

Prototypage Rapide

La force de l'Open Source

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Grenoble – 19 Novembre 2015

The Internet of Things / Les Objets Connectés



Energy



Agriculture



Transportation



Railroad



Construction



Industrial

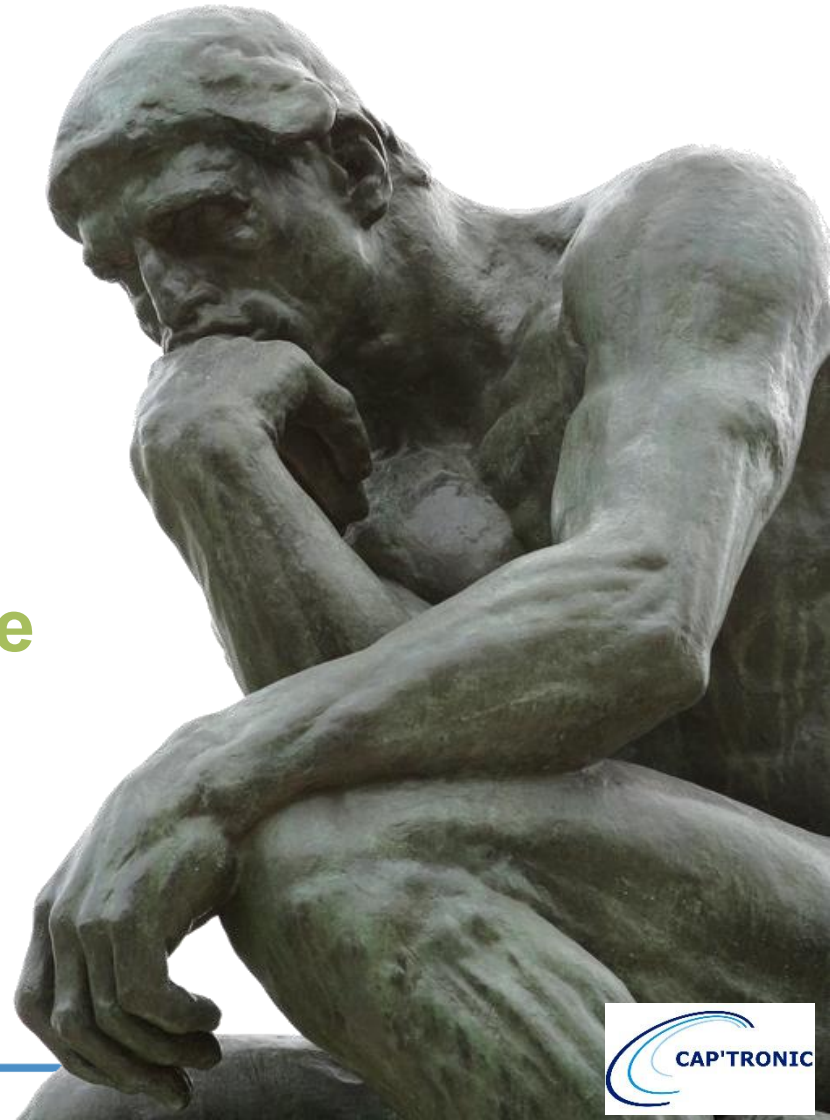


The Internet of Things / Les Objets Connectés

Une transition économique du Produit vers le Service...

