

Eurotech - A strong and reliable Partner in IoT/M2M/OT Projects

Experience & Capabilities

- More than 20 Years **experience** in OT / M2M / IoT
- **Modular yet integrated offering**
- Hardware, software, infrastructure, services
- **Global** footprint
- Strong partner network & ecosystem

Available here and now

Service and Support from Eurotech

- **Global** service & support infrastructure
- **Supplementing** (partners and customers) capabilities
- Planning, Design and Project Management
- **Multi-level, scalable offering**
- Consulting services – many Years of M2M / IoT experience

IoT Architecture and Building Blocks Checklist

If, as part of your M2M / IIoT / IoT solution you require one or more of the following requirements to be met...

- |                       |   |
|-----------------------|---|
| ✓ <b>Agility</b>      | Enabling real-time business decisions – real-time aggregated data for applications, historical data, fast write speeds, CEP front end   |
| ✓ <b>Value-driven</b> | Preserving and extending value props – no “business normalization” but encapsulating complexity, allowing to focus on core...   |
| ✓ <b>Openness</b>     | Open & Industry Standards based in technology, architecture, ecosystem and attitude, IT-centric by design, no-vendor lock-in by proprietary in approach and technology                                      |
| ✓ <b>Flexibility</b>  | Supporting diversity – down to the edge – HW, SW, type of applications, business models   |
| ✓ <b>Versatility</b>  | “No-Silo-Approach” – readiness for current and future requirements – ESB for machines concept – integration of field and IT applications without creating dependencies – different from “classic telemetry” |
| ✓ <b>TCO-focused</b>  | Including development, deployment, management, infrastructure, communication, investment protection, future-proving, certifications   |
| ✓ <b>Security</b>     | Complete approach in architecture and elements  |
| ✓ <b>Validation</b>   | Continuous testing, validation, feedback and improvement ensured, strong ecosystem  |
| ✓ <b>Scalability</b>  | Not just scale up but “out”, volume and diversity   |
| ✓ <b>Completeness</b> | End-to-End complete OT stack, IT/OT integration, security, flexibility and efficiency requires holistic approach, operating system for the IoT / IIoT   |

...talk to Us!

EUROTECH  
eurotech.com

North America  
sales.na@eurotech.com

Europe, Middle East and Africa  
sales.emea@eurotech.com

Latin America  
sales.la@eurotech.com

Asia Pacific  
sales.ap@eurotech.com



Everyware™ IoT Software Solutions



Winning Architecture & Building Blocks for the Internet of Things

Note: The information in this document is subject to change without notice and should not be construed as a commitment by Eurotech. While reasonable precautions have been taken, Eurotech assumes no responsibility for any errors that may appear in this document. All trademarks or registered trademarks are the properties of their respective companies.  
© Copyright Eurotech 2016. All rights reserved.

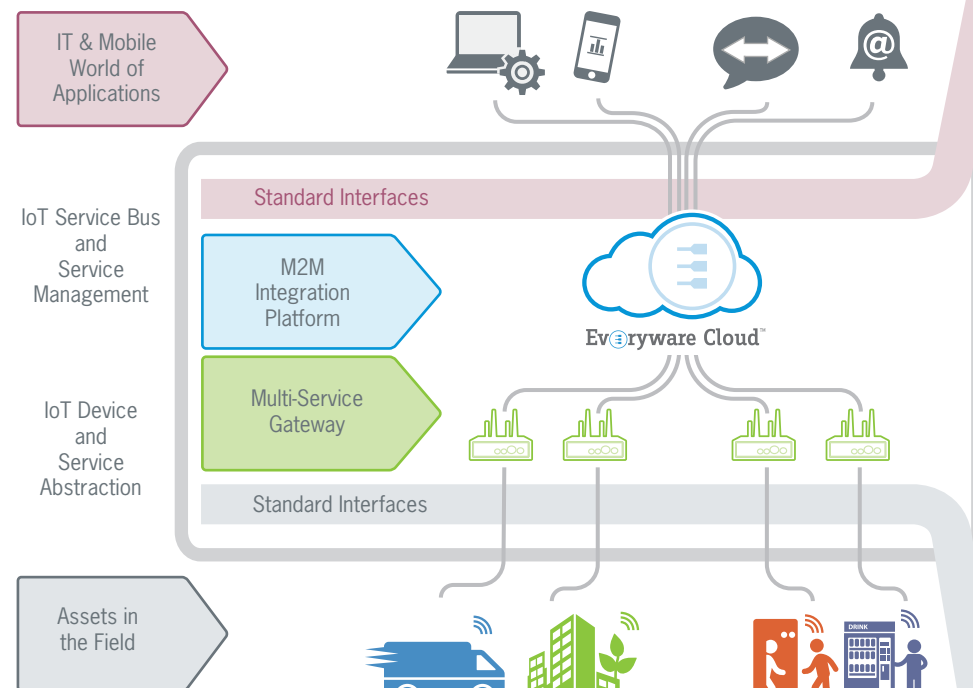
## IoT Architectures have to be Flexible, End-to-End and Open

