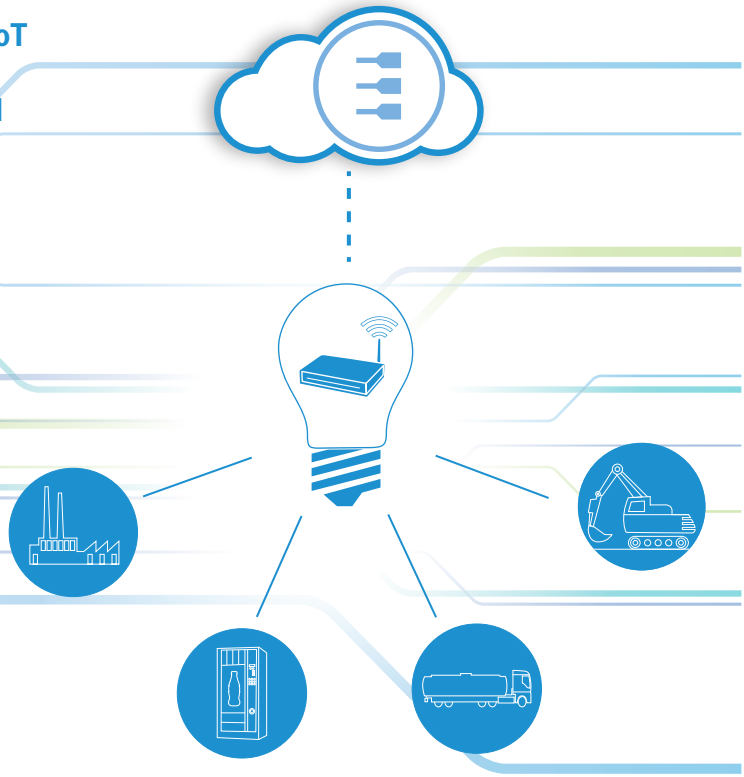
Everyware Software Framework

- **Quickly develop your application using M2M/IoT Java packages and services**
- **Build solid, secure, network-centric embedded devices leveraging field proven networking services**
- **Remotely configure and upgrade your application throughout its lifecycle**
- **Take advantage of a solid queuing system for back-end connectivity**
- **Bring your product to market quickly and deterministically while reducing efforts and risks**



FEATURES

Eurotech Everyware Software Framework (ESF) is a device application framework specialized to build machine-to-machine (M2M) or Internet of Things (IoT) applications. ESF provides a highly cost-effective, flexible and IT- oriented framework to build the new generation of connected, smart devices and applications.
ESF enables developers to concentrate on the application by providing a set of field proven M2M/IoT building blocks like:

- **Device abstraction:** provides a complete Java consistent software abstraction across all the hardware interfaces like WiFi, Cellular, GPS, Serial, USBs, CAN ports, Digital I/Os, Analog I/Os…
- **Security:** Provides a full set of security features across all layers of the framework (gateway middleware): Authentication, certificate management , secure execution environment, signed bundles, encrypted messaging and firewall.
- **Gateway basic service:** offers ready to use services like time synchronization, serial port configuration, application monitoring, cellular management, Ethernet management…
- **Network configuration:** IP, DHCP, NAT, NTP, and Firewall are just some of the networking services that can be easily configured.
- **Connectivity and Delivery:** default services include sophisticated queuing, always-on connection and self-restoring of the connection.
- **Field protocols:** field-tested industrial, transportation and healthcare protocols are available through Java APIs. Support for custom protocols design.
- **Operation and Management:** manage the entire lifecycle of your application remotely: first installation, upgrade, configuration and debug can be implemented using standard and reliable methodology.
- **Administration GUI:** a modern user interface makes the local configuration of services and applications straight foward and allows personalization of the device.
- **Application container:** offers services to speed up your application development: database, start and stop, segregation and monitoring are offered by default in our framework.

All these services allow the developers to quickly build cutting edge M2M/IoT applications in a 100% consistent Java environment complemented with OSGi application container and fully integrated with industry standard Eclipse IDE.

