Remotegrity

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Crypto 2011
rump session
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The City of Takoma Park, MD, 2009 Municipal Election
First voter verifiable system used to elect government officials
We plan to use Scantegrity II again.

We hope to introduce two innovations in the 2011 election:

1. Audiotegrity - audio voting for voters with vision disabilities.
2. Remotegrity - mailed form enabled online voting.
Audiotegrity

- Voters make selection by navigating audio ballots
- Result is a printed Scantegrity paper ballot
- Voters receive printed receipts that they can check online
A method for remote voting based on ballots mailed to voters and cast over the Internet that provides strong protection against:

- client-side malware,
- malfeasance by election officials,
- attacks over the Internet (but not DDOS).
Election package mailed to voters

- Scantegrity I ballot
- Authentication card
- Inner return envelope
- Outer postal return envelope

**Internet Confirmation Option**

Using this card, you can make sure that your votes are in fact posted correctly—by posting them online.

1. Go to the election website takomoapark.org/remotevote
2. Follow the instructions for entering your codes, but make sure the site displays this unique number: 89AB920CD99 (otherwise call the registrar).

The “One-Use-Passwords” on this card allow you to post confirmation numbers from your ballot on the website. Even if your ballot were to be lost in the mail, by posting these numbers you ensure that your vote is recorded correctly.

- One-Use-Password #1
- One-Use-Password #2
- One-Use-Password #3
- One-Use-Password #4

For official use only
Authentication card properties

- **One-Use-Password #1**
- **One-Use-Password #2**
- **One-Use-Password #3**
- **One-Use-Password #4**
- **Lock-In (choose one at random)**

**For official use only**

**For auditor use only**

**Internet Confirmation Option**

Using this card, you can make extra sure that your votes are in fact posted correctly—by posting them online.

All you need do is go to the election website takomoapark.org/remotevote and follow the instructions there for entering your codes, but make sure the site displays this unique number: 89AB920CD99 (otherwise call the registrar).

The “One-Use-Passwords” on this card to the right, (protected by scratch-off) allow you to post confirmation numbers from your ballot on the website. Even if your ballot were to be lost in the mail, by posting these numbers you ensure that your vote is recorded correctly.

If you wish to go even further, and “audit” the posting of votes by other voters, you can access the website from another computer and use the “Lock-In” codes provided in the rightmost column of this card.

- **Malware cannot cast ballot for a voter**

- **New:** Election authorities cannot cast ballot for a voter (the voter choice of scratch-off is a kind of oblivious transfer)

- **New:** Voter has a physical proof in case of malfeasance
**Ballot properties (Scantegrity I)**

**Computer does not learn voter’s choice**

**Computer cannot modify voter’s choice**

**Voter can check if her vote is included in a tally**

<table>
<thead>
<tr>
<th>Rank candidates in order of choice</th>
<th>1st choice</th>
<th>2nd choice</th>
<th>3rd choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Lennon</td>
<td>580</td>
<td>867</td>
<td>571</td>
</tr>
<tr>
<td>Paul McCartney</td>
<td>918</td>
<td>970</td>
<td>999</td>
</tr>
<tr>
<td>Write-In Candidate/ Para añadir a un candidato</td>
<td>984</td>
<td>862</td>
<td>944</td>
</tr>
</tbody>
</table>

Scantegrity I ballot
Scantegrity.org :: Blog :: Remotegrity FAQ
https://scantegrity.org/wiki/index.php/Remotegrity_Frequently_Asked_Questions