

# Workstation Electron – Technical Overview

## Brief Overview

### What is Electron?

Electron is a framework for building desktop applications using JavaScript, HTML, and CSS. By embedding Chromium and Node.js into its binary, Electron allows to maintain one JavaScript codebase and create cross-platform apps that work on Windows, macOS, and Linux — no native development experience required.

### Why is Workstation migrating to Electron?

Workstation is built using web-based technologies and served on the end-users desktops. Web-based technologies require a web browser to be rendered and operate as expected.

Electron is the industry-leading white-labeled desktop browser that reached enterprise-grade quality and security compliance. Electron is the web-application container for leading products, such as Slack, Visual Studio Code, Twitch, Microsoft Teams, WhatsApp, Skype, and many [others](#).

WalkMe's goal is to provide the highest software quality, and migrating to a worldwide community-backed, industry-standard application container is one of the objectives to fulfill it.

## Workstation as Electron benefits

### Deployment & Maintenance

- Electron is compatible out-of-the-box with most of the MDMs (Mobile Device Management).
- Electron infrastructure supports video drivers, threads management, DPI cases, and other configurations that are compatible with Windows and macOS.
- **Auto-Update:** There is no need for IT to redeploy an MSI / PKG whenever a new version of Workstation is released.
- No customer-specific binaries (MSI & PKG) anymore.

### Reliability and Debugging

- The Collect Support Info tool enables end users to reproduce the specific behavior, easily collect and report all necessary information to WalkMe instantly.
- Using the Electron platform significantly reduces the amount of platform-specific code, which

makes the application more reliable and easily maintainable.

- Electron receives the latest security updates and performance improvements following every Chrome release. The Workstation auto-update mechanism ships those updates automatically.

## User Experience

- The Electron version of Workstation can be launched from the Taskbar (Windows) / Menu Bar (Mac) and does not include an on screen Widget by default, avoiding UI overlapping and non-purpose opening.
- The Electron version detaches Workstation as a sidebar and enables it to be opened aside from other applications - making WalkMe content and Enterprise Search available for in-depth tasks.
- Electron renders WY5YG content accurately because it uses the same rendering technology the WY5YG studio is using.
- The Electron version enables WalkMe to adopt a user-centric approach and eliminate inefficient mechanisms such as network polling and request retries.

## Network Utilization in Electron-based Workstation

The Electron-based Workstation reduced the network bandwidth utilization dramatically due to a new application state management that follows user interactions with the app to trigger network requests and watch the network connectivity.

### Initial download

Upon initial start, Workstation loads the following files:

1. Main configuration file for essential environment information *1kB - 5kB*
2. WalkMe content data file (size depend on the amount of content) *24kB - xMB*
3. Application files (HTML, CSS, JS) *1.7MB*

### Passive requests after initial download

1. Workstation checks if a new publish took place each time it went to background (user switched focus) in a time frame of 30 seconds by downloading the main configuration file (*1kB - 5kB*).
2. If publish had happened, Workstation will redownload the WalkMe content data file (*24kB - xMB*)
3. Workstation polls for new notifications (only if notifications are published) every 60 seconds two requests *~60kB*
4. Workstation loads new third-party content each time it turns foreground. Size depends on the amount of activated apps. Each request size is estimated as *~30kB*.

### Active requests after initial download

User engages with Workstation Menu

1. ~400KB to evaluate segmentation conditions, get user state (recent search results, ob task completions from server storage, attributes from the identity provider)
1. ~1kb per request to transmit analytic event data to WalkMe - this is variable and dependent on how many interactions with the menu occur during the engagement.