



LINK OREGON

Oregon Statewide eduroam Initiative Project Overview

eduroam Support Organization Overview

eduroam—the international Wi-Fi access roaming service for students, staff, faculty, and members of K-20 schools, libraries, and museums—provides users within these organizations with secure Wi-Fi access using their home institution credentials when at or near any eduroam-participating institution. ([Map of eduroam connectors in the U.S.](#))

Link Oregon operates as a [Support Organization](#) and maintains a single statewide agreement for K-12 school districts and ESDs, libraries, and museums with Internet2, the U.S. operator for eduroam. The agreement offers access to eduroam technology, support, and resources for eligible organizations to stand up eduroam services on their campuses. Participating organizations will benefit from a common set of implementation options, assistance in deploying and maintaining eduroam equipment and services, and access to best practices.

eduroam provides secure, seamless Internet access to educators, students, faculty, and researchers traveling between eduroam-participating institutions throughout Oregon and anywhere in the world. It is also a means of providing Internet access to students, teachers, and school staff in the communities surrounding eduroam-participating institutions who lack connectivity at home. For example, a high school student without Internet at home could sit in a community college building that is open to the public and connect to the Internet via that institution's eduroam network. During the COVID-19 pandemic, many schools and libraries across the U.S. participating in eduroam made spaces such as building exteriors and parking lots available as eduroam-enabled hotspots for use by local students, teachers, and staff.

Benefits of eduroam

For Institutions:

- Securely extends an institution's Wi-Fi network for use by local or roaming students, faculty, staff, and researchers with a simple set up. Visitors use their home institution network credentials to access Wi-Fi services at all eduroam-participating institutions; the secure login system keeps users' identities and passwords private and visitors can be allocated to a separate VLAN to isolate traffic.

- Accommodates the mobile connectivity requirements for supporting local users connecting to your local network, visitors connecting to your local network, and local users connecting to other participating networks.
- Eliminates the need to supply temporary accounts to visiting users, reducing the administrative and support burden imposed by students and researchers moving between institutions.
- Offers ease of implementation and first line support through the home institution and then through the Support Organization (such as Link Oregon).
- Ensures compliance-aware service filters for K-12 environments.

For Users & Communities:

- Extends access to the Wi-Fi networks of all eduroam-participating institutions using the login credentials of one's home organization; eliminates the need to establish guest accounts or acquire temporary credentials.
- Protects a user's identity and data when they are roaming on an eduroam-participating organization's network.
- Extending Wi-Fi through anchor institutions augments access in service-limited or low-income communities where broadband is not readily available and affordable.

Scope

- The initiative seeks to include:
 - All K-12 public education service districts (ESDs) and school districts
 - Private and charter K-12 institutions
 - State and public libraries
 - Oregon's public and non-profit museums
- The statewide eduroam initiative will leverage the eduroam programs already underway at many of Oregon's universities, including OHSU, PSU, UO, OSU, Southern Oregon University (SOU), Western Oregon University (WOU), Portland Community College (PCC), and several others. A pilot K-12 initiative at Linn-Benton-Lincoln (LBL) Education Service District, supported by OSU, was the first ESD implementation in Oregon.
- The initiative provides guidance in setting up eduroam and offers second-level support to participating organizations.

Technical Components

- eduroam is based on the most secure encryption and authentication standards available. Its security far exceeds typical commercial hotspots by using WPA3-Enterprise security.

- eduroam separates the concepts of authentication (identity providers) and hotspots (service providers) allowing public, commercial or city Wi-Fi providers to offer eduroam, in addition to research and education institutions. (<https://eduroam.org/faqs/>)
- **Internet2** is the roaming operator in the U.S., which ensures delivery of eduroam to U.S. connectors, contracts with connectors, manages invoicing, provides support for connectors, and works with global eduroam Governance Committee on policy and governance matters.
- **Typical system specs:**
 - Wi-Fi 6 (802.11ax) access points with dual band 2.4GHz and 5GHz radios
 - Adequate wireless coverage to provide at least 800 Mbps in each band
 - Wireless mesh limited to no more than 3 hops
 - Transparent web content filtering to remove access to explicit and adult content
 - Rate limiting capable to ensure ample and equitable bandwidth for all

Technical Requirements

In order to enable an institutions wireless network to allow users to access eduroam on their campus, they need to maintain an Identity Management System (IdMs), where users' electronic identities are stored.

As part of the Link Oregon eduroam initiative, the host institution needs:

- To become part of the eduroam service, which is provided by Internet2 across the U.S. and Link Oregon in Oregon
- A RADIUS server, with connections to its institutions IdMs
- To set up an eduroam service point (SP) with connections to the eduroam federation servers
- A wireless LAN configured according to the eduroam requirements
- Device Requirements
 - Older devices may present a security risk, see, for example, <https://community.jisc.ac.uk/library/janet-services-documentation/faqs-eduroam-system-administrators-and-implementation-techs>
- To be an Oregon-based K-12 educational institution, public library, or non-profit museum

References / Getting Started

1. Eduroam US Wiki: <https://spaces.at.internet2.edu/display/eduroam/eduroam-US+Knowledge+Base>
 - a. Links to Quick Start Guide, FAQs, Admins User Guide, and more
2. UETN eduroam How-To Guides and White Papers: <https://uetn.org/network/eduroam/howto.php>

3. Network Nebraska Guide for Google Environment:
https://docs.google.com/document/d/1_ISKzMerMKtU6nn5UVDmEByxsEseMv_qPLrHBdPm4bw/preview