

Streamlined Onboarding

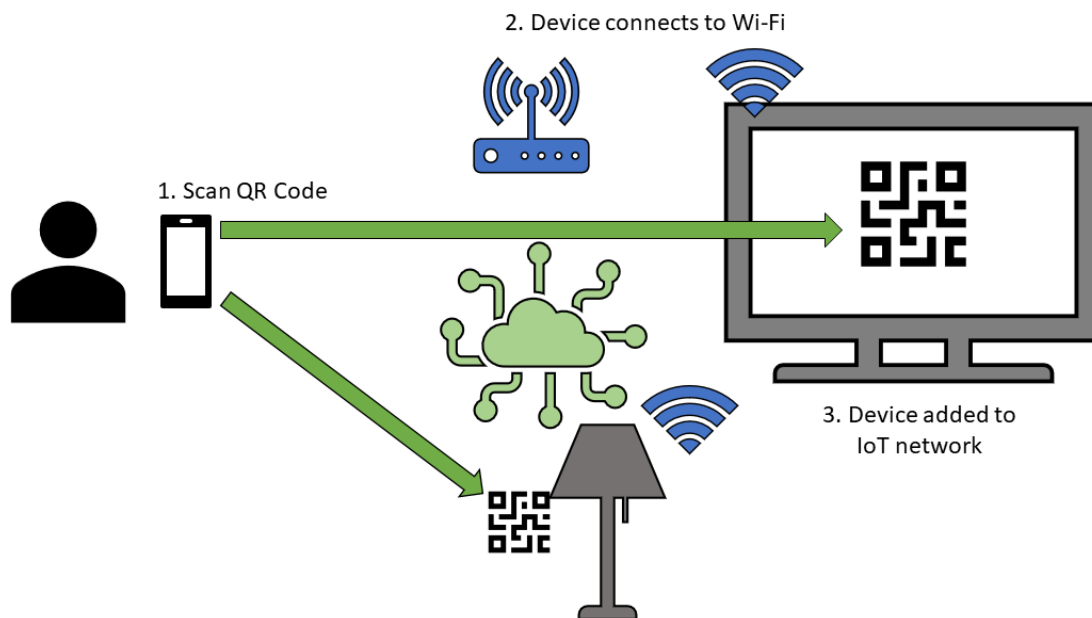
Simplifying and securing the introduction of new IoT devices at home

A Need to Improve Device Setup and User Experience

To set up Internet of Things (IoT) devices today, users are commonly required to install device-specific applications on their smartphones in order to add a new device to their home Wi-Fi network and configure it for use in their IoT management ecosystem. These requirements are typically carried out as independent steps and offer varying degrees of security and usability.

Offering a Consistent, Simple Process for Users

Streamlined Onboarding combines these previously discrete processes into a single, simple action required of the user, such as scanning a QR code presented by a smart device. Under this scheme, users leverage a consistent and simple process to securely introduce a new IoT device into their home environment, with no manual intervention required.



An overview of Streamlined Onboarding, in which a device presents a QR code that, once scanned, connects the device to both the network and the IoT ecosystem.

Streamlined Onboarding: How It Works

Streamlined Onboarding relies on the use of a secure out-of-band (OOB) channel across which application-level information can be provided for onboarding a new smart device into its IoT management ecosystem. This allows the new device and management infrastructure to pre-provision onboarding information during another process, such as network association.

Implementation Realized Through Open Standards

Streamlined Onboarding has been developed as part of the Open Connectivity Foundation (OCF) suite of specifications for secure IoT device interoperability. The Wi-Fi Alliance's Easy Connect protocol, which provides the means for users to connect devices to their Wi-Fi network by scanning a QR code, provides the OOB channel for our implementation of Streamlined Onboarding. Additions to the Easy Connect specification have enabled Streamlined Onboarding as an optional part of the protocol.



When a user scans the Easy Connect QR code presented by a device (on its display, manual, box, etc.), the Easy Connect Configurator opens a secure Layer 2 channel with the new device. OCF Streamlined Onboarding information is provided during this configuration exchange to facilitate device onboarding after network association is complete.

Watch the Demo Video

Click [here](#) to watch a Streamlined Onboarding demonstration on CableLabs' YouTube channel.

Andy Dolan

Senior Security Engineer

a.dolan@cablelabs.com

Kyle Haefner, Ph.D.

Principal Security Architect

k.haefner@cablelabs.com