



# 2024

## CLEARINGHOUSE "CLEARIE" AWARD SUBMISSION

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### CATEGORY

Security: Innovation and New Tools in Election Security and Technology

### TITLE

Securing Democracy's Inbox: An Air-Gapped Protocol for Processing Voter Email Attachments

### SUBMITTED BY

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## CHALLENGE

Election offices in Washington State face a unique cybersecurity challenge: we must accept email attachments from unknown sources as part of our legal obligations to voters, while simultaneously protecting against increasingly sophisticated cyber threats. Traditional email security solutions often create bottlenecks in processing time-sensitive election materials.

## INNOVATION IN ACTION

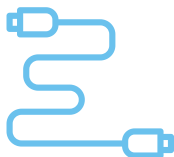
Pierce County Elections has developed and implemented a comprehensive security protocol that isolates and secures the email attachment handling process, addressing the critical cybersecurity risks associated with opening attachments from unknown sources. Our solution demonstrates excellence through a carefully orchestrated combination of technology and procedure.

## INFRASTRUCTURE COMPONENTS



### ***Dedicated Workstation***

A single-purpose computer system configured exclusively for processing email attachments from public-facing accounts.



### ***Network Isolation System***

Quick-disconnect network infrastructure with clearly marked cables enabling true air-gap capability.



### ***System Protection***

Reboot/Restore RX Pro software automatically returns the workstation to a verified baseline state after each session.



### ***Secure Output***

Local USB printer directly connected to the workstation, eliminating network-based printing vulnerabilities.

# PROCESSING WORKFLOW

1

## ***Pre-Processing Setup***

- Staff initializes the dedicated workstation
- System verifies baseline security state
- System logs staff access and session initiation

2

## ***Email Retrieval Phase***

- Staff accesses designated public-facing email accounts
- System caches messages locally while connected
- Automatic logging of all access attempts and retrievals

3

## ***Secure Processing Phase***

- Physical network disconnection establishes air-gap
- Staff processes attachments in isolated environment
- Direct-to-printer workflow maintains chain of custody
- No external data storage or transfer permitted

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## ***System Restoration Phase***

- Mandatory system reboot triggers after processing
- Reboot/Restore RX Pro performs automatic baseline restoration
- System verifies successful restoration
- Network connectivity restored only after verification

# MEASURABLE OUTCOMES

- Security Performance: Zero security incidents related to email attachments since implementation
- Compliance: Meets or exceeds all federal and state guidelines for election security
- Cost Effectiveness: Minimal hardware investment with maximum security return
- Staff Adoption: 100% compliance with security protocols due to straightforward procedures

# CONCLUSION

Pierce County Elections' email attachment security protocol represents a perfect balance of security and functionality. It demonstrates that with careful planning and implementation, election offices can maintain the highest security standards while innovatively serving their voters. This solution serves as a model for other election offices facing similar challenges in the digital age.