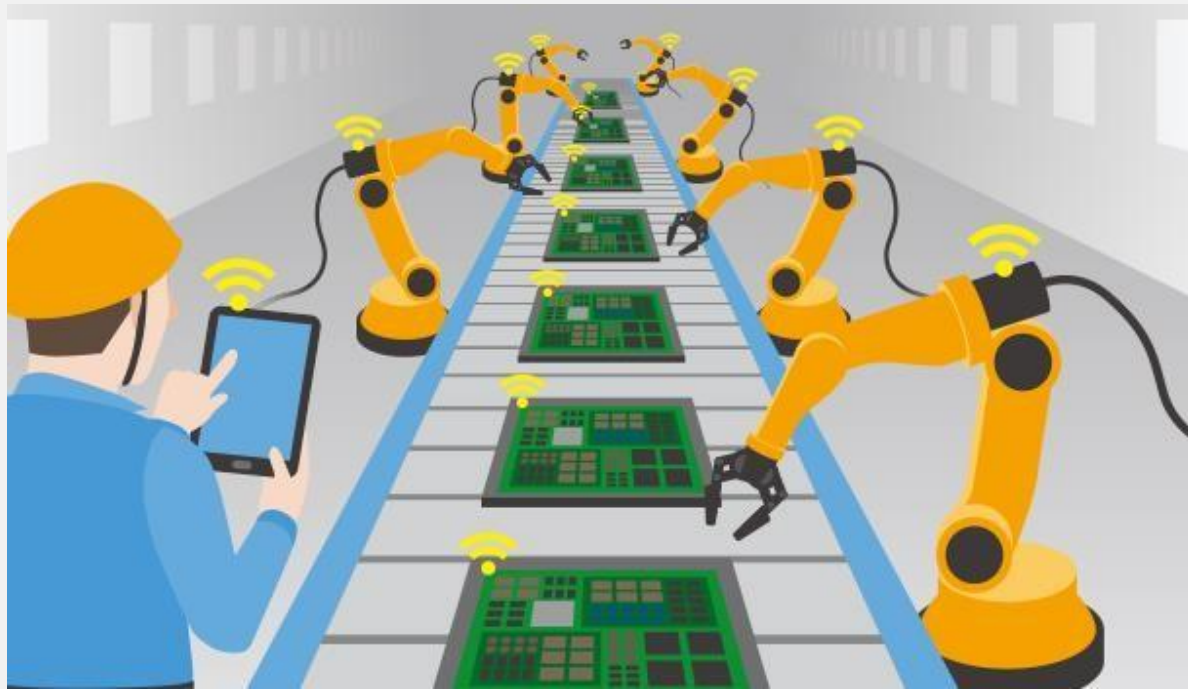




GadgEon
Engineering Smartness



Develop End-to-End Architecture For The IIoT Solution

Customer needed to develop an industrial IIoT solution for factory floors to improve the quality, decision making and predictive maintenance.