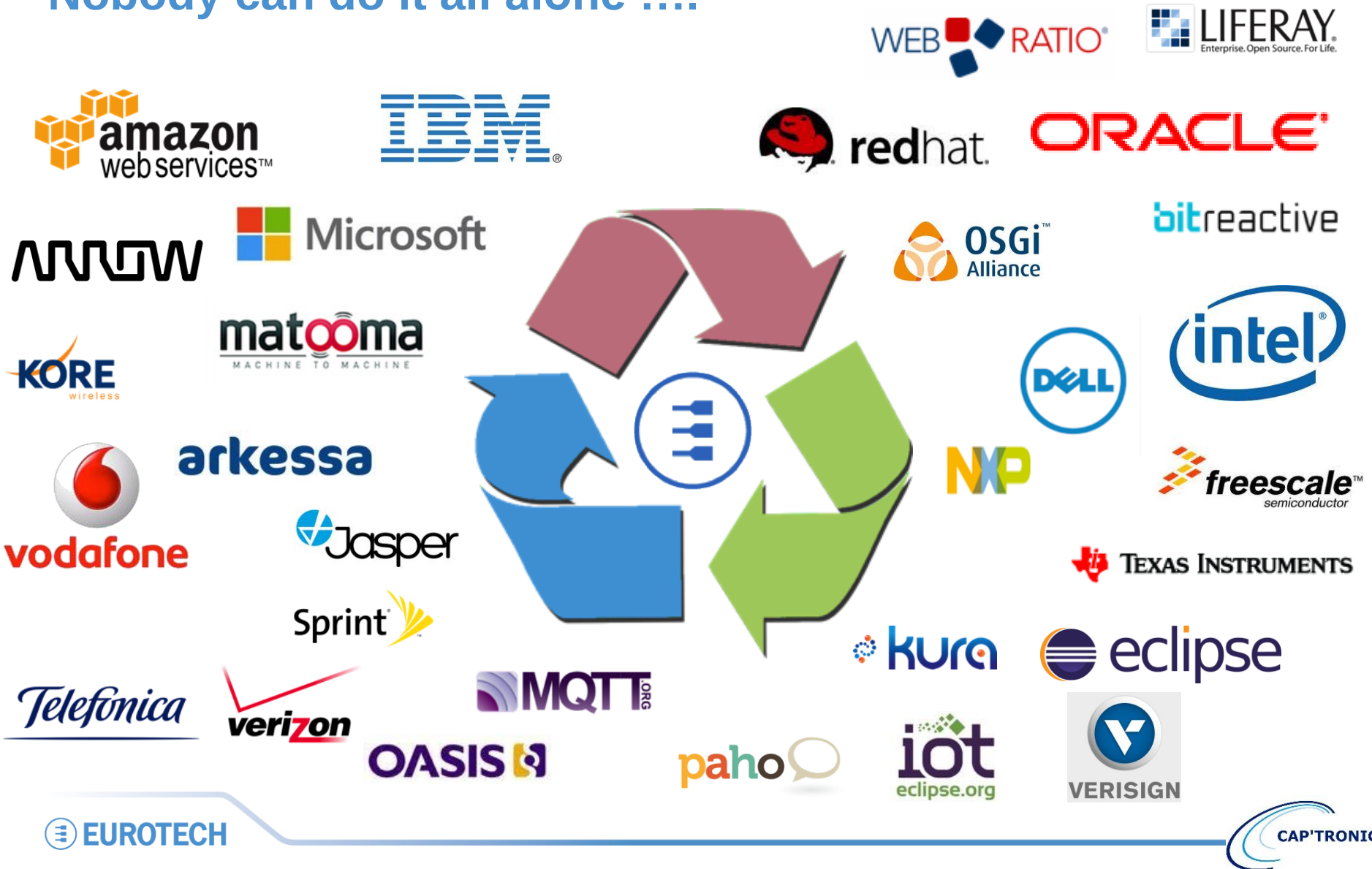
Re-Penser

- Le produit
- La valeur ajoutée
- Les business models
- L'approche Technologique



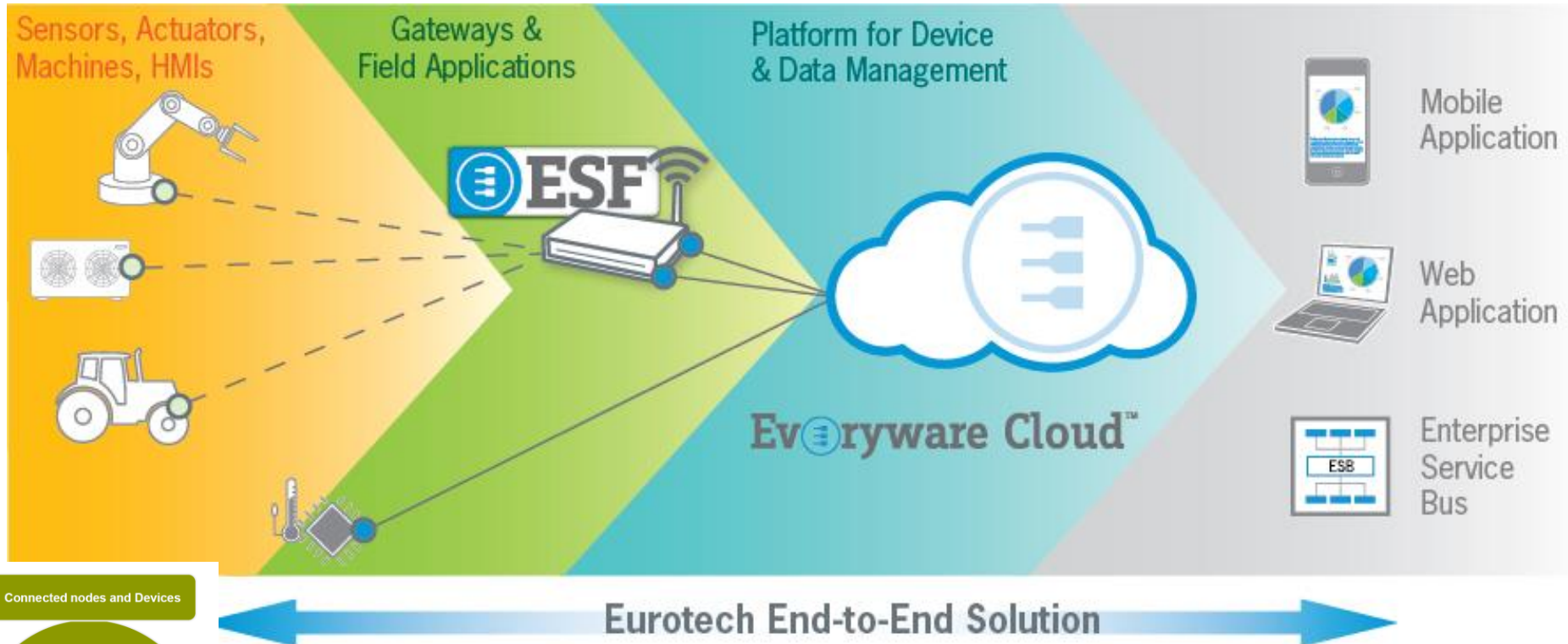
M2M / IoT Partner Ecosystem

Nobody can do it all alone



Eurotech vision: "FedExing Data"

Transforming Bits of Data at the Edge of the Network into Actionable Information in the Business Users' Hands