Good IoT / OT architectures are all about **encapsulating the complexity of M2M / IoT** distributed systems to:

- **Reduce** development **time and risk**
- Ensure optimum **investment protection**
- **Avoid creating dependencies** between the Things in the field and the applications
- Leverage world-class, **proven and standards-based** architectures, protocols and technologies
- Dramatically **reduce** the **TCO** (Total Cost of Ownership) of distributed device infrastructures
- **Rapidly implement** innovative, new business models and processes

And:

**Preserve and extend the customers value proposition** by leveraging computational power also at the edge of the IoT infrastructure for data management, analytics and applications. It is essential that the software architecture also at a remote device or asset level provides flexibility and agility to design and manage the embedded applications as required.



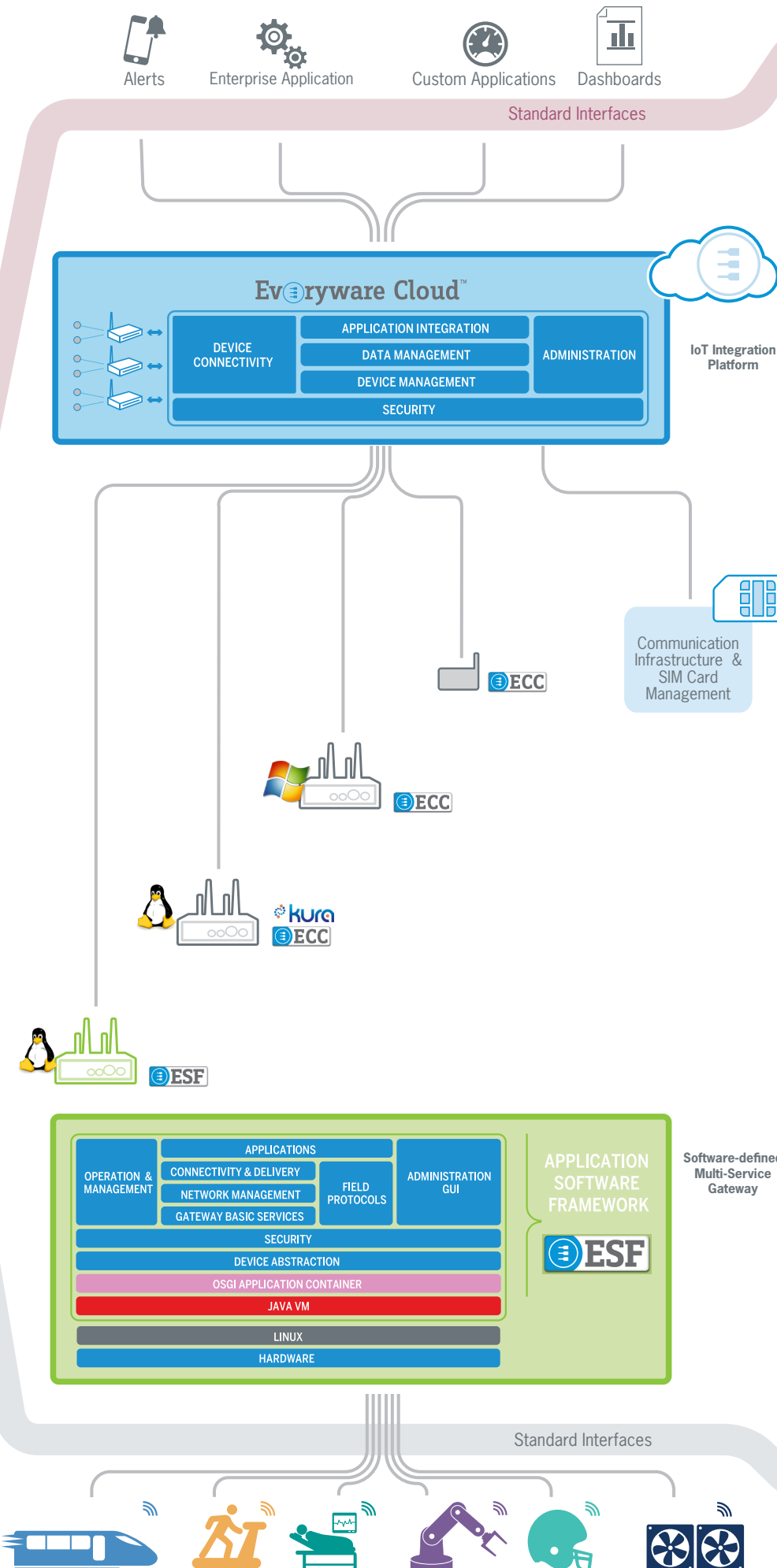
### Security Built-In

- IoT Device & IoT platform have validated identities
- Integrated PKI / X.509 Certificate Management
- Mutual authentication for communication
- Signed messages over an encrypted channel
- Secure execution environment in devices
- Secure pairing / provisioning of IoT Devices
- Reduced "attack surface", including communication on IoT devices reduced to a single, authenticated & encrypted port
- Secure software management / distribution
- State-of-the art network & system security (firewall, hardening)
- Role based access control
- Secure management access
- Powerful VPN services for remote management



## Good IoT/M2M Architectures

Scalable, Flexible, Open, End-to-End



## IoT / M2M Building Blocks and Features in Detail

World of Mobile and Business Applications

### Everyware™ IoT Integration Platform

- Designed and optimized to connect distributed assets to Enterprise applications
- **Encapsulates** and abstracts the specifics and complexities of OT solutions
- Provides **Data & Device & Embedded Application Management**
- **Any** type of **device** can be securely connected and managed
- Open and Industry **standards-based**
- Fully **decouples data producers from data consumers**
- **Enterprise application integration** (REST APIs, Websockets, MQTT, AMQP,...)
