Making Every Vote Count: A Practical Guide to Risk-Limiting Audits

JANUARY 31, 2019

About Microsoft Innovation Policy Center

Microsoft's Defending Democracy Program works with stakeholders including governments, non-government organizations, academics and industry in democratic countries globally to protect campaigns from hacking; explore technological solutions to preserve and protect electoral processes; and defend against disinformation campaigns.

About the Brennan Center for Justice

The Brennan Center for Justice at NYU School of Law is a nonpartisan law and policy institute that works to reform, revitalize – and when necessary, defend – our country's systems of democracy and justice. At this critical moment, the Brennan Center is dedicated to protecting the rule of law and the values of Constitutional democracy. We focus on voting rights, campaign finance reform, ending mass incarceration, and preserving our liberties while also maintaining our national security. Part think tank, part advocacy group, part cutting-edge communications hub, we start with rigorous research. We craft innovative policies. And we fight for them – in Congress and the states, the courts, and in the court of public opinion.

About Common Cause

Common Cause is a nonpartisan, grassroots organization dedicated to upholding the core values of American democracy. We work to create open, honest, and accountable government that serves the public interest; promote equal rights, opportunity, and representation for all; and empower all people to make their voices heard in the political process.

About the National Election Defense Coalition

The NEDC is a national network of recognized experts in cybersecurity and elections administration, bipartisan policymakers, and concerned citizens and movement-builders. We are working to build a bipartisan consensus on the need for reform, while building a comprehensive, cost-effective plan to secure the vote in coming elections. At a time of extreme partisan polarization, we believe that the issue of election security is a rare area of agreement. Key constituencies include civil rights advocates, Libertarians, national security conservatives and the tech community.

About Verified Voting

Verified Voting's mission is "safeguarding elections in the digital age." We are a non-partisan non-profit organization, founded by computer scientists, that advocates responsible use of technology to provide verifiably accurate elections. We work to bridge key stakeholder groups – election officials, voter advocates, lawmakers, technologists, researchers and the media – in support of secure election systems and processes.

About This Convening

State and local election officials are democracy's last line of defense against enemies, accidents and errors that impact election results. Unfortunately, this responsibility often comes with few resources and heightened public scrutiny.

While public interest in election security has spiked due to the recent revelations about sophisticated foreign efforts to interfere with our elections, this concern is not new to election officials who have long incorporated many important election security measures into their routine planning. Today these measures include not only mature physical security plans but also newer measures to prevent, detect and recover from cyber-attacks at the state and local level.

Today's event aims to provide election officials and advocates with practical and accurate information about one powerful tool that can be incorporated into existing election security plans: the risk-limiting audit ("RLA"). An RLA is a post-election tabulation audit designed to check the accuracy of the reported election outcomes. It answers the question, "Did the reported winner really win?" It also provides other insights into tabulation accuracy and election processes.

Today, we'll discuss practical questions about the procedure including, How much do they cost? Do I have to keep my ballots in a special order? What is a "risk limit"? We'll also discuss how to communicate about this process – and the results – with voters and the public. We look forward to an engaging and informative day!

Agenda

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Microsoft Innovation Lab

901 K St NW, Washington DC 20001

9:00—9:15AM
Welcome and Opening Remarks

9:15—11:30AM
What and Why

Risk-limiting audits are a smart and efficient tool that election officials should consider adding to their election security toolbox. We'll discuss what the procedure is – and isn't – and why election officials are implementing these audits across the country.

This discussion will be followed by hands-on demonstration of RLAs. Attendees will be provided with instructions and materials to conduct an RLA in teams of 6-7.

Panelists: Tina Barton, Brenda Cabrera, Matt Masterson, Ron Rivest, and Philip Stark

11:45AM—12:45PM
Nuts, Bolts & Paperclips

If you're interested in – or mandated to implement – RLAs, how do you start? What do you need? How much does it cost? Three election administrators will discuss their unique paths to risk-limiting audits in jurisdictions that rely on in-precinct voting on Election Day and the answers to practical implementation and planning questions.

Moderator: Liz Howard

Panelists: Scott Borling, Kammi Foote, Robert Giles, and Shantiel Soeder

1:00—1:45PM
Lunch

2:00—3:00PM
Thorny RLA Policy and Partnership Issues

Why should election officials partner with cybersecurity experts and academics? What does a successful partnership look like? What policy issues have arisen during the RLA pilots across the country? How did you address them? What policy issues do you see on the horizon?

Panelists: Mark Lindeman, John Marion, and Virginia Vander Roest

3:15—4:15PM
Voting Equipment Considerations and New Tools

Do RLAs require special equipment? What is the "RLA tool"? What technical tools do I need and what tools are available?

Moderator: Maurice Turner

Panelists: Monica Childers, Jerome Lovato, Kellie Ottoboni, and Mayuri Sridhar

4:30—5:30PM
How to Talk About RLA with Voters, Officials and the Press

What are the best practices for discussing this procedure with various interested parties? What is the right balance between providing RLA procedural details and focusing on the ultimate goal of the procedure? What approaches have worked well? What approaches haven't worked well?

