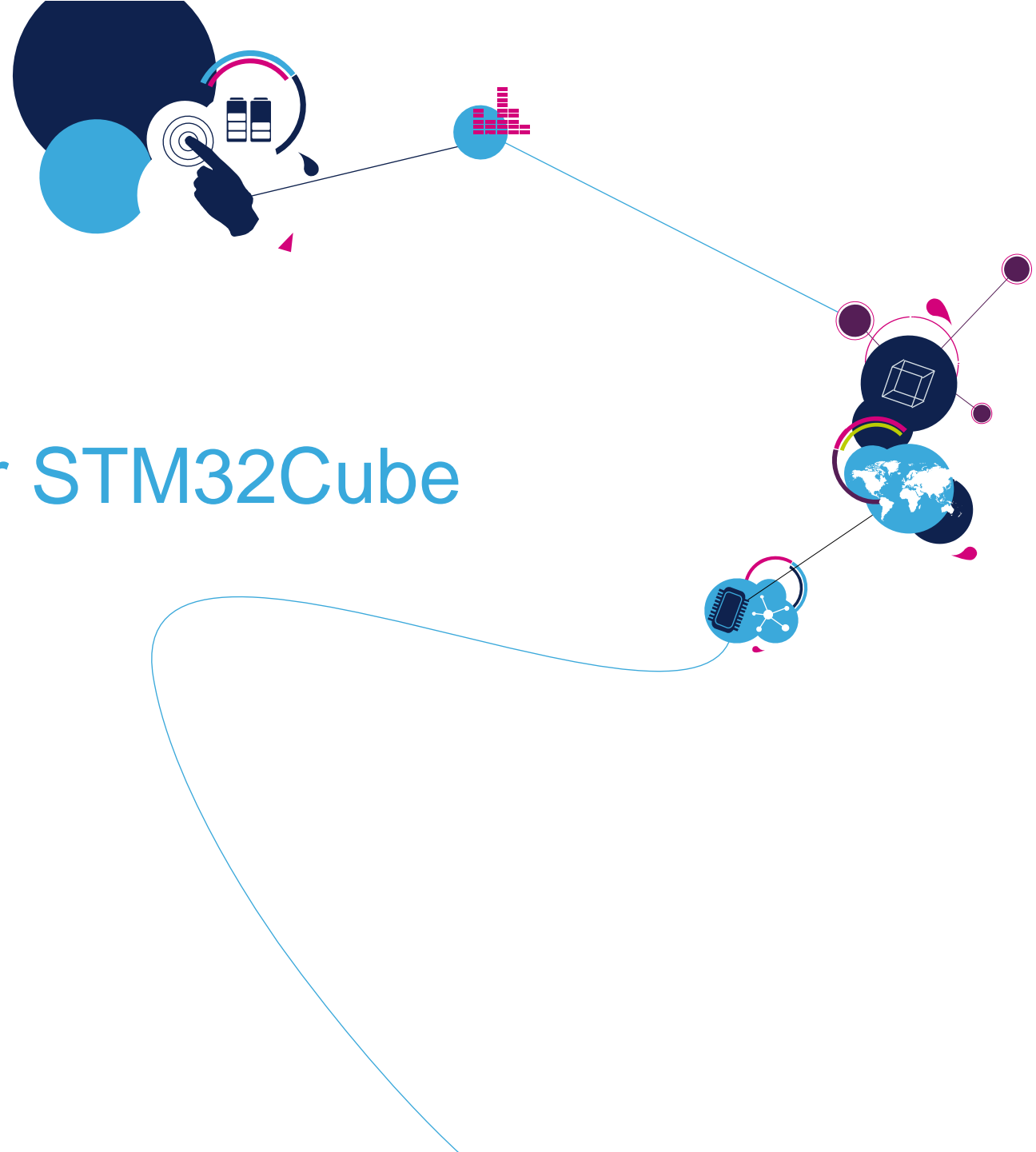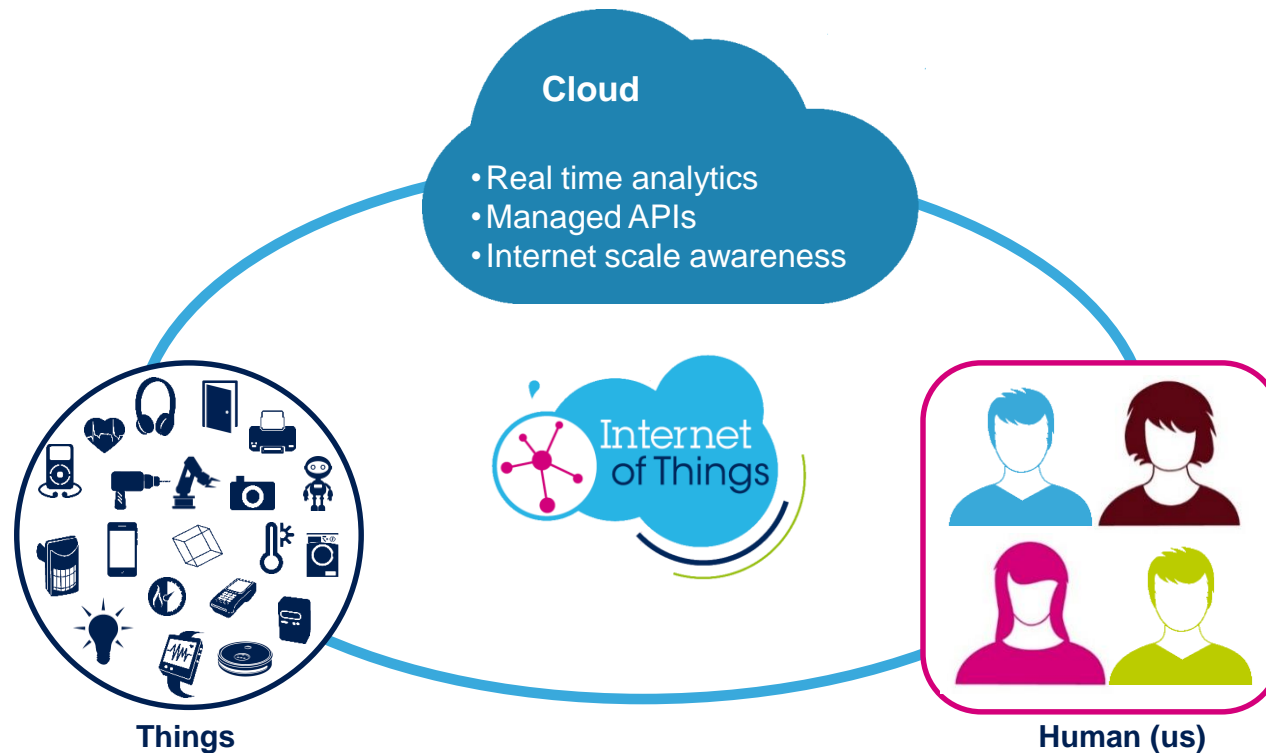# IoT: Cloud Connectivity