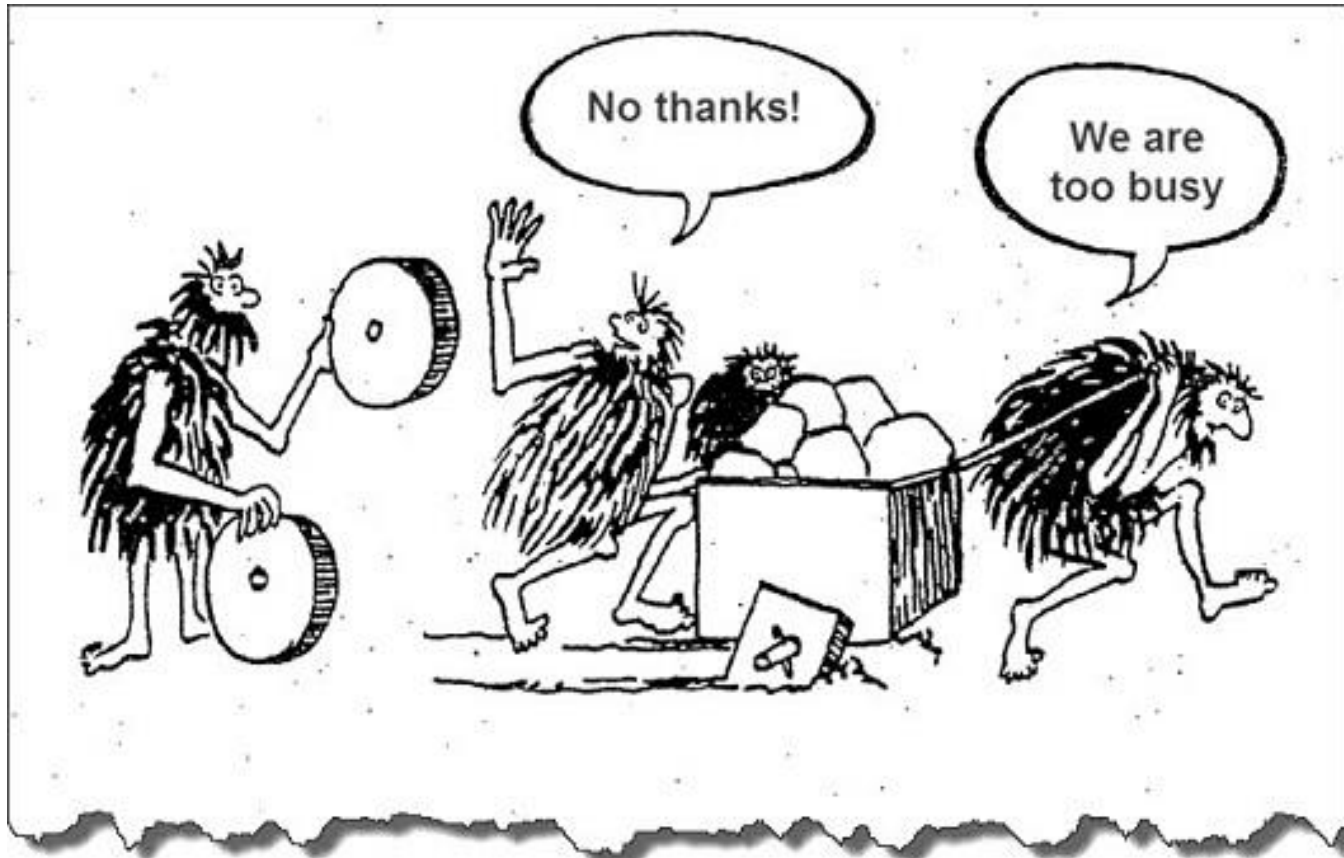


Connected nodes and Devices

Smart things,
Smartphones,
Tablets,
Client box

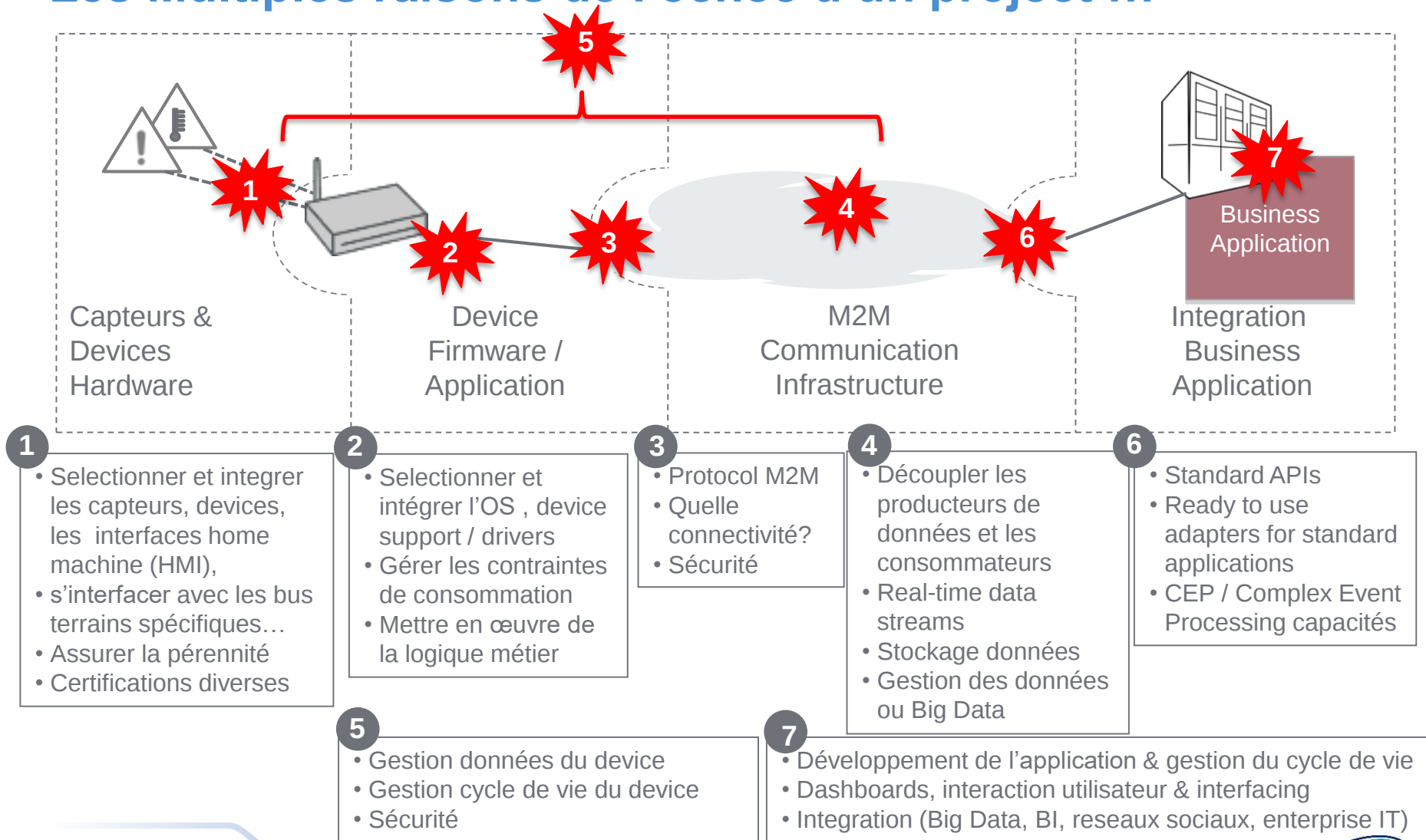