- Adapters for IoT Analytics, BI and Enterprise IT/OT Integration
- **Advanced data services**, including a schema-less, distributed, decentralized DB
- Access to **aggregated real-time data** and **historical data**
- **Data** export & access **in many formats**
- **Real-time analytics & rules engine** (for real-time data pattern recognition and action triggering)
- High level of **security** and health check monitoring built-in
- Web Based **Administration Console**

### Communication Infrastructure & Optimum M2M / IoT Protocols

- Support for **optimum IoT / M2M protocols** (MQTT, CoAP, ...)
- **Integrated SIM Management** Platforms of mobile carriers & MVNO's
- Support for out-of-band communication / **SMS**
- **Secure managed VPN Tunnels**

### ECC Everyware Cloud Client

- Secure MQTT + data model **device cloud client** implementation
- Leverage **Everyware Cloud** data management and device management features
- **Easily portable** to many platforms and most operating systems
- Very **light resource footprint** – scales to classic telemetry applications
- Integrated and extended **in ESF** (Everyware Software Framework)

### ESF Everyware Software Framework (ESF)

- **Java/OSGi-based Application Framework** for IoT Gateways and Edge Nodes
- Simplifies the design, deployment and remote management
- Commercial, enterprise-ready edition of Eclipse Kura, the open source **middleware** for IoT gateways
- **Secure**, cohesive and integrated embedded **application environment**
- Remote & local **embedded application and device management**
- Modular software components & development tools
- Device abstraction in **Java**
- **"One configuration" approach** for device HW, OS & networking functions and applications
- Sensor and field protocol libraries / support
- **Cloud connectivity** with ESF providing full integration with Everyware™ Cloud
- **ESF adds** advanced **security**, diagnostics, provisioning, remote access / VPN

### IoT Hardware: Eurotech, 3rd Party, Open Hardware

- IoT Gateways, CPU Boards and SBCs
- General purpose or purpose built of the shelf devices for different verticals
- Custom solutions

Assets in the field, devices, sensors, actuators, PLC's...