Expansion Packages for STM32Cube
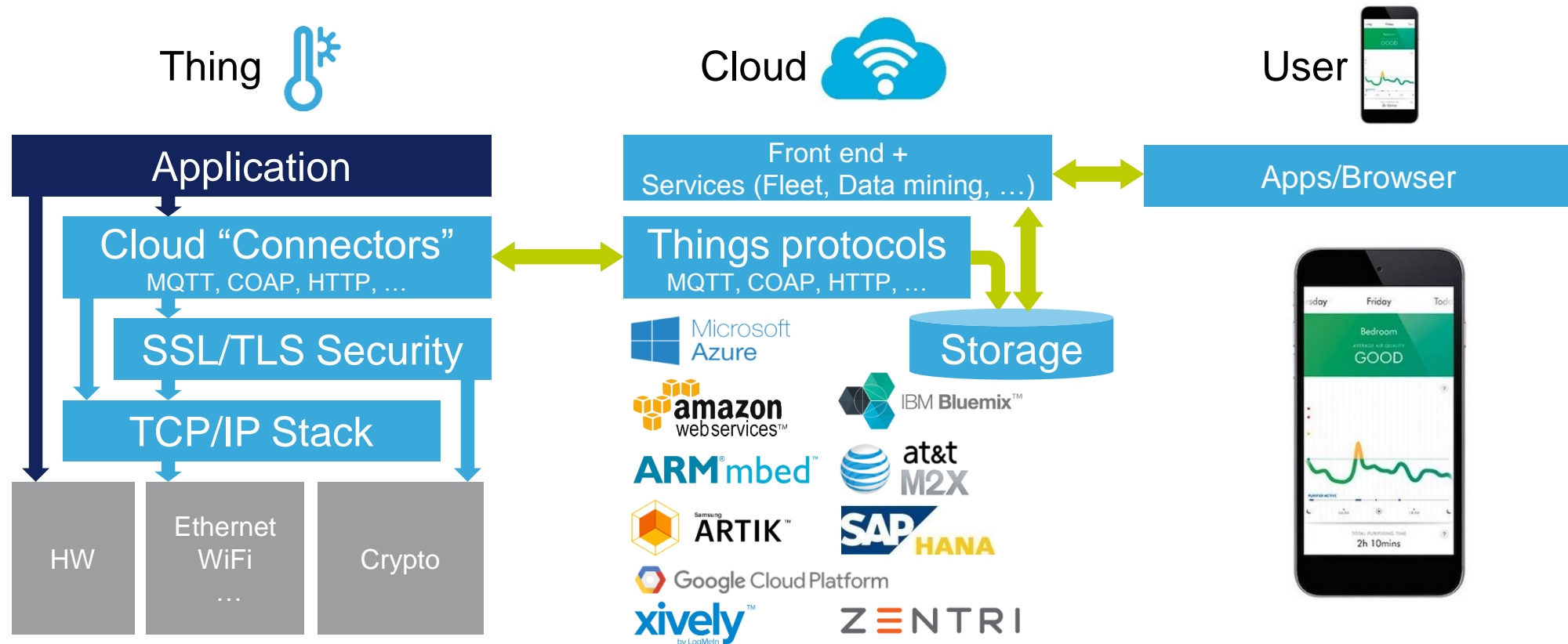
life.augmented