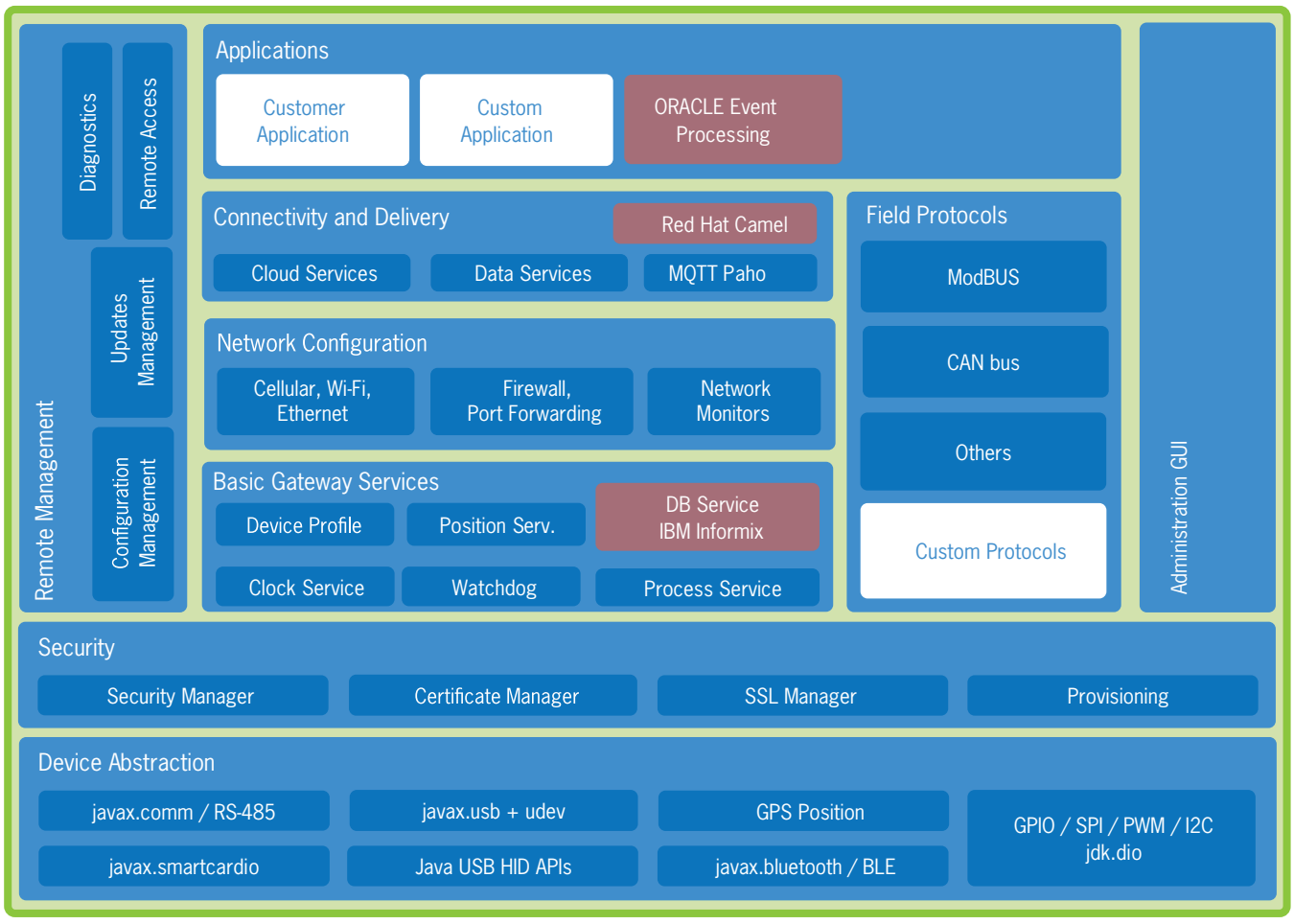
EUROTECH
Imagine. Build. Succeed.

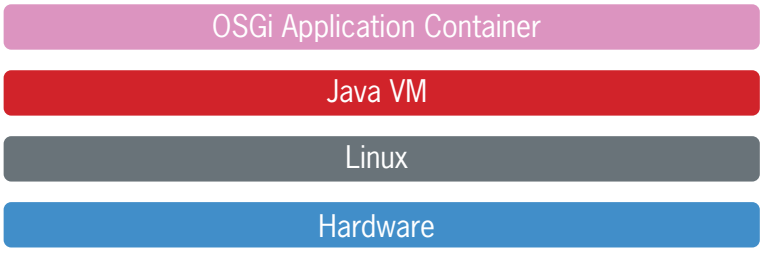
Everyware Software Framework

FUNCTIONAL BUILDING BLOCKS

ESF provides remote connectivity, networking data and device management software building blocks so developers can concentrate on building applications to quickly create smart devices that connect immediately and securely to the cloud.

