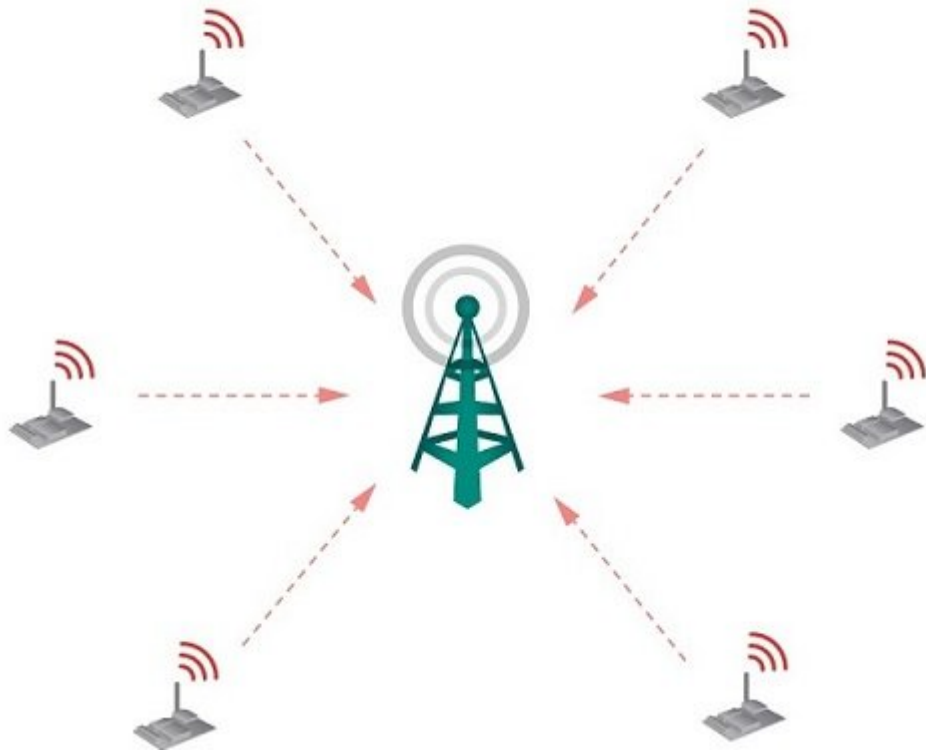


LPWAN 網路架構



LPWAN 網路架構 (Low Power Wide Area Networks) 是一種低功耗、廣域覆蓋的無線網路技術。它主要用於連接大量的低功耗設備，如感測器、標籤等，這些設備通常具有較長的電池壽命和較低的數據傳輸速率。LPWAN 網路架構通常由一個中心基站和多個終端設備組成。終端設備通過無線電波與中心基站進行通信，並將數據傳輸到雲端或數據中心進行處理。LPWAN 網路架構具有低功耗、廣域覆蓋、低成本等優點，廣泛應用於物聯網、智慧城市、工業自動化等領域。

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LPWAN 網路架構的優點包括：

- 低功耗：LPWAN 設備的功耗極低，電池壽命可達數年。
- 廣域覆蓋：LPWAN 網路可以覆蓋數百公里的範圍。
- 低成本：LPWAN 設備和網路的部署成本較低。
- 大容量：LPWAN 網路可以支持大量的設備連接。

LPWAN 網路架構的缺點包括：

- 數據傳輸速率低：LPWAN 設備的數據傳輸速率通常較低。
- 延遲高：LPWAN 網路的延遲時間通常較長。
- 安全性：LPWAN 網路的安全性相對較低。

LPWAN 網路架構的應用場景包括：

- 物聯網：連接大量的感測器、標籤等設備。
- 智慧城市：用於智慧交通、智慧能源等領域。
- 工業自動化：用於工廠生產線的監控和數據傳輸。

-1. The network architecture is based on the 4G/LTE network. The network is divided into three main parts: the Core Network (CN), the Radio Access Network (RAN), and the User Equipment (UE). The Core Network is responsible for routing and managing the data flow between the RAN and the Internet. The RAN is responsible for providing the radio access to the UE. The UE is the device that the user uses to access the network.