While M2M network connects machines in closed systems,
IoT enhances the existing networks through an intelligent cloud

Cloud

- Real time analytics
- Managed APIs
- Internet scale awareness

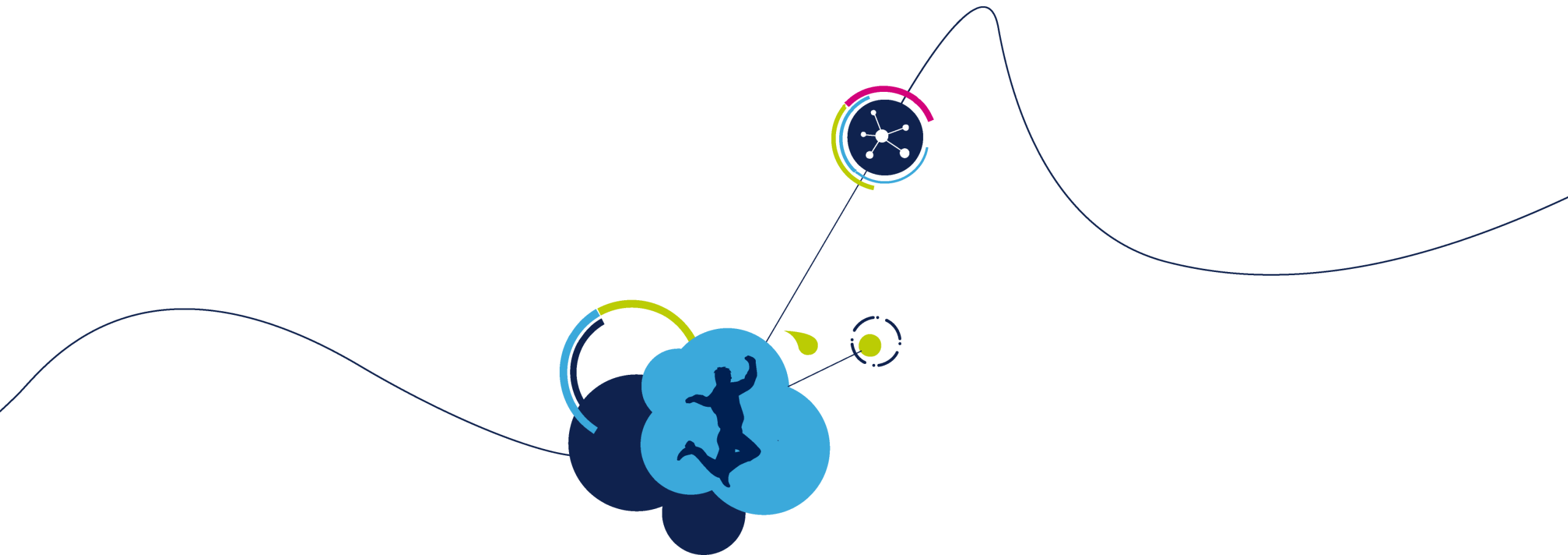Internet of Things

Things
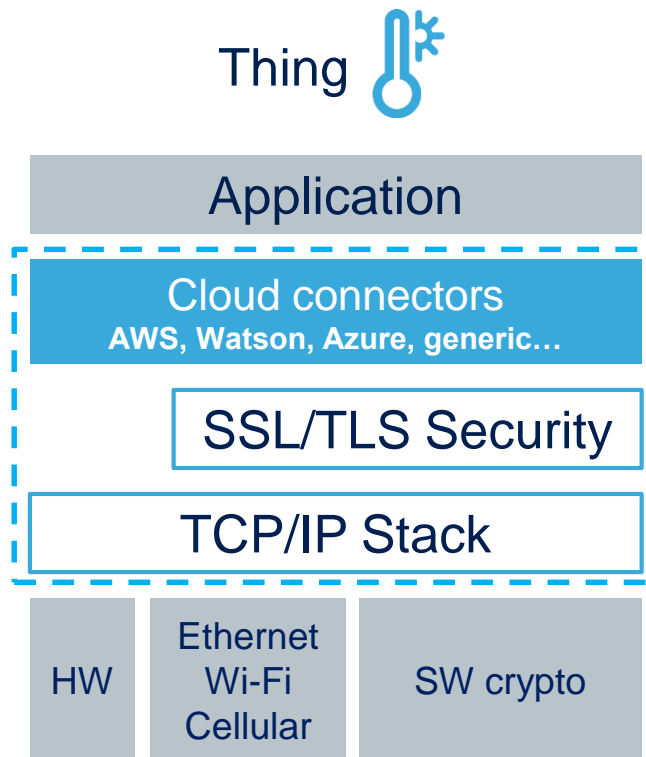
Human (us)

Cloud service connectors

Instant access to cloud service with demo examples