A EVITER PENDANT LA PHASE PROTOTYPAGE...



Anatomie d'une solution M2M / IoT

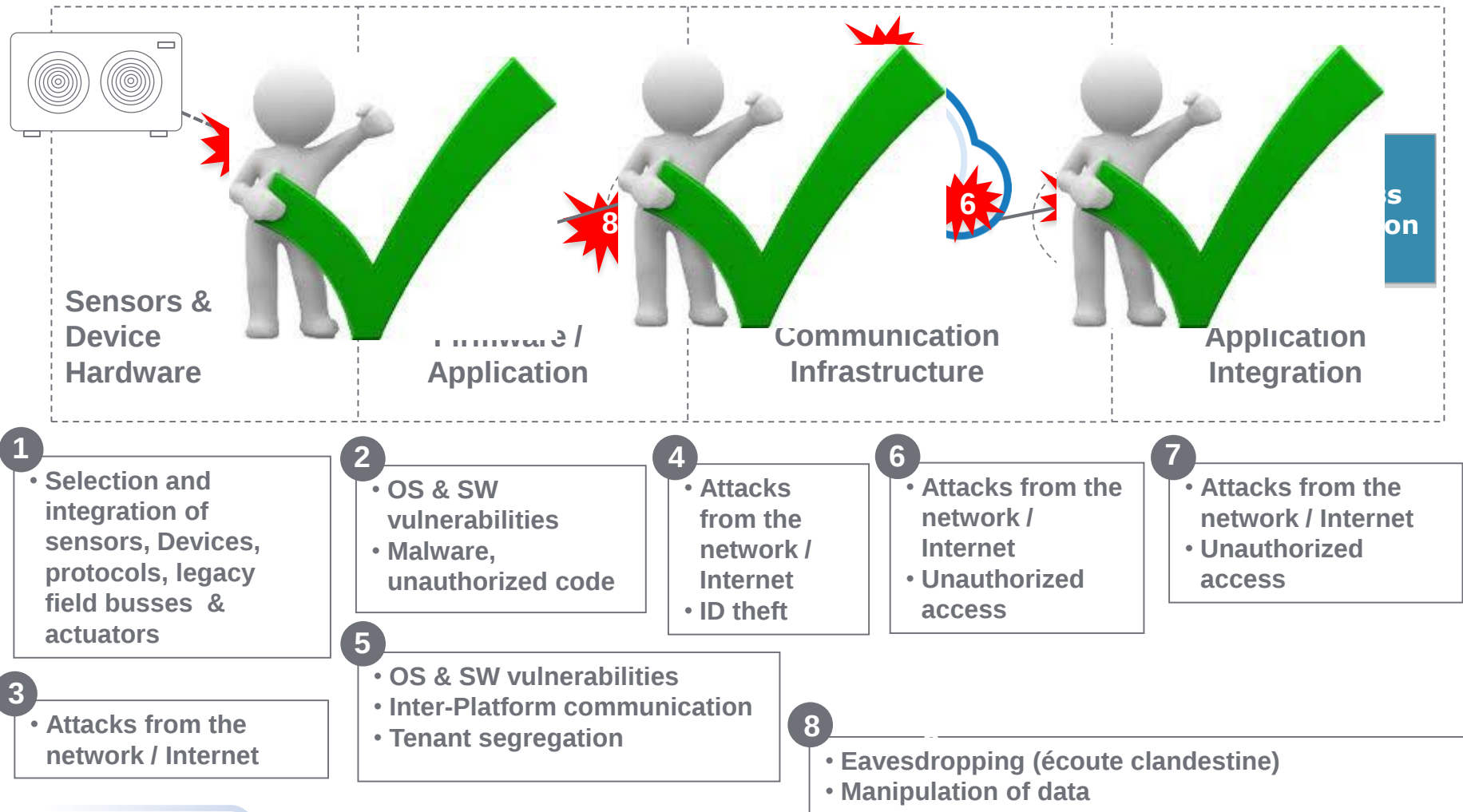
Les Multiples raisons de l'échec d'un project ...



