

# Contributions to traditional electronic voting systems in order to reinforce citizen confidence

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# Index

- Classification of voting systems.
- Basic problems and solutions.
- Telematic voting systems specific threats.
- VOTESCRIPT system.
- Verification of results.
- Conclusions.

# Classification of voting systems

## ➤ Two main groups:

- Systems that substitute one of the physical components of traditional voting with some type of electronic process.
- Systems that use telematic networks to link voters to a remote polling station.

# Basic problems and common solutions

- Properly identify voters when casting votes.
  - Distribution to voters of specific voting credentials.
- Guarantee the anonymity of voters.
  - Division of vote casting process into two phases: vote authentication and the voting process itself.
- Prevent voters from voting more than once.
  - Verification of voter's credential.

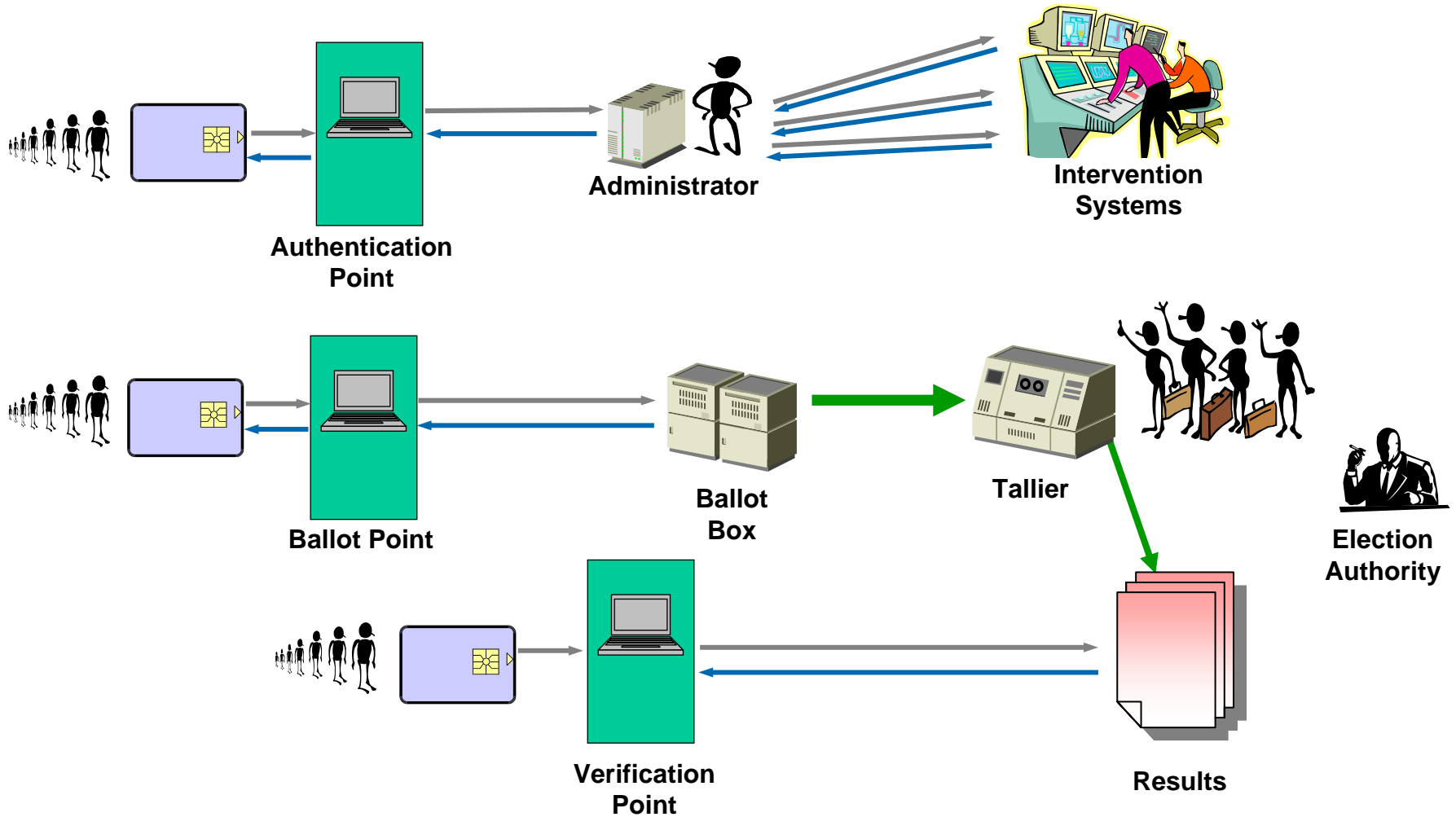
# Telematic voting systems specific threats

- Attacks on the confidentiality of information and its integrity.
  - Cryptographic procedures.
- Denial of service attack on voting day.
  - Voting from only specific places with the use of private virtual networks.
- Alteration of the voting results from within the system itself.
  - Powerful verification tools to ensure the accuracy of results.

# VOTESCRIPT system

- Voting from specific sites (polling stations, kiosks).
- Use of a Java Card to store voting software and data related to the voting process.
- Involvement of vote monitors to supervise and attest to the proper functioning of the voting process.

# VOTESCRIPT system



# Verification of results

## ➤ Global verification.

- Each Scrutineer will have a machine – Tally Intervention System – which will load a copy of the information that the Ballot Box delivers to the Tallier and perform a vote tally.

## ➤ Individual verification.

- Once voting has concluded and the results have been published, each Voter can independently check that his or her vote has been properly accounted for.



# Innovations of VOTESCRIPT system

- An individual verification system.
- The existence of Intervention System.
- The cryptographic cards designed for the project.
- The Electoral Authority.
- The content of a vote cannot be disclosed in the future.

# Conclusions

VOTESCRIPT constitutes a valid solution to the problems of voting systems, and it can counteract the wariness of voters towards telematic voting.