



Enhance the  
**Online Voter  
Registration**  
Experience

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## Improve performance and security of online voter registration systems while streamlining management

Online voter registration is currently available in 38 states plus the District of Columbia. Benefits of registering and updating information online include cost savings, improved voter convenience, reduced workload for election officials, and increased data accuracy to avoid voter fraud.

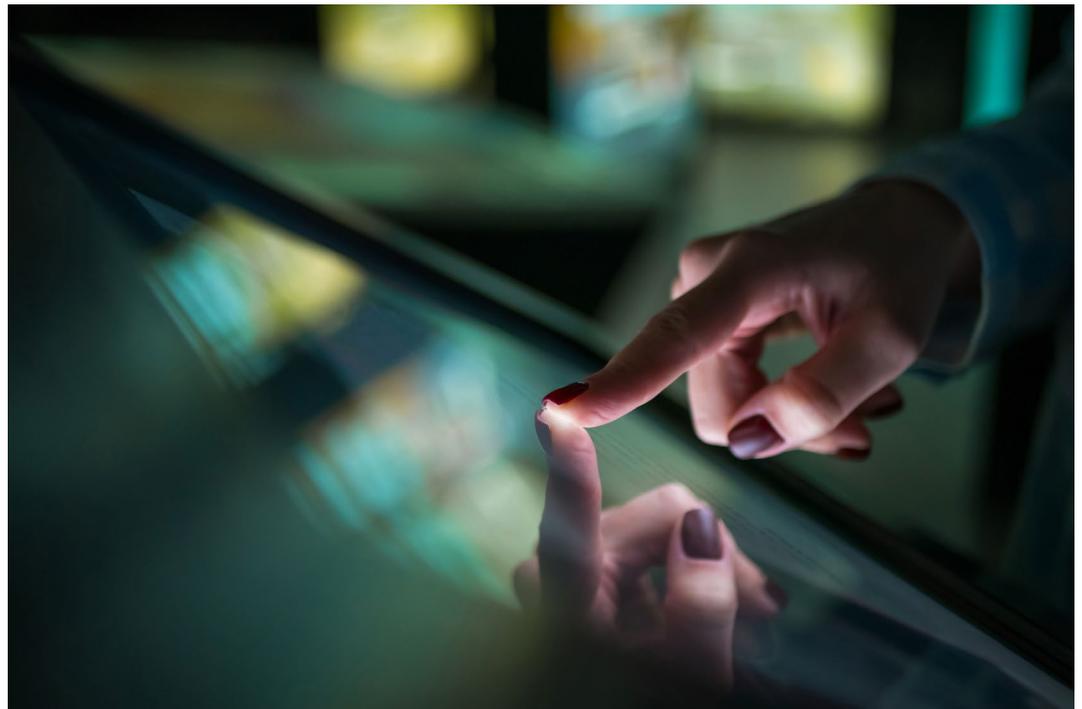
Improved access, a key goal of online voter registration, is a mandate of the 2002 Help America Vote Act (HAVA), which directs states to update their registration processes and provides funding.

However, even with HAVA support, states face challenges in implementing and administering online registration systems, especially when they are offered through distributed public kiosks to accommodate citizens who lack access to computers. Other concerns include maximizing web application performance and availability, especially during peak registration periods, and strengthening security, particularly for connections to backend databases of voter information. Still another issue is the requirement of towns and municipalities for secure, direct access to state-wide election and polling systems to enable same-day voting and electronic polling (e-polling) initiatives.

To address these challenges, states are adopting virtualization, security, and networking technologies. Virtualizing and delivering registration applications over the network to endpoint devices, including kiosks, offer benefits of centralized management and improved data security. Front-ending web applications with an application delivery controller (ADC) can improve availability, resiliency, and performance for a better user experience. Deploying a secure access gateway to connect local endpoints to the state voter registration system avoids the need to implement a full virtual private network (VPN).

Citrix Workspace and Networking can help states centrally manage voter registration applications and data for optimal efficiency, and deliver them over the network to any type of endpoint with a high level of security, speed, and uptime. Citrix technologies can enable your organization—and the citizens you serve—to gain the greatest benefits from online voter registration.

Following are three scenarios where Citrix solutions can add significant value to online voter registration systems.



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### Improved access, security, and administration of voter registration kiosks

Some states provide voter registration kiosks as a service for citizens who do not have home PCs or mobile devices, or where home online registration is not yet possible. Kiosks may be placed in a variety of locations including the town hall or clerk's office. Though states frequently do not own or maintain these systems, it often becomes their responsibility to ensure access is available when necessary.

Installing and executing the voter registration application locally on kiosks create several challenges. First, each device and its software must be managed individually on site, which can place a heavy burden on the IT team. Running software locally also exposes voter information on the kiosk to cyberthreats.



Many states use similar custom-built online registration services that rely heavily on older or dated technology components. These web services often require specific browser versions to function, adding to the security complexity in maintaining them. Finally, in some cases, establishing connectivity between jurisdiction kiosks and the state IT system requires a VPN, which adds complexity and cost.

Instead of this approach, boards of election can streamline IT administration and increase security by virtualizing the online voter registration application and delivering it to each kiosk using Citrix Workspace. In effect, Citrix virtualization converts standalone kiosks to thin-client devices that simply display the application interface and allow citizens to input or change their information. This approach removes the need to support the underlying kiosk hardware. The state can manage and maintain applications and browser versions centrally, and securely distribute them to remote locations across the state.