IoT / M2M

la sécurité !

Seule l'approche holistique est indispensable



POUR REUSSIR SON POC « Proof of Concept »

NE PAS SOUS-ESTIMER LA PHASE PROTOTYPE

Ne pas sous-estimer la complexité d'une appli IoT

Rester sur son expertise : éviter le « do it yourself »

Eviter de devoir tout refaire après le POC

TOUT EN LIMITANT LES INVESTISSEMENTS ET LES RISQUES ?

TOUT EN ALLANT VITE ?

C'EST POSSIBLE



L'OPEN SOURCE

Software Defined Multi-Service Gateway

ESF Powered by Eclipse Kura

Open Sourced at Eclipse Kura



Extended and Commercially supported
on Industrial Hardware by Eurotech



- Modular software components
- Manage cloud connectivity
- Network configuration and administration
- Support for different protocols
- Remote management and access
- Integrated development environment
- Application portability



Software Defined Multi-Service Gateway

Efficient Development & Investment Protection

Software portability
across HW Platforms

Industrial
M2M/IoT
Gateways



Open Hardware



Open source framework for IoT gateways

- Eclipse IoT is an ecosystem of companies and individuals that are working together to establish an Internet of Things based on open technologies

-  Founded in 2012 by  **EUROTECH**  **SIERRA WIRELESS** 
- Now ...

- 23 Members, including big players like



BOSCH
Technik fürs Leben



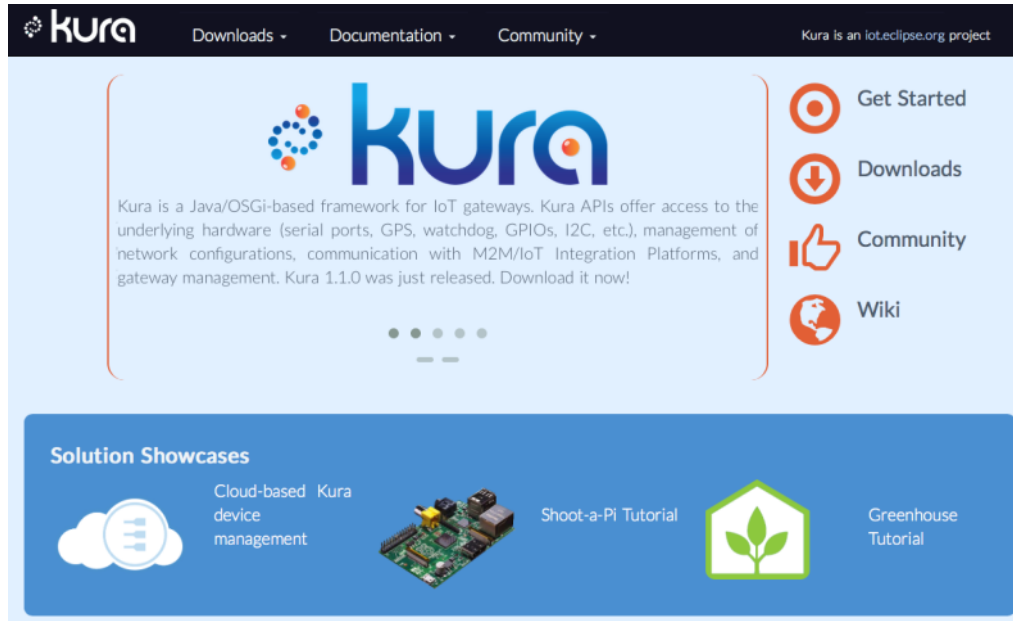
redhat



- 15+ new projects
- 1M+ lines of source code
- The fastest growing Eclipse workgroup

Eclipse Kura

Open Java Framework for IoT Gateways



The screenshot shows the Eclipse Kura website. The header includes the Kura logo, navigation links for Downloads, Documentation, and Community, and a note that Kura is an Eclipse IoT project. The main content area features the Kura logo, a description of the framework, and a list of links: Get Started, Downloads, Community, and Wiki. Below this, there is a 'Solution Showcases' section with icons and links for Cloud-based Kura device management, Shoot-a-Pi Tutorial, and Greenhouse Tutorial.

Kura is a Java/OSGi-based framework for IoT gateways. Kura APIs offer access to the underlying hardware (serial ports, GPS, watchdog, GPIOs, I2C, etc.), management of network configurations, communication with M2M/IoT Integration Platforms, and gateway management. Kura 1.1.0 was just released. Download it now!

