Press Release

Rennes (FR), 2018/01/31

Acklio and Cisco Demonstrate IPv6 Operation Over LoRaWAN

Amsterdam, 2018, February 1st, with LoRa Alliance at the "Things Conference", the two companies showcase a new IETF protocol enabling IP connectivity across Low Power Wide Area Networks.

LPWANs, optimized for low power, wide area, and low bandwidth IoT usage, have lacked an IP solution. Thanks to a new IETF compression-decompression technology named SCHC (pronounce "chic"), it is now possible to integrate LPWANs into IP networks. Implemented for the first time by Acklio, SCHC enables interoperable use of the IP protocol suite across LoRaWAN.

The Smartgrid use case, demonstrated by Acklio and Cisco, simulates IPv6 messaging between a SCADA industrial controller and a remote utility grid storage unit. In the case of main communication link failure (Ethernet, 3GPP), LoRaWAN is used as a backup link via a LoRa Cisco Gateway for IPv6 messaging with the storage unit.

"*This proof of concept combines IETF and LoRa Alliance protocols to use LoRaWAN for both upstream and downstream IPv6 communication.* ***This is a major step for the Internet of Things, at least as significant as the introduction of 6LoWPAN ten years ago***" says Pascal Thubert from CISCO.

Acklio proves the potential of its solution. The Internet of Things needs a simple solution to provide interoperable IP connectivity across any type of network. The development of compression-decompression standards for IETF IP/UDP/CoAP protocols provides simple, rapid and transparent integration of LPWANs into service provider and industrial networks.

The SCHC technology will become a new standard in a few weeks thanks to the work of the IETF LPWAN Working Group and the leadership of Acklio and Cisco.

For Alexander Pelov, Acklio CEO, "*this is a vote of confidence in our innovation and demonstrates the interest of operators and industrials to deploy our interoperable solution. Based on open standards, Acklio ensures end-to-end communication security and accelerates the deployment of new IoT solutions.*"

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About Acklio
Acklio provides software solutions to enable any LPWAN network with IP (LoRaWAN, Sigfox, NB-IoT…). The solutions deliver native interoperability, universal and simple integration and end-to-end security. Building on more than 20 years research experience and more than 13 doctoral thesis in network protocols, architecture and security, Acklio software is the first worldwide implementation of the new compression-decompression technology for LPWAN.
www.ackl.io

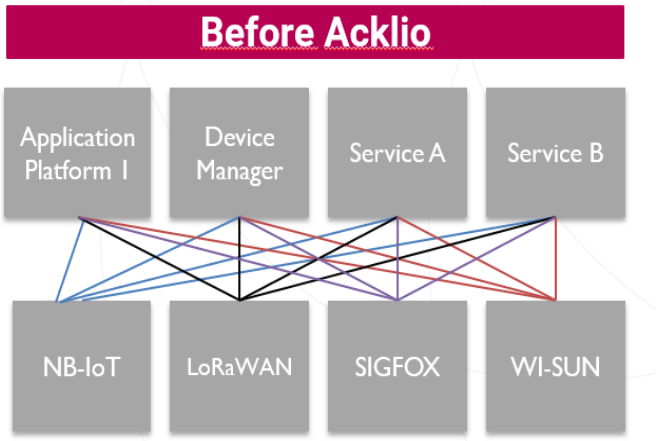
A new global and open standard, co-developed by Acklio

Located in Rennes (France), the company has co-developed with the IETF committee (see more below), a new protocol enabling different types of networks and radio technologies to communicate. This innovation is soon to be recognized as a new global standard and is implemented for the first time by Acklio.

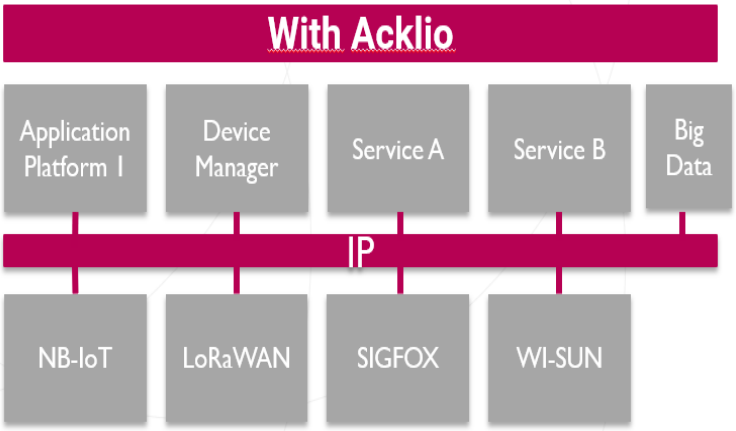
For several years now, Internet of Thing devices are anticipated to grow exponentially for the next decades. This rollout has already started. But there is an issue. The Internet model as we know it based on IP protocols, is not interoperable with these new networks and devices. These networks, such as LPWAN (Low Power Wide Area Network), are designed to send small amounts of data, on wide areas energy efficiently. An appropriate technology for sensors and devices mostly battery operated with a long-life span.

