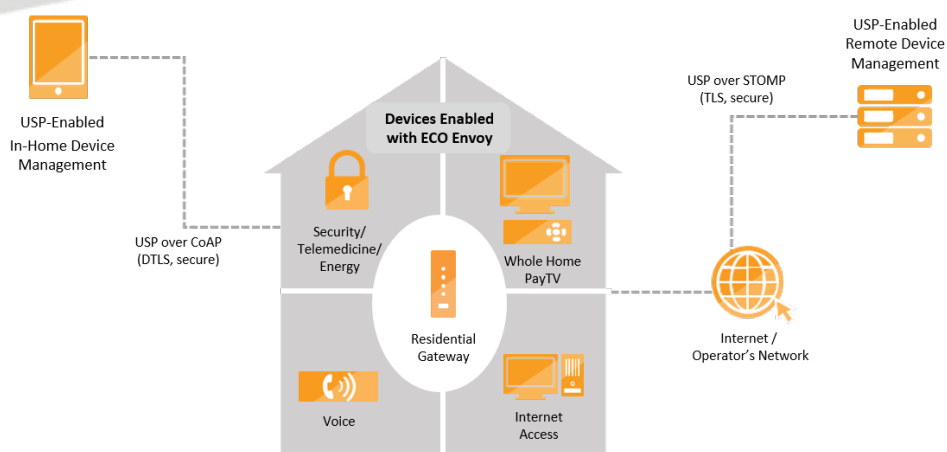


ECO Envoy™

User Services Platform client software for remote device management



PRODUCT OVERVIEW

ECO Envoy is integrated into the firmware of a device to expose a User Services Platform (USP) Agent for the purpose of enabling remote, automated, secure control and management of home networking devices for service providers of broadband, Wi-Fi, pay TV, and other connected home services.

The Broadband Forum User Services Platform (USP) protocol standard takes TR-069 to the next logical level by addressing efficiency, multi-tenancy, and security improvements while maintaining an integration path between TR-069 and USP. ARRIS was a founding member of the project and has been an integral contributor to the protocol development. ECO Envoy is a result of this work and it will continue to support the evolution of the standards and use case evolution.

FEATURES

- Client device software supporting the Broadband Forum™ User Services Platform (USP) protocol standard for secure, resilient and fast remote device management communications
- Small memory footprint and low network bandwidth utilization
- Enables advanced management use cases, such as control, diagnostics and monitoring
- Supports CoAP (Constrained Application Protocol) Message Transfer Protocol (MTP) and STOMP (Simple Text Oriented Message Protocol) Message Transfer Protocol (MTP) as defined by USP
- Supports the Device:2 (TR-181 Issue 2) root data model and the TR-135 (STB), TR-140 (Storage), and TR-104 (Voice) service data models
- Provides an extensible data model for additional objects, parameters, and commands
- Supports the HTTP Bulk Data Collection mechanism as defined in TR-157 Amendment 10 and TR-181 Issue 2 Amendment 10

Manage devices using extensive USP capabilities

ECO Envoy supports USP management operations and communication with different kinds of controllers, including controllers acting as Auto-Configuration Servers (ACS) and mobile self-service applications.

ECO Envoy provides:

Flexible Deployment

- Controller discovery is flexible and can be achieved through pre-provisioning, configuration files, or network discovery.

Communication and Message Integrity

- Communication between ECO Envoy and its corresponding Controllers supports different Message Transfer Protocols (MTPs) with TLS/DTLS encryption. The device identity and Controller can be authenticated using unique credentials and certificates, allowing the operator to choose the solution that meets their needs.

High Reliability and Resiliency

- ECO Envoy provides connection retry logic, notification retry logic, and error handling.

Management via TR-181 Issue 2

- Operators can enable any IP-connected device type or platform with ECO Envoy using the Device:2 root data model (TR-181 Issue 2).

Support for Advanced Management Use Cases

- ECO Envoy supports both basic (for example provisioning or firmware upgrades) and advanced management use cases such as bulk data retrieval, execution of data model commands, file downloads for upgrades, notifications and reboots. ECO Envoy includes data model diagnostics as defined in TR-181 Issue 2 (like IP Ping, Trace Route, etc.)

ECO Envoy can coexist with other remote management stacks, like TR-069 and SNMP, where those other stacks are used predominately for activation and diagnostics, ECO Envoy is used for control and management.

ECO Envoy also supports data collection, which is critical for performance monitoring use cases. Monitoring requires frequent, periodic collection of key metrics, or samples.

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The data is subsequently delivered to the designated data collection server for aggregation and evaluation.

Connect with more devices

Devices that reside behind a gateway or firewall in a subscriber's home network, such as IP-connected set-tops, Wi-Fi extenders or IoT devices, can present a unique management challenge to operators. To perform control and management interactions with these devices, a Controller needs the ability to reach them reliably and instantaneously. The USP defined STOMP MTP solves this issue by implementing a secure, lightweight, and persistent connection that can be used by the Controller to invoke control and management commands reliably in real time. USP enables the Controller to live pretty much anywhere; it could live in the Operator's network acting like a TR-069 ACS, it could live on a subscriber's mobile device acting as an interface in the home network, or it could live in a home networking device acting as a home network controller.

Reliable interoperability with Controllers for all devices, regardless of platform

ARRIS's acquired device remote management heritage, widespread adoption, and commitment to furthering standards means that operators can count on successful interoperability between ECO Envoy and their Controllers of choice.

ECO Envoy may be easily ported to connected device platforms running most distributions of embedded Linux, Android, and RDK (Reference Design Kit). As a result, operators can deploy a common management agent across all managed devices in the subscriber's home. ARRIS Global Services experts are available to help operators with deployment services, providing a strategy and execution for success.

Extend data model support to meet the needs of your services

ECO Envoy can be easily extended to support additional data model objects, parameters, and commands required for delivery, management, or support of new and increasingly complex device types, features, and next generation services.