Solution Showcases

- Cloud-based Kura device management
- Shoot-a-Pi Tutorial
- Greenhouse Tutorial

<https://www.eclipse.org/kura/>



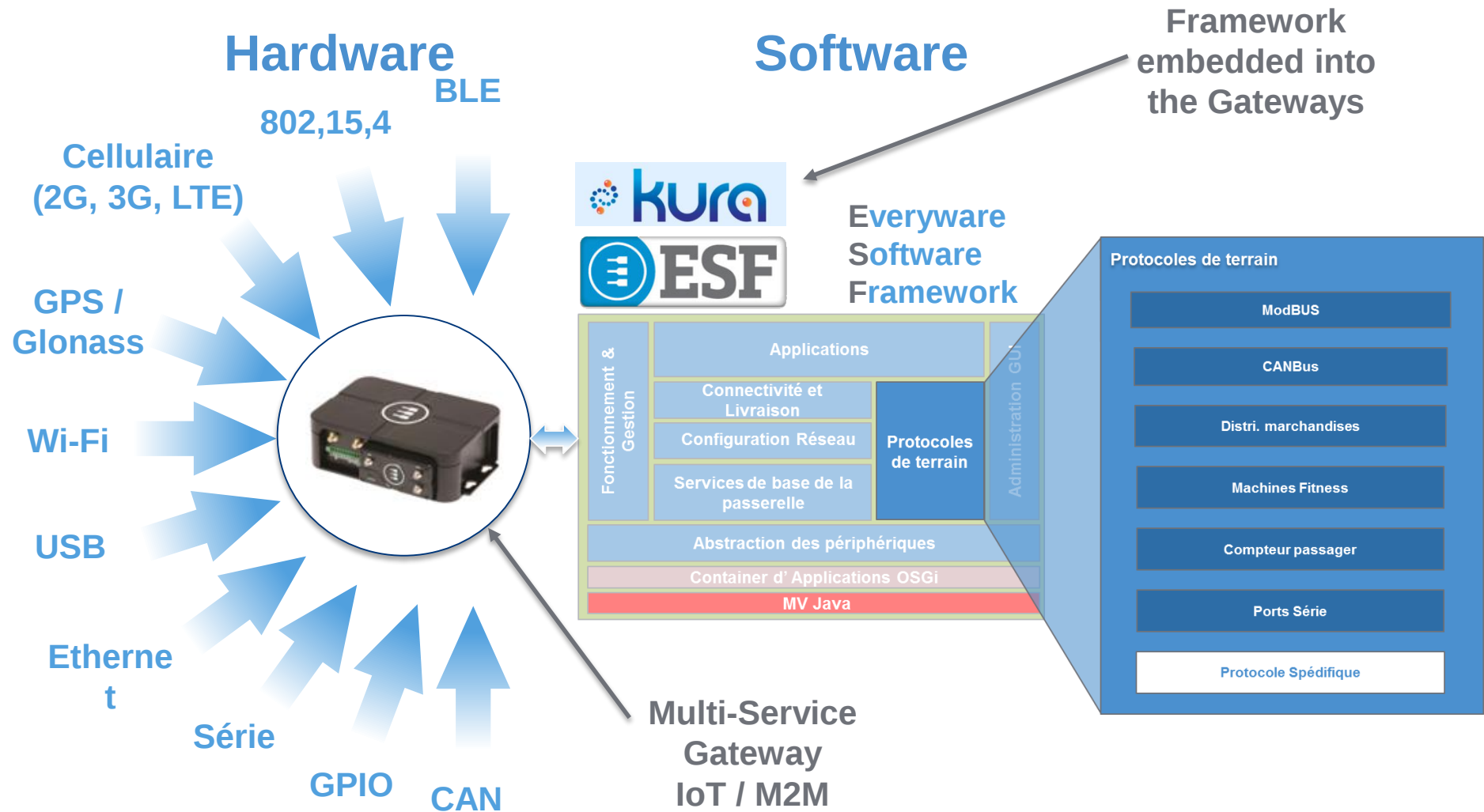
The banner features the Eclipse IoT logo and the text 'OPEN IOT STACK FOR JAVA DEVELOPERS'. Below this, it states: 'Eclipse IoT has the open source technology that makes it easy for Java developers to create IoT applications.' The background is a dark, circuit-like pattern.

OPEN IOT STACK FOR JAVA DEVELOPERS

Eclipse IoT has the open source technology that makes it easy for Java developers to create IoT applications.