The advantages of virtualization include:

- **Reduced IT workload** with centralized application management and the Citrix HTML5 client that avoids handling client updates on the endpoint
- **Stronger security** because application data resides in the datacenter, not on the device
- **High-performance application access** on any kiosk, even older models, using the latest, most-secure browsers

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As an alternative to virtualization, states can use Citrix networking technology to front end the web-based registration app, which is delivered to the kiosks over the public Internet. In this case, Citrix ADC front ends the connection and protects the backend servers from compromise with the Web App Firewall. The Citrix Gateway feature of Citrix ADC provides secure, SSL-only connectivity from the kiosks to the voter registration system instead of implementing a full VPN.

### Optimized performance, availability, and security of web-based registration systems

To encourage citizens to take advantage of cost-effective online voter registration, states need to ensure high availability and performance of the web application, particularly during peak periods around registration deadlines. If voters can't easily access the website, they may feel compelled to register in person—or decide to skip voting altogether.

To ensure high availability, Citrix ADC offers load balancing that directs requests automatically to the least-busy server. For large, populous states, global server load balancing directs connections to the closest geographic datacenter. Surge protection handles intermittent traffic spikes by basing the rate at which new connections are presented to backend servers on their handling capacity. The solution features SSL offloading to reduce the demands on backend web services. Finally, Citrix ADC uses health checks to monitor the status of key components and engage core load balancing features to proactively avoid trouble spots.

The other big concern is security of the web app and the confidential voter information it collects. Because citizens may be using unsecure endpoint devices or older browsers that are not fully protected, boards of election must be proactive in their prevention, control, and monitoring efforts. Citrix ADC includes Dedicated Denial of Service (DDoS) protection and the Web App Firewall to ensure backend application and database servers are not overrun and only valid data is allowed access.

### Secure access between state-wide election resources and local jurisdictions

Local jurisdictions require secure access to state-wide voter systems. This often leaves state boards of elections, or equivalent agencies, responsible for availability of and secure access to their systems from devices they do not own, via networks outside of their security perimeter.

Currently, 21 states offer same-day voter registration, which usually requires additional cross-agency access to the voter registration system from either polling locations or government facilities such as the county clerk's office. Additionally, electronic pollbooks (e-poll books) are becoming increasingly popular. Replacing paper binders, e-poll books allow election officials to review and/or maintain voter register information for an election. Data from the 2016 election shows that nearly half of all voters who voted in person signed into their polling location using an e-poll laptop or tablet.

The traditional approach to this problem would be to connect these devices within the jurisdiction directly to the state network, or more often establish a VPN connection to the state network. There are inherent security concerns with this method, as a VPN creates a new attack vector that you must protect your network from, since it is an access point. Beyond security risks are the same availability and compatibility concerns discussed earlier for voter registration kiosks.

Like the way it protects citizen access to voter registration apps on kiosks, Citrix Workspace virtualizes access to state systems running in the datacenter. Local jurisdictions access the virtualized app and associated database through the secure Citrix HTML5 client. Again, local officials view and work with the application interface, while the software resides in the datacenter.

Virtualization removes direct access to the state-wide voter information systems by local jurisdictions, helping protect them from any vulnerabilities or malicious software on endpoint devices. The state does not have to offer any support for these local endpoints, other than ensuring they can run the Citrix Workspace App in a browser. For stronger protection, Citrix Secure Access Browser client software can be deployed.

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## Customer Use Case

### Secretary of State for a New England State

**PROFILE:**

State agency responsible for securing and supporting voter databases needs to provide secure access to approximately 150 state-wide jurisdictions to make updates.

**CHALLENGE:**

During the 2018 election, long lines at polling and same-day registration sites became a major issue due to issues accessing state databases from local endpoints. Besides higher reliability, the state wanted better security to protect board of election data.

**RESULTS:**

With Citrix Workspace, the state provides access to the over registration app delivered via a virtualized web browser to jurisdictions across the state. Centralized app provisioning, delivery, and management improve IT efficiency and availability. Security was strengthened by: 1. keeping voter information in the datacenter; 2. requiring four authentication factors for access; and 3. reducing the state's attack risk from unsecure local endpoints.

#### Solutions

##### Citrix Workspace

Citrix Workspace offers a better way to work. It unifies Citrix technologies including virtual apps, virtual desktops, content collaboration, and endpoint management. This solution offers a user-centric experience where everything you need to work is in one app, with simplified access and performance based on user context and IT-designated conditions. By bringing all your apps, files, and data together in one easy-to-use interface, Citrix Workspace delivers secure access and high performance to your users.

##### Citrix Networking

Citrix Networking solutions provide complete app reliability, so you can count on the best experience and resource availability any time, on any connected device. We offer network and IT visibility that allows you to control and optimize performance, preempt threats, and secure your end-user files, apps, and devices. Citrix ADC is an application delivery and load balancing solution that provides a high-quality user experience for web, traditional, and cloud-native applications regardless of where they are hosted. It comes in a wide variety of form factors and deployment options without locking you into a single cloud. Pooled capacity licensing enables the movement of capacity among cloud deployments.



**US Public Sector Sales** | 1-800-424-8749 x26603  
[www.citrix-gov.com](http://www.citrix-gov.com)

**Locations**

**Corporate Headquarters** | 851 Cypress Creek Road, Fort Lauderdale, FL 33309 United States  
**US Public Sector Offices** | 7735 Old Georgetown Road, Suite 300, Bethesda, MD 20814 United States

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