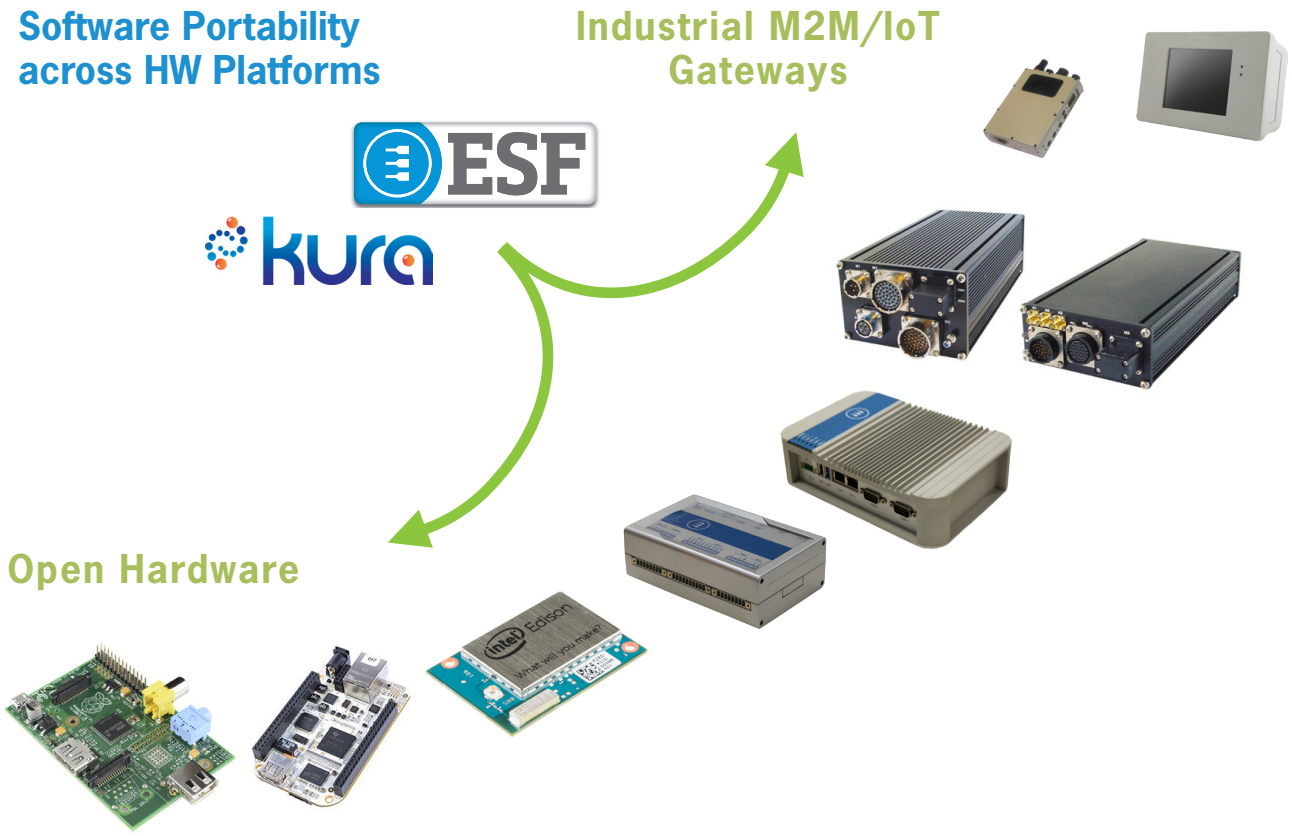
Developers get all the advantages of using high level Java programming software interfaces and services while actually designing applications on M2M/IoT embedded systems.





HARDWARE PORTABILITY

ESF is designed to separate your applications from the hardware, giving you the freedom to easily move your code across devices. ESF is already available on many Eurotech M2M/IoT gateways and boards as well as on open hardware devices.



