IoT: Cloud Connectivity Expansion Packages for STM32Cube
While M2M network connects machines in closed systems, IoT enhances the existing networks through an intelligent cloud.
Software Bricks for Cloud Connectivity

From Thing to Remote User from any location based on IP technologies

- User Application
  - Cloud provider specific protocols
  - Standard IP technology
  - Security software bricks for integrity and data confidentiality
  - Ethernet, Wi-Fi, Cellular

MCU + modems

Cloud

Front end + Services (Fleet, Data mining, ...)

Things protocols

Storage

Apps/Browser

User
STM32Cube Expansion Packages for IoT

Software Development Kits enabling developers to quickly connect their devices to any Cloud service provider

User Application

IoT STM32Cube Expansion Packages
- Cloud provider specific protocols
- Standard TCP/IP technology
- Ad-hoc security software bricks
- Ethernet, Wi-Fi, Cellular

STM32 + companion chips

- Cloud connectivity, data integrity and confidentiality
- Reduce Development Cost thanks to the pre-configured ST applicative examples
- Secure Firmware Upgrade over-the-air (FUOTA)
- Flexible and hardware agnostic API to support different connectivity technologies
Dedicated to Tier 1 Cloud service providers

- X-CUBE-AWS
- X-CUBE-AZURE
- X-CUBE-GCP
- X-CUBE-WATSON

Comprehensive SW solutions

- Cloud connectivity and security (MQTT, TLS)
- Support of native Cloud providers services*
- Applicative examples preconfigured for ST boards
- Ethernet, Wi-Fi and Cellular technologies

* Available for X-CUBE-AWS
Generic STM32Cube Expansion Package

Connection to any Cloud service provider made as easy as 1, 2, 3

User Application

Generic IoT STM32Cube Expansion Packages

- Standard IoT protocols
  Generic Cloud Connectivity
- MQTT, HTTP
- TCP/IP Stack
  - TLS
  - SW or HW Crypto
- Ethernet, Wi-Fi, Cellular

Dedicated to generic IoT connectivity

- X-CUBE-CLD-GEN

Comprehensive SW solutions

- Cloud connectivity and security (MQTT, HTTP, TLS)
- Applicative examples preconfigured for ST boards
- Ethernet, Wi-Fi and Cellular technologies
Available for FREE and in source format under business-friendly license terms from st.com

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X-CUBE-AWS: Supported ST board

STM32L4+ Discovery kit IoT node allowing out-of-the-box development with X-CUBE-AWS

B-L4S5I-IOT01A

ISM43362-M3G-L44 802.11 b/g/n compliant Wi-Fi® module

Multiway sensing, ARDUINO® Uno V3 and Pmod™ connectivity
Supported ST boards: Ethernet, Wi-Fi and Cellular

ST boards allowing out-of-the-box development with X-CUBE-AZURE, X-CUBE-GCP, X-CUBE-WATSON and X-CUBE-CLD-GEN

- STM32F413H-DISCO
- STM32F769I-DISCO1
- STM32F769I-DISCO
- B-L475E-IOT01A1
- B-L475E-IOT01A2
- P-L496G-CELL02
Example projects preconfigured for STM32CubeIDE, Arm® Keil®, IAR, and ST boards
Key Takeaways

Full integration of Connectivity, Cloud services and Security

STM32Cube Expansion packages for Cloud

- Integration of specific Cloud providers SDKs
- Security Integration
- IoT Protocols
- Applicative Examples
- Abstracted Connectivity Technologies

Developers benefit from

- Easy and straightforward native support of Tier 1 Cloud providers services*
- Secure Firmware Upgrade over-the-air (FUOTA) reference implementations for quicker device management prototyping
- Easy and fast learning curve thanks to the STM32Cube user experience for hassle-free Cloud connectivity

* Available for X-CUBE-AWS

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Releasing your creativity

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wiki.st.com/stm32mcu
Thank you