Project Period: 4 Months

Team Size: 4 members

Protocols Used : DDS, https/MQTT, HTTP, WebSocket

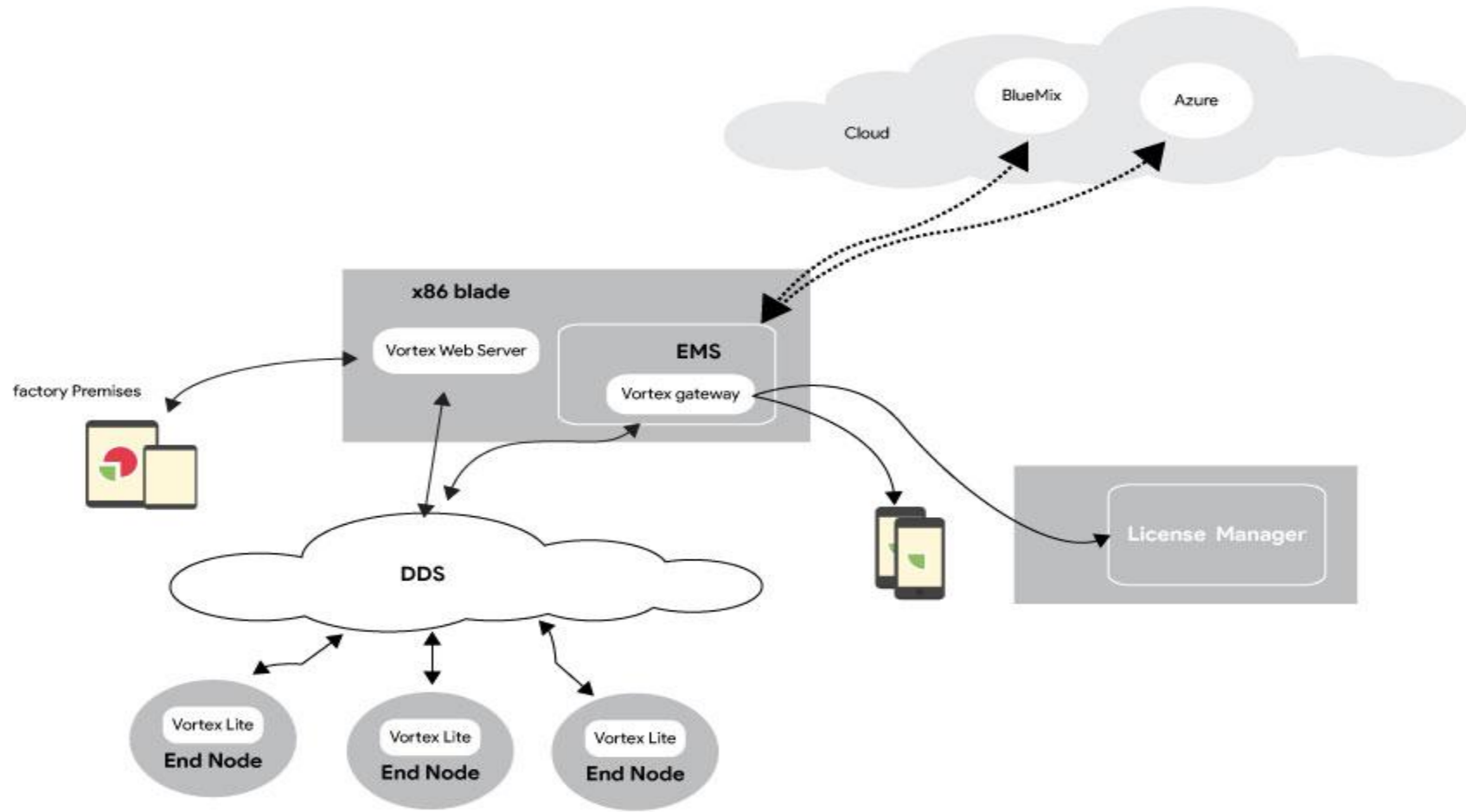
Challenge

- Develop end-to-end architecture for the IIoT Solution intelligent edge solutions accessing, aggregating, transporting, analyzing.

Outcome

- GadgEon architected the full system for end node (Modular - interfaces), Edge Node (Linux)

Winext - Architecture



WHAT DID GADGEON DO?	PLATFORMS/ TECHNOLOGIES USED
Architecture for complete system including End nodes, EMS, Cloud and Mobile App targeted for the Industrial IOT domain	Requirements Gathering & Analysis, Use cases, Architecture development, identification of functional components.
Hardware Architecture, SoC/SoM selection, Hardware design, Prototyping, Boardbringup for End nodes	Cadence allegro, PCB manufacturing/assembly with European partner
Embedded firmware for End nodes and its integration and testing on reference platform and on Target platform	Uboot, Linux kernel, Device driver development, Application development, DDS used as middleware for communication, WiFi drivers, Eclipse IDE for development, JTAG debugger, BeagleBoneBlack used for prototyping/initial development. Application developed in C/C++.
Linux based Gateway application (EMS) which could be deployed either in the cloud or on server class hardware on customer premises	Application Running on server class hardware in customer premises or cloud. DB selection, application development C++/Java, End Node discovery/management, Provisioning, License Management, Analytics Management, Floor Plan management, support for MQTT, AMQP, HTTP modules integration with 3 rd party cloud applications, Firmware upgrade, DDS middleware for communication,
Mobile App design and development for controlling and managing EMS	IOS/Android support. Followed the recommended design patterns from Apple and Google.
Integration of all subsystems with 3rd party cloud applications / Analytics engines	Analytics algorithm developed by 3 rd party integration with analytics engine.





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