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FUJITSU

Inria

RIOT

Fast modelling & deployment of IoT applications from the cloud

Dr. Ian Thomas
Chief Strategy Officer

**Digital
problem
solvers...**

JCDecaux

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A hyperconnected world.

An emerging new world where people, systems and things are connected via digital processes, transforming work and life everywhere.

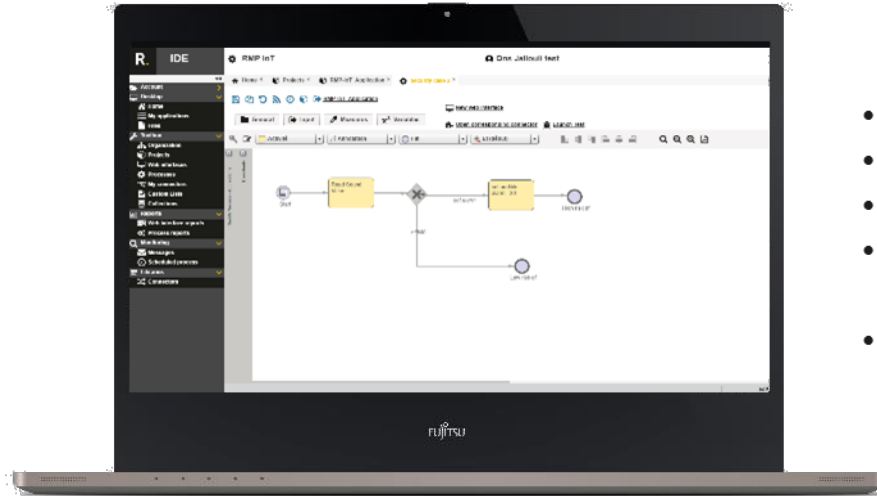
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An innovation subsidiary of Fujitsu providing a

High productivity cloud platform for building connected, process-centric apps



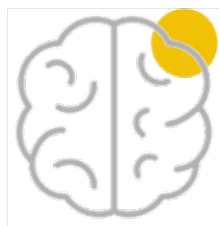
- Focus on modelling
- UX, Process, Integration, Data
- Library of connectors for on-premise, cloud
- One-click global deployment
- Extended to IoT with additional connectors

Challenges of building digital systems with IoT

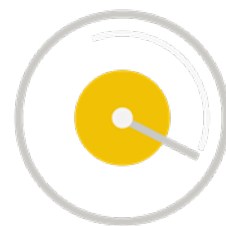
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- From a selection of projects we learnt that connectivity is not enough