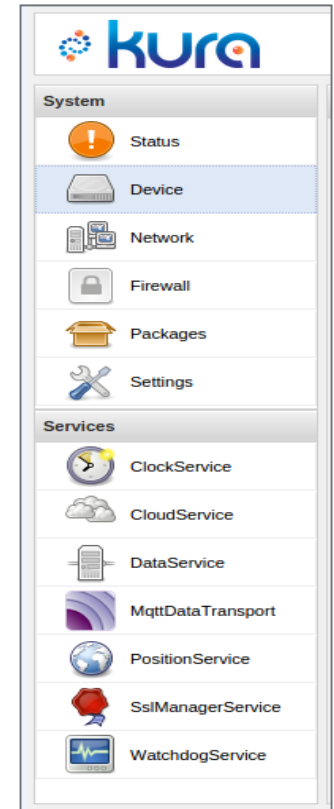
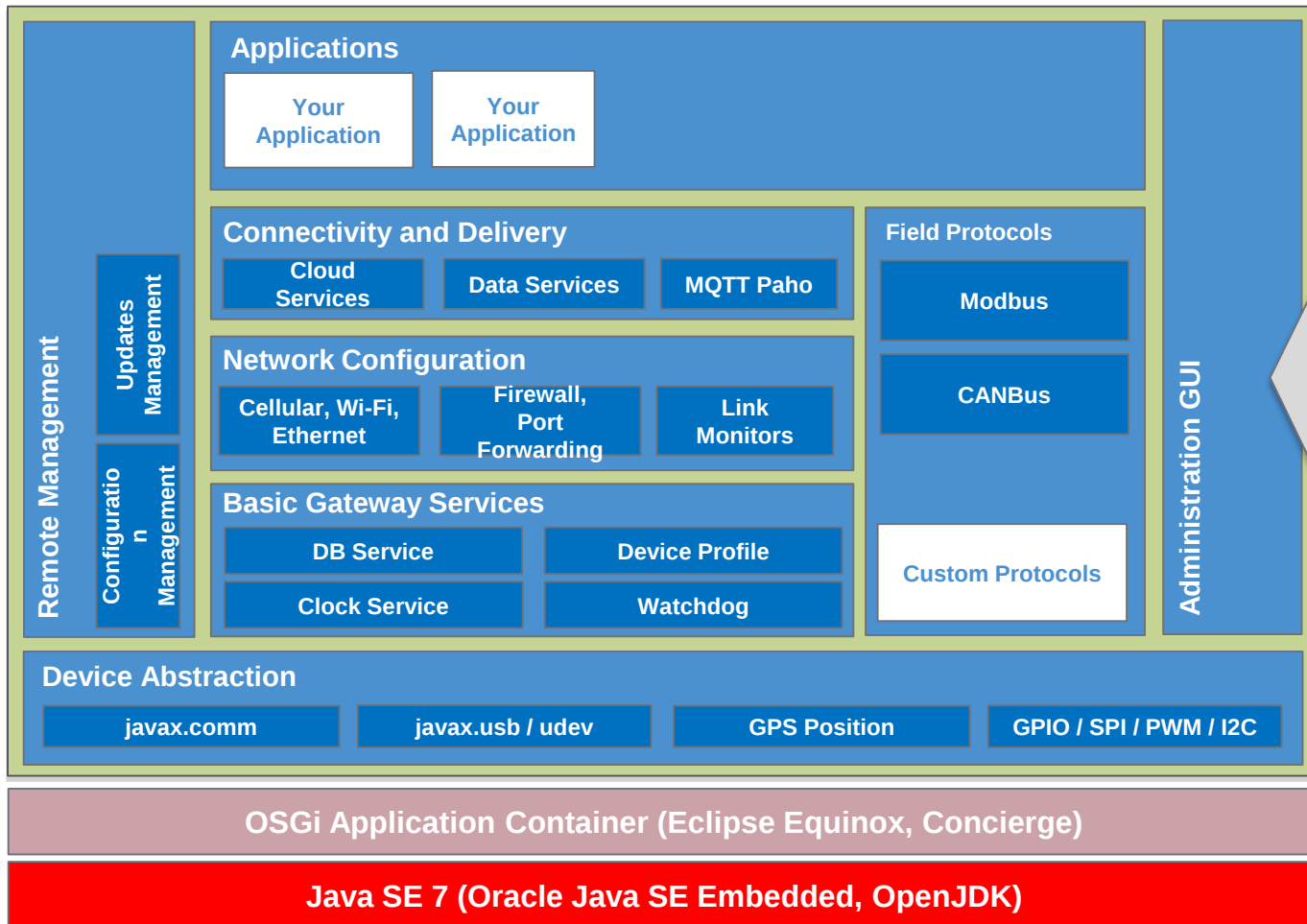
Key Points IoT / M2M

Interoperability



KURA

Kura Services (Subset)



ESF Developer's Experience

Designed from ground-up for developers

Emulate on PC	Deploy on Target	Cloud Managed
		
Start developing your M2M application in the comfort of your PC. • Full Eclipse Integration • Target Platform Definition • Emulated Services • Run/Debug from Eclipse • Support Mac/Linux Hosts	When you are ready, deploy your application on the gateway. • One-click Deployment • Eclipse Plugin • Remote Debugging	Provision your application to field devices from the Cloud. Manage your application configuration and lifecycle from a Cloud infrastructure. No more field visits! • Web-based Console • REST API Integration • Smart Alerts

Kura 1.3.0 Downloads

Released on October 23rd, 2015 - [Release Notes](#)

The below downloads are distributed through the Eclipse Foundation and meet all requirements of the [Eclipse Public License](#). Entries below the downloads section give more explanation on each type of download.

