

Press Release

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acklio
Unifying LPWA Networks



IETF Releases a New Standard To Enable Seamless Internet Communications From Cloud To Device Over LoRaWAN®

One year after publishing the RFC 8724 dedicated to low-power wide-area networks (LPWAN), Acklio and Semtech announce the publication of the RFC 9011 by the Internet Engineering Task Force (IETF): the new international standard specifying the use of Internet protocols over the LoRaWAN® technology. Building on both companies' involvement in promoting the LoRaWAN® standard for the Internet of Things, this release is a key milestone that brings LoRaWAN native and seamless interoperability with the Internet world. It expands the relevance of LoRaWAN to new use cases in smart electricity metering, industry, building management and supply chain, while providing better convergence and optimization solutions to LoRaWAN network operators.

LoRaWAN is today's leading technology belonging to the LPWAN (Low Power Wide Area Networks) family. Long range and very energy efficient, enabling long battery life of end devices, and unconstrained by the licensed spectrum regulation, the technology was designed merely for applications demanding small traffic—not heavy traffic like Internet protocols are used to.

A new technology named SCHC for Static Context and Header Compression that features a fragmentation capability has been created to overcome a common challenge of LPWAN technologies by eliminating the overhead due to high repetition of message patterns while still ensuring error correction. Developed by Acklio's co-founders, SCHC has been fundamental in specifying the method to carry IP traffic. The new RFC 9011 optimizes the use of SCHC over LoRaWAN by standardizing the transport of internet packets over a LoRaWAN network with fragmentation modes adapted to each of the existing classes of devices operating on the LoRaWAN protocol and any regional parameter. Moreover, SCHC over LoRaWAN includes dynamic IP address allocation that changes with every session to ensure a high-level of security requirements needed for Internet operation.

This new IETF standard release is a significant landmark for the LoRaWAN ecosystem, as it specifies:

- More interoperability with the cloud-based applications and the Internet world, thus offering multi-technology convergence,
- Opening up to new applications and ecosystems demanding seamless IP communications,
- Energy consumption savings, on both the network side and the autonomy of the communicating device, thanks to the reduction in the volume of data exchanged on the networks,
- The opening of new markets for LoRaWAN, even though they seemed out of reach so far due to its inability to carry the IP stack.

As the pioneer of the SCHC solution, software company Acklio offers the flagship international implementation and leverages a worldwide track record to deliver a stabilized proven solution. The primary market requiring SCHC over LoRaWAN is the smart electricity metering that represents than 125+ million new meters deployed each year. The adaptation layer chosen in the [new DLMS profile](#) specified by the DLMS User Association is SCHC. DLMS figures as the main standard applied to electricity meters worldwide and to other applications of energy management. The first compatible meters are already available off-the-shelf and the field pilots are being deployed on three continents running on Acklio's implementation. Other use cases from different

verticals are underway for reusing the same SCHC technology when applications demand an adaptation layer for Internet.

The new RFC 9011 is co-authored by Ivaylo Petrov (Acklio) and Olivier Gimenez (Semtech), with the valuable contributions from LoRa Alliance members Actility, Cisco, EDF, Institut Mines Telecom, Sagemcom, Orange.

Vincent Audebert, IoT project manager at EDF and co-authors of RFC 9011: *“EDF has supported the standardization work of the SCHC technology since the beginning. As a solution provider, this standard layer allows to diversify our portfolio of technologies to best fit our international customers' needs, while providing them with the guarantee of interoperability.”*

Alexander Pelov, CEO of Acklio and co-chair of the LPWAN working group at the IETF: *“The release of SCHC over LoRaWAN is a milestone represents a culmination of five years of collaborative effort to drive SCHC technology as a global standard for the IoT. Following Acklio's mission to open up ecosystems through IP interoperability, we focused most of our efforts on LoRaWAN to date, the fastest growing LPWAN technology in the world. With off-the-shelf solutions over LoRaWAN, we now deliver a solid value proposition for IP-interoperability and protocol adaptation.”*

Dominique Barthel, researcher at Orange, expert in future networks: *“We believe in the power of simplicity, so we worked with Acklio on a new approach that unifies and simplifies customers' life, especially developers and network managers. The new standard, called SCHC, will allow customers to use and manage LoRaWAN the same way as other IP networks, by using well-known APIs and tools.”*

Marc Pegulu, vice president of IoT, Wireless and Sensing Group at Semtech: *“This new RFC from IETF is paving the way for the standard adoption of simpler and more seamless Internet communications from Cloud to end devices connected with Semtech's LoRa® devices. As the LoRaWAN protocol continues to expand as the standard of choice for Internet of Things (IoT) networks worldwide, we are proud of this collaboration that can enable smart IoT applications to more customers worldwide.”*

About Acklio: Acklio is a French start-up created in 2016. The co-founders are at the origin of a technology that brings the emerging constrained IoT networks with the ability to transport IP-based applications. It opens added-value use cases for LPWANs and ensures the interoperability, interconnection, and security of IoT deployments. This mechanism, called SCHC for Static Context Header Compression, has been released as an IETF standard in April 2020. As the flagship international implementation of this new standard, Acklio's software suite accelerates the go-to-market and future-proof the IoT solution. www.ackl.io - Press kit and illustrations: <http://bit.ly/acklio-presskit>

About Semtech: Semtech Corporation is a leading supplier of high performance analog and mixed-signal semiconductors and advanced algorithms for infrastructure, high-end consumer and industrial equipment. Products are designed to benefit the engineering community as well as the global community. The Company is dedicated to reducing the impact it, and its products, have on the environment. Internal green programs seek to reduce waste through material and manufacturing control, use of green technology and designing for resource reduction. Publicly traded since 1967, Semtech is listed on the Nasdaq Global Select Market under the symbol SMTC. For more information, visit www.semtech.com.

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