-2. The network is designed to be scalable and flexible. It can support a large number of users and can be easily upgraded to support new services and features. The network is also designed to be secure and reliable.

-3. The network is designed to be cost-effective. It uses a combination of hardware and software to provide a high-quality service at a low cost. The network is also designed to be easy to manage and maintain.

-4. The network is designed to be future-proof. It is built on a solid foundation of standards and technologies that are expected to remain relevant for many years to come. This ensures that the network can continue to evolve and meet the needs of the future.

Network Architecture



Network Topology

Network Architecture and P2P Network

LPWAN Network Architecture

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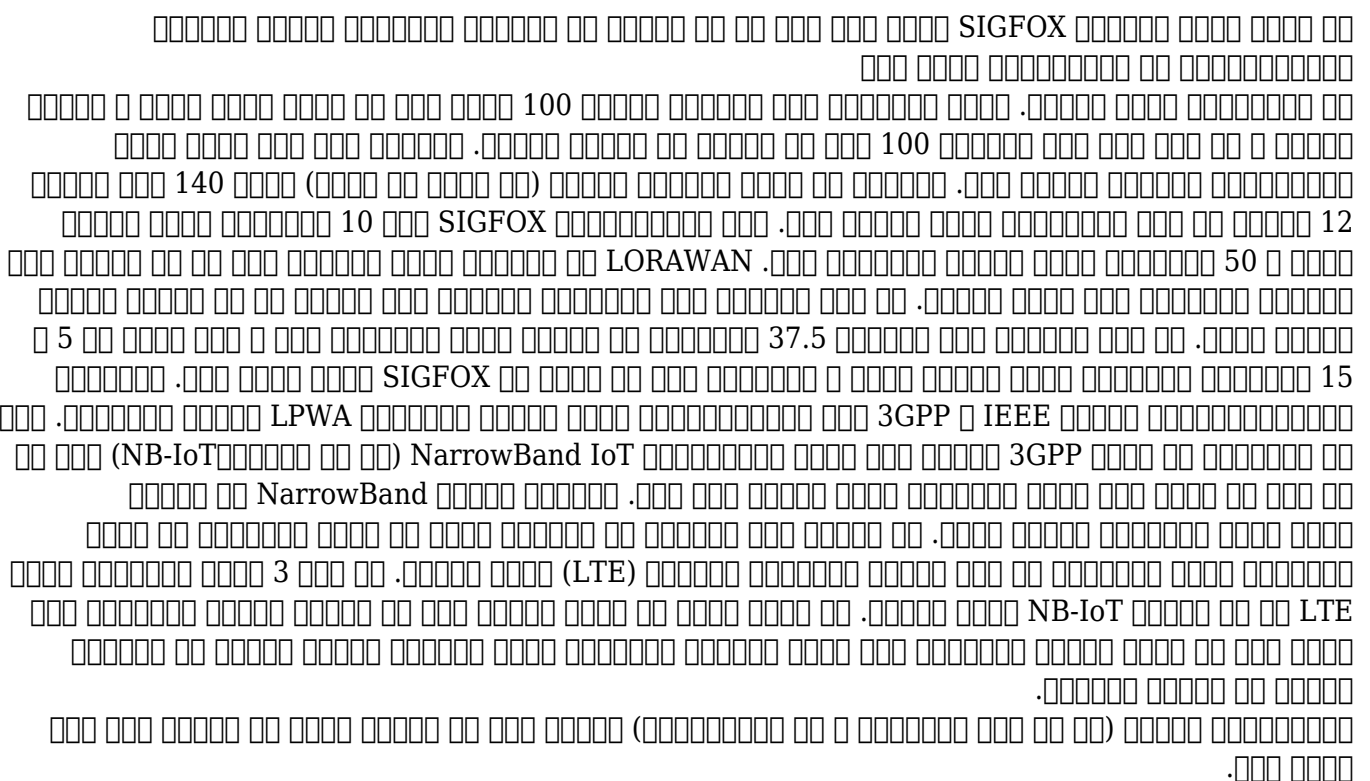
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