Approved by the Internet Engineering Task Force

To solve this compatibility problem between IP and LPWAN networks, a new standard, known as "SCHC" (« Static Context Header Compression » and pronounced "chic"), is being delivered. It is ideal to provide interoperability between devices and networks. It has been developed within the IETF (Internet Engineering Task Force) working on new Internet protocols. This compression-decompression technology enables IP in LPWAN networks. It allows to develop new IoT solutions as simply as a web service, secures end-to-end communication, facilitates integration and unifies systems and networks as shown below.



A step ahead of competition



This innovation is implemented for the first time by Acklio for industrial solutions., SCHC, is built on more than 20 years of R&D.

Inventors of this new compression-decompression solution, Acklio's cofounders have pushed this technology to the IETF to standardize it. Acklio is leading the market and competitors in this way. Even though this technology will be an open-standard, third parties will need several years to provide an equivalent solution incorporating this innovation. This exclusive solution has already been demonstrated and approved by major operators and industrial companies such as Cisco, Objenious, EDF and Sigfox…

Acklio, from IMT Atlantique laboratory to a global standard

Acklio is built on more than 20 years' research experience and 13 doctoral thesis delivering a cutting-edge solution.

20 years' research experience. This is what Acklio means for IMT Atalantique (previously Telecom Bretagne). The company is built on many research and publication, delivering 13 thesis done at the telecom engineer school. The trigger was the encounter between Laurent Toutain, president of IPv6 scientific committee, and Alexander Pelov, 5 years ago. L.Toutain is senior lecturer, since 1992, in the school, and A.Pelov was adjunct professor. Together, they implement several field experiments that will lead to Acklio's creation in March 2016.

LoRa FABian is the trigger

One of the experiments will have a significant impact, LoRa FABian's project. Realised in November 2014, with Rennes Metropole, it *"allows to share energy consumption data"* says Alexander Pelov. This came from the combination of 2 concepts: *"LoRa for telecommunication and LabFab (Fablab of Rennes) for prototyping and experimentation."* Other companies contributed to this experimentation such as Kerlink, Wi6labs, Cityzen Data and TDF. It showcased an open source system allowing IoT device integration to the internet. Researchers then tested a new compression-decompression technology which will be the basic premise for Acklio.

A model recognized by the IETF

The company was founded following this test with the ambition to go further and offer "a global vision and integration of LPWAN networks into the Internet" says Alexander Pelov, CEO. Immediately, the 2 cofounders hire talented people interested in this project. In October 2016, Acklio submits its technology to the IETF to recognize successfully their technology as a new standard! Driven by Acklio's leadership, the working group manages to finalize the new standard in less than a year. This innovation should be adopted rapidly, allowing complete interoperability between connected devices and Internet.

Fundraising and hiring

Acklio is moving forward to grow strongly. A team of 14, based in Rennes and abroad, Acklio is currently in a hiring spree. Leveraging a strong technological lead, Acklio is the only company to offering this first industrial implementation solution. In 2018, Acklio plans a fund rising to ensure this strong acceleration, specifically on marketing aspects. The company will be able to boost his international influence thanks to his presence at world tech events such as Mobile World Congress. This one has awarded Acklio with the best telco innovation prize before the release of the global standard.

Acklio driver of an international committee working group in internet standards

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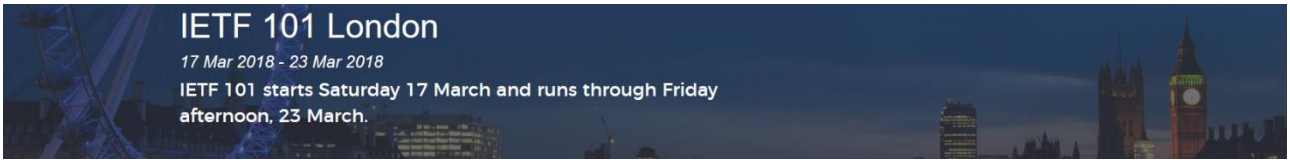
For several months, Alexander Pelov, CEO of Acklio is coaching a global technical working group dedicated to the LPWAN. A process recognizing the value of their technology.

Beyond the commercial opportunity, Acklio wanted to contribute and make this solution a recognized global standard. The company requested the creation of a dedicated working group at the l'Internet Engineering Task Force (IETF). It is a challenging task. The society has to demonstrate that "there is a real and specific need, the IETF is the best place to execute in a reasonable time, and no current standard is solving this problem", explain Alexander Pelov, CEO.

As well-known as ICANN (Internet regulation) or W3C (web standardization), the IETF develops and promotes voluntary Internet standards, in particular the standards that comprise the Internet protocol suite (TCP/IP). Thanks to a completely open operating mode, its goal is to draft one or several Request for comments (RFC). The documents describe Internet specifications and standards. It gathers more than 1 500 participants with "pragmatic people who want things that work, not paperwork" says Alexander Pelov. Working groups interact several times per month and IETF meets 3 times a year: in North America, Europe and Asia. The next event will take place in London in March 2018.



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