Moderator: Jennifer Morrell

Panelists: Monica Childers, Judd Choate, and Chris Swope

5:30PM
Closing Remarks

Participants

TINA BARTON
City Clerk, City of Rochester Hills, Michigan

Tina Barton serves as the City Clerk of the City of Rochester Hills, MI. She holds a Master of Arts in Management and Leadership, Liberty University. Tina is a Master Municipal Clerk and Certified Michigan Municipal Clerk. She was the 2016 Michigan City Clerk of the Year and the 2017 Leader of Leaders in Public Service – Leadership Oakland.

SCOTT BORLING
City Clerk, City of Kalamazoo, Michigan

Scott began his career with the City of Kalamazoo in August of 2000 and has served as the City Clerk since 2005. Scott is a Certified Municipal Clerk and holds a M.A. degree in Medieval Studies from Western Michigan University.

BRENDA CABRERA
Director of Elections, City of Fairfax, Virginia

After 31 years working in both large and small Virginia jurisdictions, Brenda knows that securing elections is vital to voter engagement and confidence. In 2018, the City, conducted a pilot for the first Risk-Limiting Audit in the state of Virginia. Brenda Cabrera is a REO and CERA graduate.

DR. JUDD CHOATE
State Election Director, Colorado

Dr. Judd Choate is the state election director for Colorado. Judd has a J.D. from the University of Colorado Law School and a Ph.D. in political science from Purdue University. He was a professor of political science at the University of Nebraska and author of a book on political behavior. In a previous life, Judd was a scout for the Kansas City Royals.

MONICA CRANE CHILDERS
Vice President of Labs, Democracy Works

Monica is an election technology nerd with a background in digital product design and project management. As Vice President of Democracy Works's Labs program she champions collaborative design, partnering with state and local officials to build low-cost, open source solutions to improve the process and experience of voting. Recent projects include Colorado's Risk-Limiting Audit software, the mail ballot tracking solution Ballot Scout, the reporting website ElectionMail.org, and the Election Technology Collaborative.

KAMMI FOOTE
Inyo County Clerk-Recorder & Registrar of Voters

Kammi Foote is the Clerk/Recorder & Registrar of Voters in Inyo County, California. She serves on the Board of Directors of the California Association of Clerks and Elections Officials and regularly contributes to public policy discussions regarding election integrity. Kammi also serves as a Board member on several non-profits with a focus on civic engagement, civil rights and leadership development.

ROBERT GILES
Director, New Jersey Division of Elections

Robert Giles has served as the Director of the New Jersey Division of Elections since 2008. He previously worked at the Ocean County Board of Elections. He serves on the Executive Committee of the Election Infrastructure Government Coordinating Council. Robert is a member of the Standards Board for the U.S. EAC and serves as a representative on the Technical Guidelines Development Committee. He served as a member of the DHS Cyber Unified Coordination Group for the 2016 Presidential Election. He is the President of the NASED and previously served as Vice President of the New Jersey Association of Election Officials.

LIZ HOWARD
Counsel, Brennan Center for Justice

Liz Howard serves as Counsel for the Brennan Center's Democracy Program. Her work focuses on cybersecurity and elections. Prior to joining the Brennan Center, Ms. Howard served as Deputy Commissioner for the Virginia Department

of Elections. Prior to her appointment, Ms. Howard worked as General Counsel at Rock the Vote, a non-profit organization dedicated to engaging young people in politics. Ms. Howard earned her J.D. from the William & Mary School of Law in 2009.

MARK LINDEMAN
Senior Science and Technology and Policy Officer, Verified Voting

Mark Lindeman is Verified Voting's Senior Science and Technology and Policy Officer. He has authored several papers on risk-limiting audit methods including "A Gentle Introduction to Risk-Limiting Audits" and "Risk Limiting Audits: Why and How." An expert in post-election auditing, Mr. Lindeman has advised legislators and election officials in several states about audit methods. He is currently the chair of the Coordinating Committee of the Election Verification Network. Mr. Lindeman earned his Ph.D In Political Science from Columbia University.

JEROME LOVATO
Election Technology Specialist, U.S. Election Assistance Commission

Jerome Lovato is an Election Technology Specialist at the U.S. Election Assistance Commission (EAC). At the EAC, Mr. Lovato assists jurisdictions with developing processes and procedures for conducting risk-limiting audits. An expert in voting systems, he is a former certified Colorado Election Official and City of Centennial Election Commissioner. Prior to joining the EAC, he served as a Voting Systems Specialist at the Colorado Secretary of State's office for 10 years. Lovato received his Bachelor of Science in Electrical Engineering from the University of Colorado at Denver.