ST Cloud connectivity Software Development Kits (SDKs)

Enabling customers to quickly connect to several Cloud providers

Thing

Application

Cloud connectors
AWS, Watson, Azure, generic…

SSL/TLS Security

TCP/IP Stack

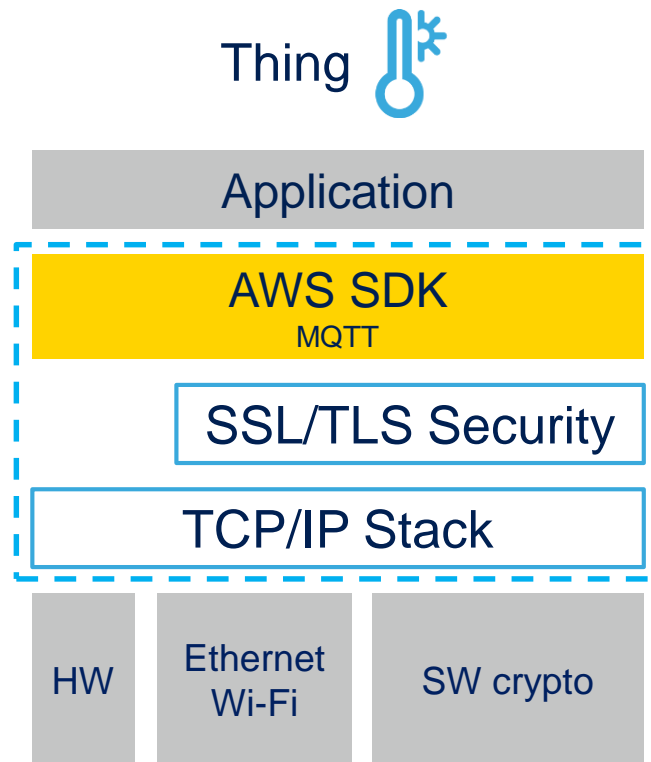| HW	Ethernet Wi-Fi Cellular	SW crypto

www.st.com/x-cube-cloud

- ST Cloud connectivity SDKs, specific and generic, offered for FREE as STM32Cube Expansion Packages (X-CUBEs)