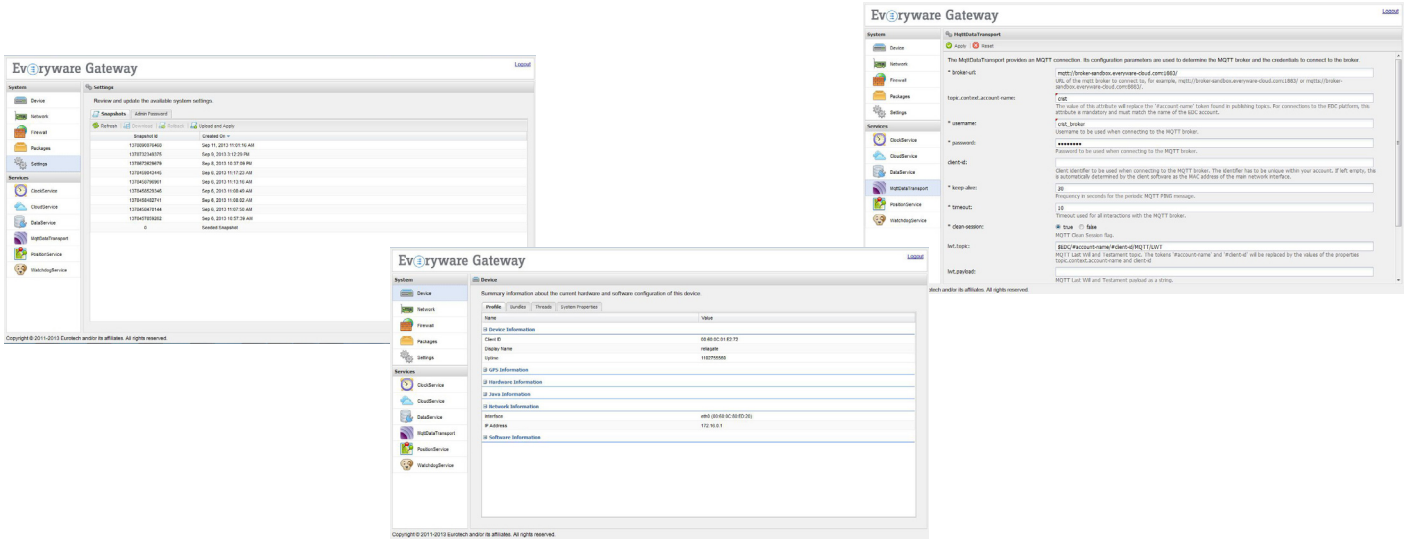
ESF BENEFITS FOR THE DEVELOPERS

- Shorter development time leveraging M2M/IoT building blocks
- Write your code using standard Java and OSGi technologies
- Quickly configure advanced networking services
- Ready-to-use cloud connectivity protocol and queuing mechanisms
- Built-in solid remote device and application management
- Design your application in an emulated environment, then deploy on target
- ESF plug-in for Eclipse IDE to quickly start your development
- Reuse and portability across different HW Platforms and O.S.

Everyware Software Framework

Technical Specifications

Java virtual machine	Oracle Java SE Embedded 7, Open JDK 7
OSGi container	Hitachi Super J - R4.3 , Equinox - R4.3
Device abstraction	Serial ports, USB ports, Ethernet, Wifi, GPS, cellular modems, Watchdog, CAN port, digital and analog I/Os and others
Gateway basic service	ESF properties, Device profile, Device processes, Cellular management, Serial port management, Bluetooth management, USB port management, Timer, Diagnosis monitor, ESF syslog, Wifi management, Ethernet management, Wifi management (client and AP)
Network configuration	DNS, IP, NTP, DHCP, NAT, VPN, SSL/TLS, Firewall
Connectivity and delivery	MQTT v3.1, Messaging queue service, Transport abstraction, Persistence component, Connection manager service, Everyware Cloud client, other clients
Field protocols	Modbus, Canbus, Terminal server, Terminal client, EVA-DTS, others
Operation and management	Remote update, remote configuration, rollback, snapshot, remote system command services
Administration GUI	Graphical device and service configuration, local software and firmware update
Application	Database service, Http service, App segregation, App configuration, App intercommunication, App introspection
Development tool	Eclipse IDE



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