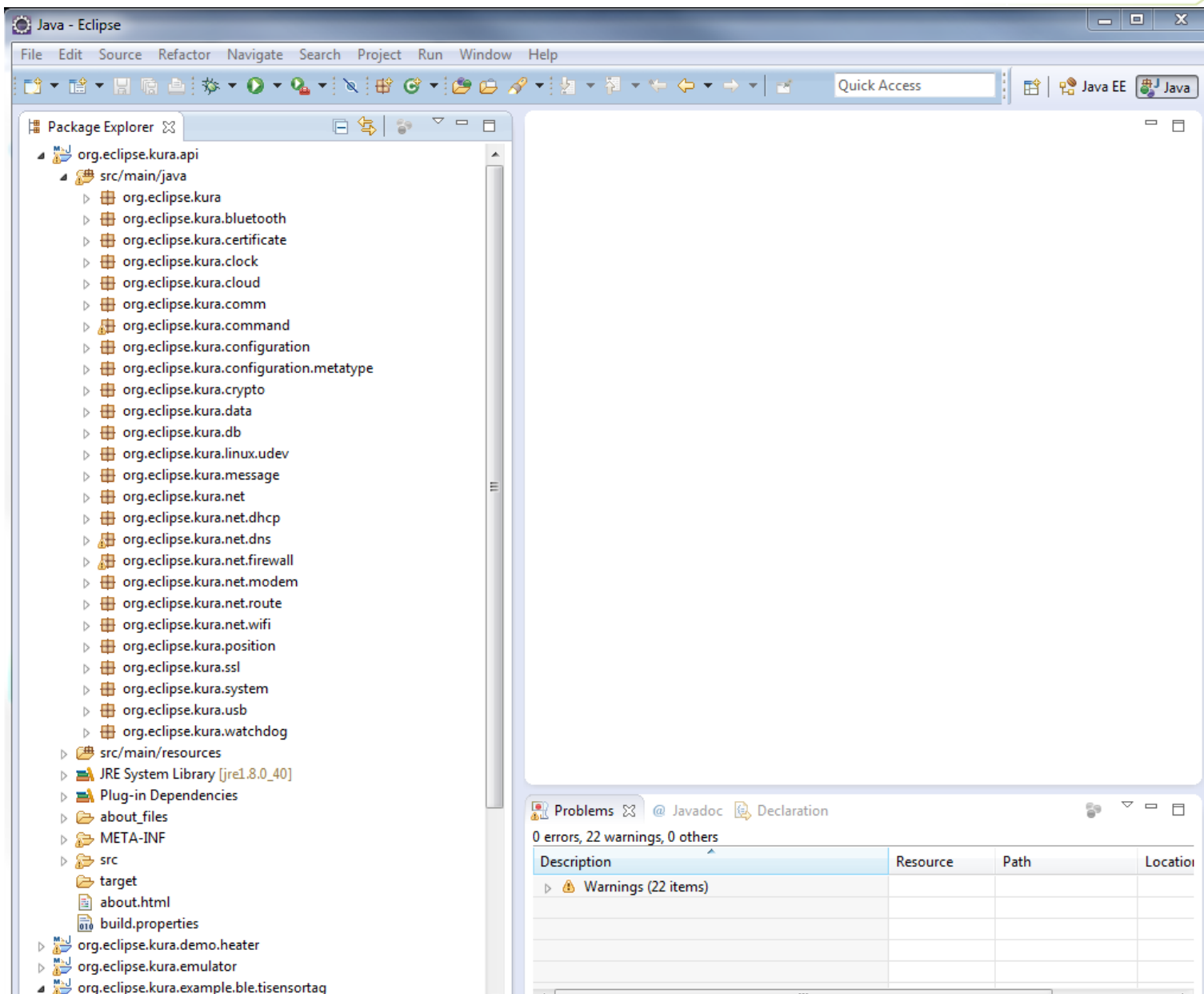
- Raspbian (Model 2) - Stable
- Raspbian (Model 2, No Net)- Stable
- Intel Edison (No Net)- Stable
- Raspbian - Stable
- Raspbian (No Net)- Stable
- Raspbian - Development
- Raspbian (Model B+)- Stable
- Raspbian (Model B+, No Net)- Stable
- Raspbian (Model B+)- Development
- BeagleBone - Stable
- BeagleBone (No Net) - Stable
- BeagleBone - Development
- Developer's Workspace

Kura 1.3.0 Extended Downloads

Released on October 23rd, 2015 - [Release Notes](#)

The below downloads contain the Kura Web UI, the Open . . . Device I/O library to access GPIO, I2C, SPI and PWM, and . . . bundles to interface with the CAN bus. These features, w . . . released under [Eclipse Public License](#), depend on third p . . . libraries that cannot be distributed directly by Eclipse.

- Raspbian (Model 2, with Web UI) - Stable
- Raspbian (Model 2, No Net, with Web UI) - Stable
- Intel Edison (With Web UI) - Stable
- Intel Edison (No Net, with Web UI) - Stable
- Raspbian (with Web UI) - Stable
- Raspbian (No, Net, with Web UI) - Stable
- Raspbian (Model B+, with Web UI) - Stable
- Raspbian (Model B+, No Net, with Web UI) - Stable
- BeagleBone (with Web UI) - Stable
- BeagleBone (No net, with Web UI) - Stable
- Developer's Workspace (with Web UI)



Installing KURA on the Raspberry Pi

- Download the package on Eclipse.org website :



The screenshot shows the Eclipse.org website for Kura 1.2.0 Downloads. The page has a dark header with the Kura logo and navigation links: Downloads, Documentation, and Community. A tagline states 'Kura is an [iot.eclipse.org](https://www.eclipse.org/iot) project'. The main content area is light blue and divided into two columns. The left column is titled 'Kura 1.2.0 Downloads' and mentions a release on June 7th, 2015, with a link to 'Release Notes'. It explains that downloads are distributed through the Eclipse Foundation and meet all requirements of the Eclipse Public License. It lists three download options: Raspbian (Model 2) - Stable, Raspbian (Model 2, No Net)- Stable, and Intel Edison (No Net)- Stable. The right column is titled 'Kura 1.2.0 Extended Downloads' and also mentions the release date and 'Release Notes'. It states that these downloads contain the Kura Web UI, the Open JDK Device I/O library, and bundles to interface with the CAN bus. It lists two download options: Raspbian (Model 2, with Web UI) - Stable and Raspbian (Model 2, No Net, with Web UI) - Stable.

- Transfer the file on your device and install it :

```
root@raspberrypi2:~# dpkg -i kura_1.2.0_raspberry-pi-2_armv7.deb
Selecting previously unselected package kura.
(Reading database ... 83407 files and directories currently installed.)
Unpacking kura (from kura_1.2.0_raspberry-pi-2_armv7.deb) ...

Installing Kura...

Setting up kura (1.2.0) ...

Finished. KURA has been installed to /opt/eclipse/kura and will start automatically after a reboot
root@raspberrypi2:~#
```