postal votes will be counted alongside the votes cast by those members present at the General Meeting.

Advantages:
- Low costs as no major investment in IT infrastructure is required

Disadvantages:
- The method can be unreliable as postal services are not consistent throughout the countries in the RIPE NCC service region
- Organisation of an election when votes are cast via mail is a time-consuming activity
- The election process must be longer than the eight weeks (the current time span of the full voting process) as additional time is required for postal services to return postal votes
- Members cannot verify if their vote has been cast correctly

- The RIPE NCC controls the whole process which does not guarantee the integrity of the results

2.2 Remote Voting using LIR Portal

The announcement and registration for voting takes place via email. Those members that register will receive an email with information about the process. Only users with voting permissions can cast their vote using their LIR Portal account. The user can then select their candidate(s) of choice. Once this is done, the system will email the user and request the user to confirm the vote via a given URL. Once the user has confirmed the vote, the system counts the vote as cast. Upon closure of the election period, the system calculates all the votes cast. The results are then announced during the General Meeting.

Advantages:
- Organisation of the election is fairly simple
- Process of election with the current election timeline of eight weeks can be maintained
- The process can be audited by external parties
- The LIR Portal is a reliable application running on the RIPE NCC's current IT infrastructure

Disadvantages:
- Members cannot verify if their vote has been cast correctly
- High costs as the voting application needs to be built and integrated into the current LIR Portal
- As the RIPE NCC is in charge of the whole process, a member might not be convinced about the integrity of the results

2.3 Remote Voting Via an Online System

The RIPE NCC has investigated an open source e-voting system called RIES. This comprehensive system is used in the Netherlands for certain non-parliamentary elections.

The announcement and registration of voting takes place via email. Members that registered for this will receive an email with instructions and access codes to the online voting system. The member then selects its candidate(s) of choice. The online voting system provides a validation code once the vote has been cast. Upon closure of the election period, the system calculates all votes cast. The results are then announced during the General Meeting together with the publication of a list with validation codes. Through this list the member can verify if their vote has been counted correctly and correctly allocated to the chosen candidate.

Advantages:
- Organisation of the election is fairly simple
- Process of election with the current election timeline can be maintained
- Members can verify if their vote has been counted correctly

- The election process can be outsourced to an independent party, offering voting secrecy and assuring members about the integrity of the results
- The process can be audited by external parties
- The system can run on the RIPE NCC's IT infrastructure ensuring a reliable application

Disadvantages:
- Initial costs are high because the voting application would have to be tailored.

3. Findings

The table below shows a comparison of the different tools investigated and the original requirements.

Requirements:	Postal voting via paper balloting	Remote voting using the LIR Portal	Remote voting via an online system
Reliability	-	+	+
Accuracy	-	+	+
Verification of results by users	-	+	+
Voting secrecy	-	-	+
Assurance on integrity of results	-	-	+
Organisational effort	High	Low	Low
Investment	Low	High	High
Adjustment and maintenance for each election	High	Low	Low

Postal voting via paper balloting is a simple and a cheap method, although the system can be unreliable and inaccurate if the postal services do not work correctly. There are also major differences in each country's postal service reliability.

Voting using the LIR Portal presents a secure and stable method for remote voting but it cannot offer absolute voting secrecy because the RIPE NCC controls the whole process.

Remote voting via an online system seems the best solution but has evoked controversy among the general public. There have been debates about the contradiction of offering voting secrecy while giving users the option to verify the votes they cast. There has also been discussion about a common distrust of online systems and many view them as not being as safe and reliable as the traditional paper balloting system.