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), this company has co-developed with the IETF committee (see more below), a new protocol enabling different type of networks and radio technologies to communicate. Soon, this innovation is going to be recognized as a new global standard, which is for the first time implemented by Acklio.

Announced since several years, Internet of Thing devices will be exponential for the next decades. This movement has already started. Problem, the Internet model as we know as IP (Internet Protocol), based on IPv6, is not interoperable with these new type of networks and devices. These networks, such as LPWAN (Low Power Wide Area Network), are energy efficient and optimized to send small amount of data, on wide area. An appropriate technology for sensors and small devices battery operated.

Approved by the Internet Engineering Task Force

To resolve this compatibility problem between IP and this LPWAN networks, a new standard, known as "SCHC" (« Static Context Header Compression » and pronounced "chic"), has been developed and test to provide interoperability between devices and networks. Developed with the IETF working group (Internet Engineering Task Force) charged to work on new Internet protocols. This technology allows and accelerates the development of new IoT solution as simple as a web service, secures end-to-end communication, and unifies systems and networks.
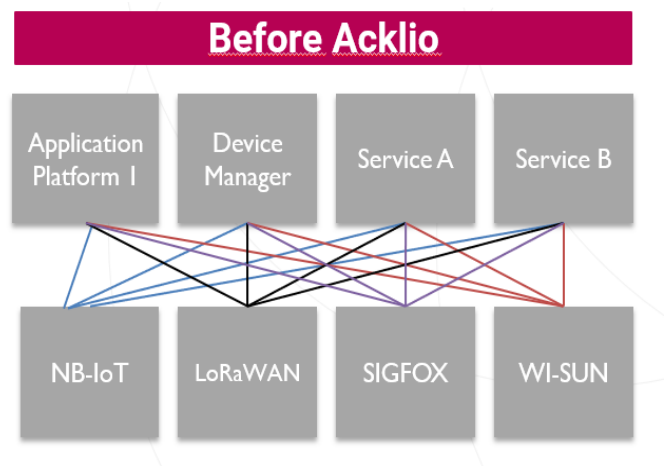
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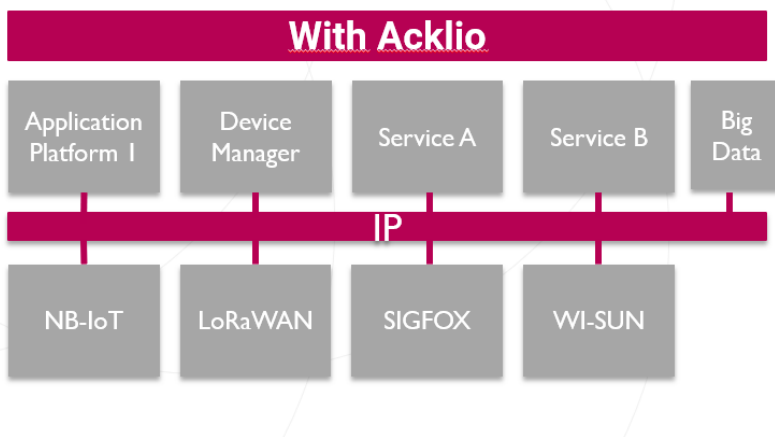
This innovation is implemented for the first time in the industrial solutions by Acklio. Indeed, SCHC, as Acklio, is built on more than 20 years of R&D.

Discovering this new type of compression-decompression solution, Acklios cofounders have pushed this technology at the IETF to standardize it. Acklio is leading the market and competitors in this way. Even this technology will be an open-standard, similar industry and companies will need several years to provide an equivalent innovation. This exclusive has already been demonstrated and approved by major's operators and industrials such as Cisco, Objenious and Sigfox...

Acklio, from IMT Atlantique laboratory to a global standard

Développée en un temps record de moins d'un an, Acklio est un essaimage de l'école d'ingénieur. Elle cristallise 20 ans de R&D et 13 thèses dans une solution qui est leader mondial de son marché.

Developed in record time, a year, Acklio is built on more than 20 years' research experience and 13 doctoral thesis in a cutting-edge network solution.

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

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

A valuable model recognized by the international innovative ecosystem: the IETF

The company was founded through this test with the ambition to move further, to offer "a global vision and integration of LPWAN into Internet" says Alexander Pelov, CEO. Then, the 2 cofounders hired talented people interested in this project. October 2016, Acklio request a new working group at the IETF to ensure the recognition of his technology as a new standard. With Acklio's leadership, this group manage to edit the new standard in less than a year. This innovation should be deployed rapidly to allow a complete interoperability between connected devices and Internet.

Fundrising and hiring

Acklio is moving to a strong growth step. Already involving 14 staff members, based in Rennes, but also internationnaly, Acklio is currently in a hiring dynamic. Relying on a strong technological lead, Acklio is the world premiere company to offer this implemented industrial 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.
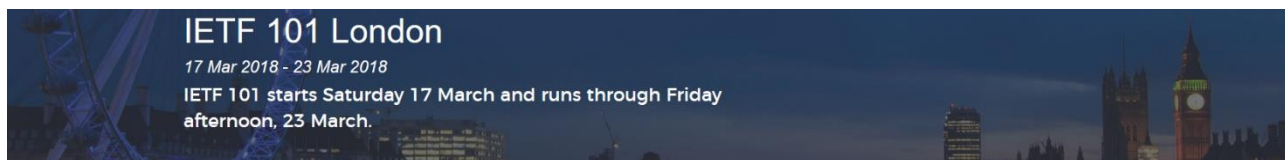
Acklio enabler of an international committee about internet standards

Since several month, Alexander Pelov, CEO of Acklio is coaching an global technical working group dedicated to the LPWAN. This process demonstrates the recognition of his technology.

Beyond the marketing deployment, Acklio is making this solution a global standard and reference. The company requested the creation of a dedicated working group at the l'Internet Engineering Task Force (IETF). This is a complicated task. To be done, the society has to demonstrate that "it is a real and specific need, where IETF is the best place to be execute in a reasonable time, and no current standard is solving this problem", explain Alexander Pelov, CEO.

As known as ICANN (Internet regulation) or W3C (web standardization), the IETF is an informal group which is working on Internet. Thanks to a complete open operating mode, his goal is to redact one or several Request for comments (RFC). These documents describe Internet specification and standard. It gathers more than « 200 attendees », says Alexander Pelov with "pragmatic people who want things that working and less paperwork". Beyond mailing list, they meet 3 times a year: in north America, Europe and Asia. The next event will take place in London in March 2018.

IETF 101 London
17 Mar 2018 - 23 Mar 2018
IETF 101 starts Saturday 17 March and runs through Friday afternoon, 23 March.

www.ietf.org