JOHN MARION
Executive Director, Common Cause Rhode Island

John Marion is the Executive Director of Common Cause Rhode Island, where he serves as the organization's chief legislative advocate and is spearheading efforts to adopt and implement risk-limiting audits in the State of Rhode Island. Mr. Marion has led successful campaigns to reform Rhode Island's campaign finance disclosure laws, amend the Rhode Island Constitution to restore the Ethics Commission's jurisdiction over the General Assembly, and require risk-limiting post-election audits, among others. He received a B.A. from Binghamton University and attended Indiana University for graduate school.

MATT MASTERSON
Senior Cybersecurity Advisor, Department of Homeland Security

Matthew Masterson is the Senior Cybersecurity Advisor for the Department of Homeland Security. Previously, Masterson served as the chairman of the U.S. Election Assistance Commission from 2014 to 2018. Masterson previously held various positions within the Ohio secretary of state's office, where he managed voting system certification procedures and led the development of online voter registry and ballot delivery platforms for military and overseas voters.

JENNIFER MORRELL
Consultant & Former Election Official

Jennifer Morrell works as a consultant with Democracy Fund leading the Election Validation Project, aimed at increasing trust in elections through rigorous audits, standards, and testing. As the Deputy of Elections in Arapahoe County, Colorado, Jennifer was instrumental in Colorado's successful implementation of the first statewide risk-limiting audit. She has a vision of creating uniform audit and testing standards for all critical components of the election system. Jennifer worked as an election official for nine years (2009-2018) in Utah and Colorado. She is an Election Center CERA graduate and holds a Master of Arts in Management from Webster University.

KELLIE OTTOBONI
Ph.D Candidate in Statistics, UC Berkeley

Kellie is a Ph.D candidate and fellow at the Berkeley Institute for Data Science doing statistics for social good. Her research interests include nonparametrics, inference, reproducibility and open science, and election integrity.

DR. RONALD L. RIVEST
Institute Professor, MIT

Professor Rivest is an Institute Professor at MIT. He joined MIT in 1974 as a faculty member in the Department of Electrical Engineering and Computer Science. He is a member of MIT's Computer Science and Artificial Intelligence Laboratory, a member of the lab's Theory of Computation Group, and a founder of its Cryptography and Information Security Group. He is a co-author of the text, Introduction to Algorithms. He is also a founder of RSA Security, Versign, and Peppercoin.

VIRGINIA VANDER ROEST
Training and Communications Manager, Michigan Bureau of Elections

Virginia Vander Roest is the Michigan Bureau of Elections Training and Communications Manager. 2019 is her 20th year working in election administration with the first 12 years being at the local level. Virginia is a CERA certified member of the Election Center, serving on past task forces and currently a member of the Investing in Elections Steering Committee.

SHANTIEL SOEDER
Election and Compliance Administrator, Cuyahoga County Board of Elections

Shantiel Soeder is the Election and Compliance Administrator of the Cuyahoga County Board of Elections and has been serving the voters of Northeast Ohio since 2005. During her tenure Ms. Soeder has played an integral role in ensuring accurate and transparent elections and led the initiative to become one of the first jurisdictions in the nation to implement risk-limiting audits in 2012.
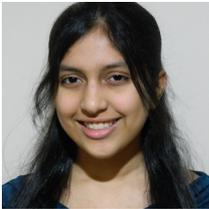
MAYURI SRIDHAR
Graduate Student, MIT

Mayuri Sridhar is a Master's student studying Artificial Intelligence at MIT. She completed her undergraduate degree at MIT, double majoring in computer science and mathematics. Her research, under Prof. Rivest's supervision, focuses on statistics and optimization applied to election audits.

PHILIP STARK
Professor of Statistics and Associate Dean of Mathematical and Physical Sciences at the University of California, Berkeley

Philip B. Stark is Professor of Statistics and Associate Dean of Mathematical and Physical Sciences at the University of California, Berkeley. He works on inference and uncertainty in physical, biological, and social sciences. He serves on the Board of Advisors of the U.S. Election Assistance Commission and on the Board of Directors of Verified Voting Foundation.

CHRIS SWOPE
City Clerk, City of Lansing, Michigan

Chris Swope has a long history of public service, having served as an Ingham County Commissioner and policy analyst for the Michigan Senate. He was elected Lansing City Clerk in November 2005 and is currently serving his fourth term. He is the former President of the Michigan Association of Municipal Clerks and also serves on the Legislative Committee and represents the association on the Council of Election Officials.

MAURICE TURNER
Senior Technologist,
Center for Democracy & Technology

Maurice Turner is Senior Technologist at the Center for Democracy & Technology, where he focuses on the Election Security and Privacy Project identifying and updating election cybersecurity practices and infrastructure. He most recently served as a TechCongress Congressional Innovation Fellow assigned to the U.S. Senate Homeland Security and Governmental Affairs Committee, where he shaped policy and oversaw the preparation of memos, briefings, and hearings on federal IT systems and cybersecurity. He has also played an active role in local elections in CA and VA, holding progressively responsible positions from clerk to lead inspector overseeing multiple precincts. Turner holds an MA in Public Administration from USC, and a Certificate in Cybersecurity Strategy from Georgetown University.