- Provide all needed Cloud connectivity, device management and security blocks (MQTT, HTTP, SSL/TLS, LWM2M)

- Provide applicative examples
  - Simple data logging and dashboard display
  - Bi-directional interaction with Cloud servers
  - Remote Firmware Upgrade (RFU) through HTTP

- Extensive HW connectivity support
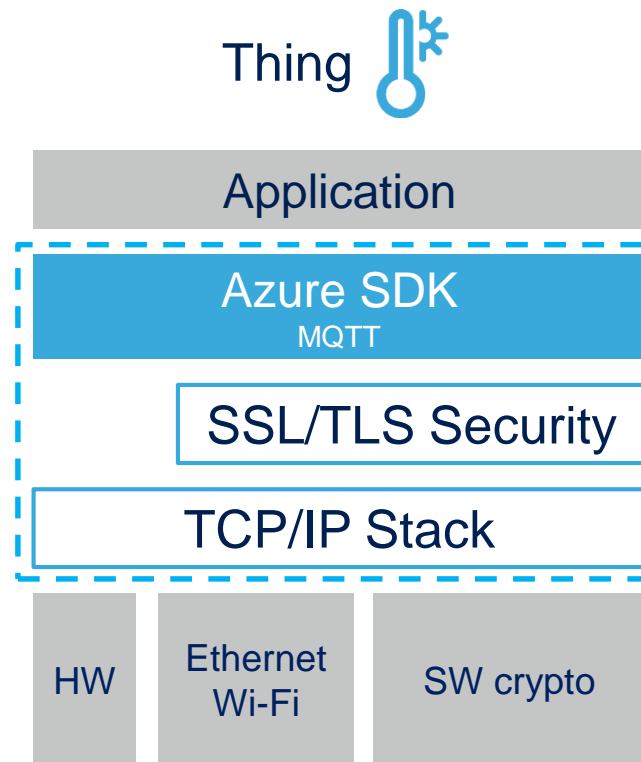 - Wi-Fi, Ethernet, Cellular (coming soon: 2G/3G, LTE M1 and NBIoT)
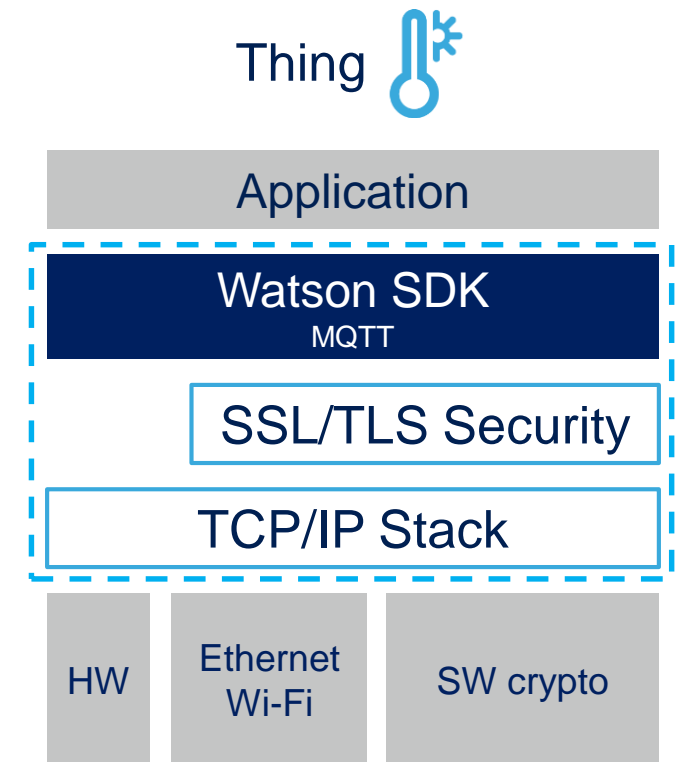
life.augmented

