

Wi-SUN technology supports IPv6, effectively improving interoperability and security in IoT applications

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/EINPresswire.com/ -- In the era of the IoT, it is necessary to achieve one object, one address and everything on the Internet, so that each device connected to the Internet can be identified by its own IP address, maintain network interconnection and interoperability, and perform any form of two-way connection. [Wi-SUN](#) technology supports IPv6 protocol to effectively unify information, realize two-way interaction function, and support IP based device authentication and encryption communication security technology, effectively solving the problem that every connected device is a leaked node of security.

The use of IP technology in the IoT requires a large amount of IP address resources. The RIPE NCC(RIPE Network Coordination Center) announced on November 26 this year that all 4.3 billion addresses in IPv4 have been allocated. IPv6 (Internet Protocol version 6) is the next-generation Internet protocol. IPv6 can provide sufficient address resources to meet the P2P(point-to-point) communication and management needs, and provide address automatic configuration function and mobility management mechanism. At the same time, it can identify the devices on the network, which is convenient for network administrators to find them at any time and then deploy nodes.

Wi-SUN FAN certification, led by the Wi-SUN (Wireless Smart Ubiquitous Network) alliance, supports the IPv6 protocol. IPv6 is like a network ID for every connected device, with features such as IP nodes and large mesh networks. This technology is quite suitable for IoT applications. Its P2P IP infrastructure makes full use of more than 30 years of IP technology development experience to promote open standards and interoperability.

In the past, ZigBee and Bluetooth had to connect to the network through the application gateway, but that did not support new applications, and different application gateways could not communicate with each other. While IPv6 connects the network through the network layer, as long as the endpoint and the cloud identify and interact with each other, the network layer gateway can allow the old and new applications or different applications to share network



VertexCom

Vertexcom Technologies is a chip design company that provides communications solutions for IoT and smart grids.



Wi-SUN technology has long-distance transmission and low power consumption to meet the demand of smart grid and IoT market

infrastructure.

In addition, security is very important to the Internet of things, which is also a big problem. In the application of the Internet of things, when all the devices are connected to the network, the confidentiality, integrity, and availability of data transmitted in the network are easily threatened by hackers. Because there are many IoT nodes, and most of them have limited functions that are vulnerable to external attacks.

Therefore, the IoT needs an excellent security solution. Wi-SUN FAN uses the strong AES (Advanced Encryption Standard) link layer security function of IEEE 802.15.4, provides packet encryption by the link layer, and uses IETF EAP-TLS for network authentication and use IEEE 802.11i as key management to improve network security. The characteristics of Wi-SUN technology is to support IPv6 and related network security features, such as intrusion detection, traffic shaping, network analysis and penetration testing, which makes Wi-SUN technology more effective against DoS (denial of service) attacks.

Dr. HH Li, President of [Vertexcom Technologies](#), said " After years of R & D accumulation, our R & D team has fully mastered the technical characteristics of Wi-SUN. The Wi-SUN product line, VC7300 series, has passed the Wi-SUN FAN certification, meets the 802.15.4g and IPv6 standards, and has AES 256 encryption function. The main technical breakthrough is that it can be transmitted over a long distance and has a strict information security protection mechanism, and the information is never leaked.

Vertexcom Technologies. mainly provides Wi-SUN FAN certified solutions. At present, the company has deployed more than 1000 nodes of mesh network in the office area and displays a very short time networking and adaptive ability, robust data collection, and reliable remote firmware upgrade. Vertexcom also has hybrid dual-mode auto network(mesh) solution which is characterized by supporting both wireless communication (RF) and power line communication (PLC) transmission methods, in line with the Wi-SUN or G3-PLC communication standard. The dual-mode hybrid mesh solution has the characteristics of low power consumption, wide-coverage, automatic mesh network, seamless complimentary connection.

About Vertexcom Technologies

Vertexcom Technologies, founded in 2017, is a chip design company that provides communications solutions for IoT and smart grids. It provides low-cost and low-power Wi-SUN and PLC dual-mode communication solutions for smart grid, smart city, and smart home.

www.vertexcom.com

About Wi-SUN Alliance

Wi-SUN Alliance was established in 2012 and is a global non-profit organization. The vision of Wi-SUN Alliance is based on the mesh network protocol IEEE 802.15.4g specifications, providing strong product connectivity through testing and certification programs, developing Wi-SUN ecosystem, and achieving the interoperability of communication networks in smart cities and smart utilities.

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