STM32Cube Expansion Packages

Connection to 1st tier Cloud providers made as easy as 1, 2, 3 within the STM32Cube environment

Thing

Application
AWS SDK   MQTT
SSL/TLS Security
TCP/IP Stack

HW	Ethernet Wi-Fi	SW crypto

X-CUBE-AWS

Thing

Application
Azure SDK   MQTT
SSL/TLS Security
TCP/IP Stack

HW	Ethernet Wi-Fi	SW crypto

X-CUBE-AZURE

Thing

Application
Watson SDK   MQTT
SSL/TLS Security
TCP/IP Stack

HW	Ethernet Wi-Fi	SW crypto

X-CUBE-WATSON

life.augmented
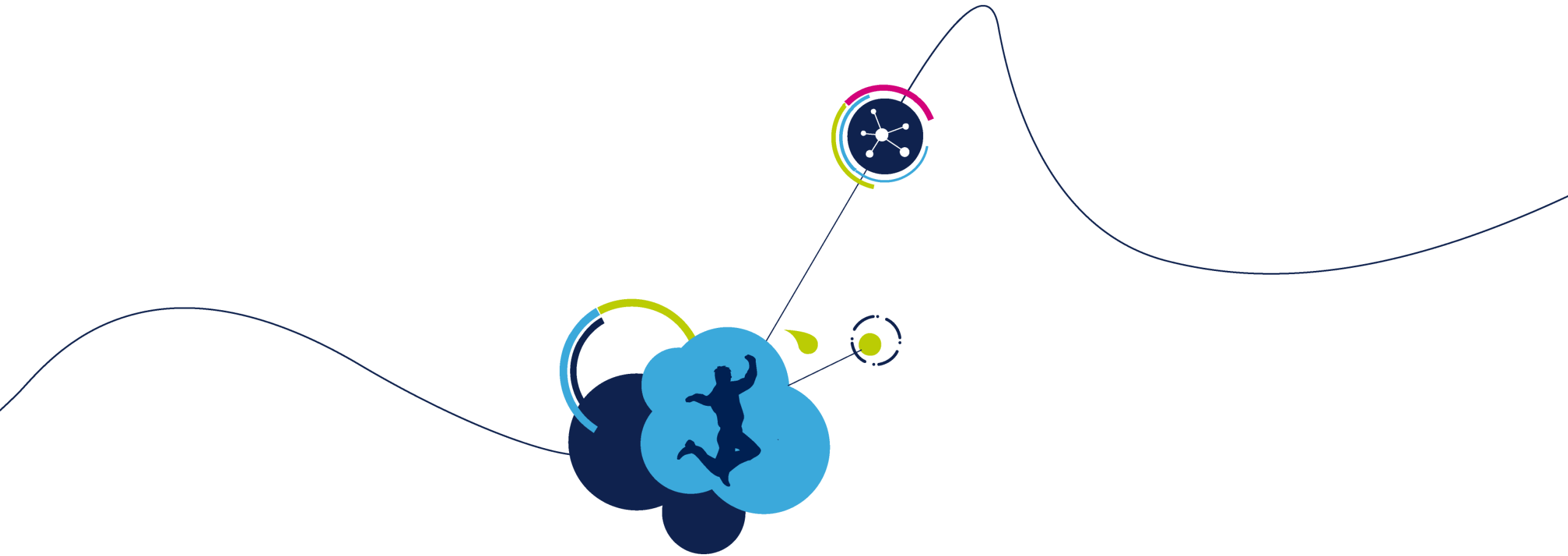
Supported boards and IDEs

Supported HW boards: Ethernet and WiFi

STM32F413 Discovery kit

STM32F413H-DISCO
(On-board Inventek Wi-Fi module)

STM32F769 Discovery kit

STM32F769I-DISC1
STM32F769I-DISCO
(On-board Ethernet connector)

STM32L4 Discovery IoT node

[B-L475E-IOT01A1](B-L475E-IOT01A1)
[B-L475E-IOT01A2](B-L475E-IOT01A2)
(On-board Inventek Wi-Fi module)

Several ST boards allowing out-of-the-box development with the SDKs

Example projects preconfigured for AC6 System Workbench, Arm® Keil®, IAR™, and ST boards