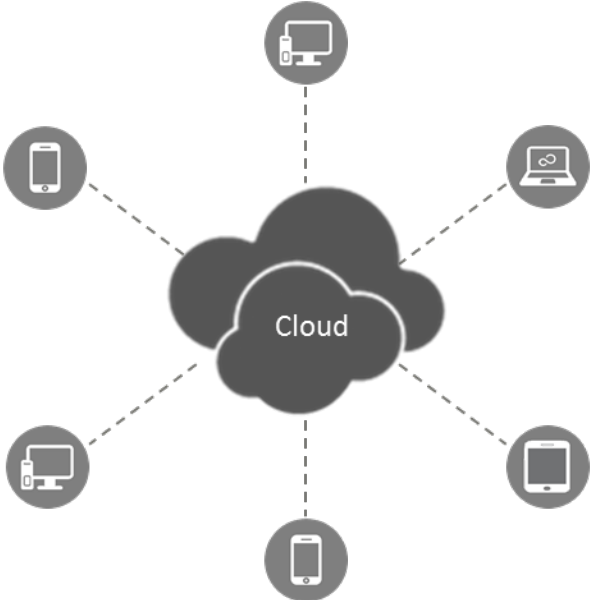
Need more
intelligent
devices



Need faster
Development
progress

An increasingly complex problem

Cloud-centric



IoT-centric

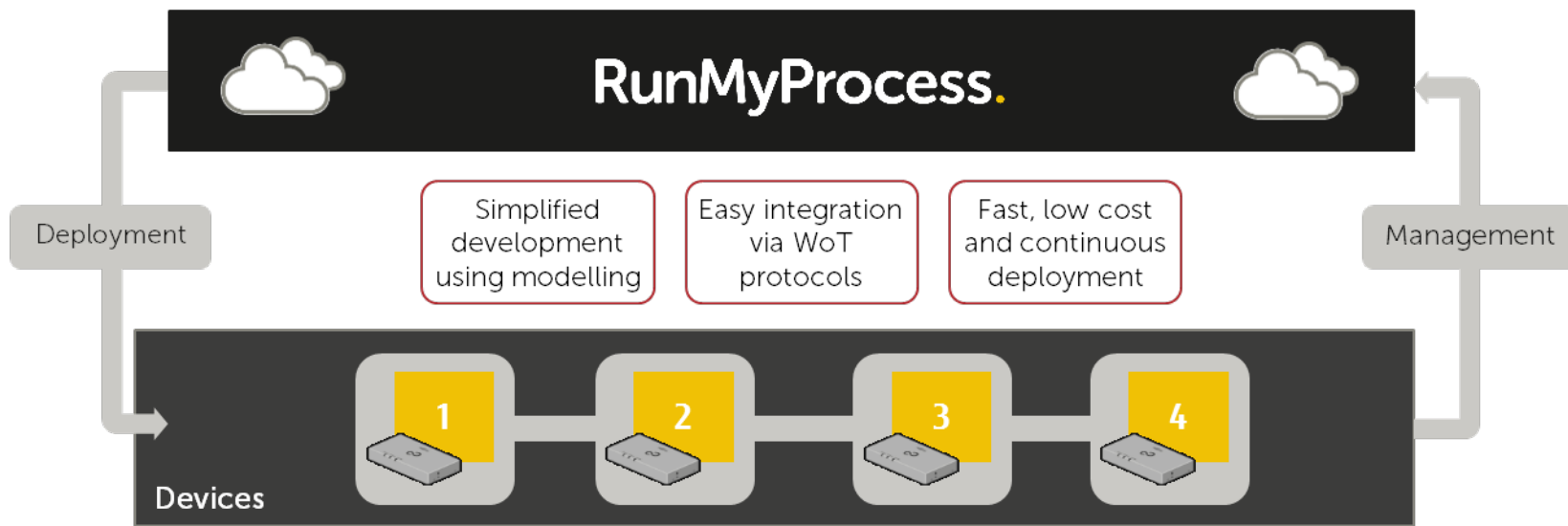


Our goal

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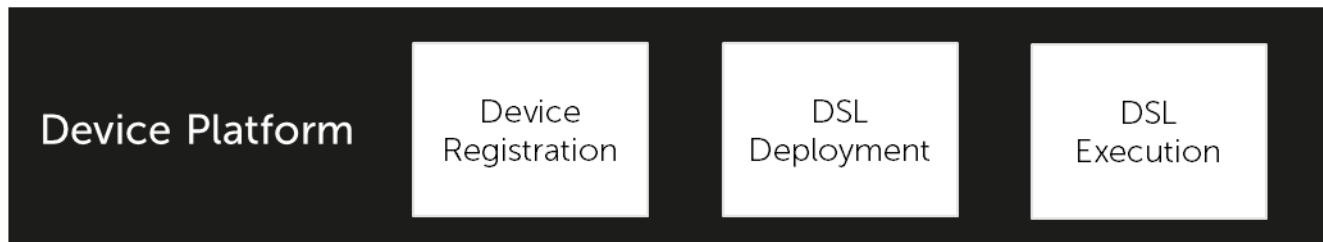
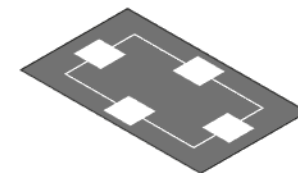
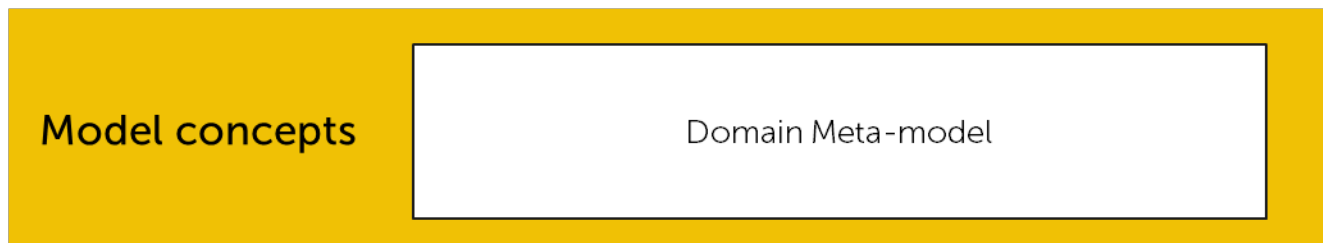
Enable fast, agile modelling & deployment of IoT applications from the cloud.



Main components

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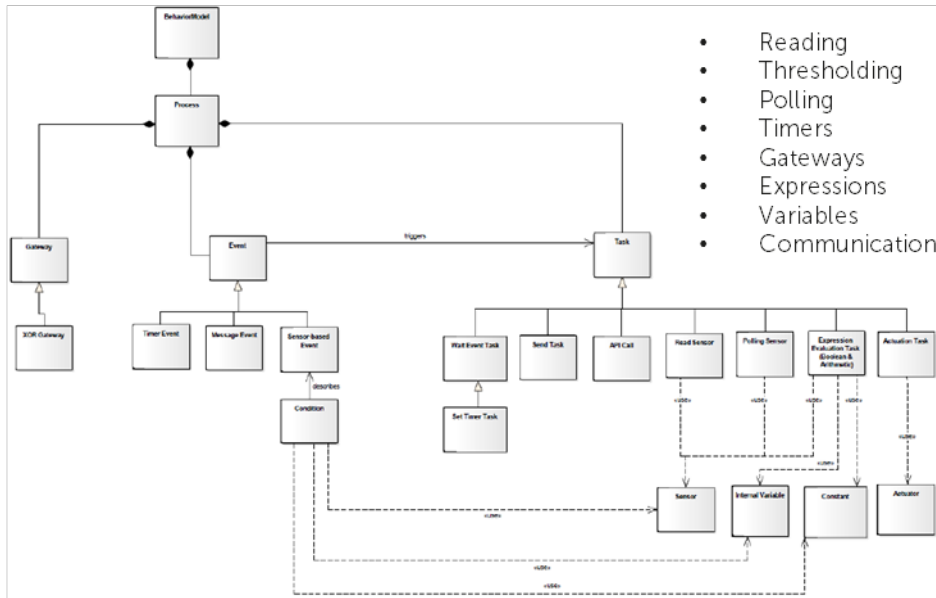
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Building a consistent meta-model

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Extended modelling
& process XML

Transformation



Javascript framework
for RIOT API access



- Abstracted from concrete use cases

- Leveraging LWM2M & IPSO smart objects

Solution architecture

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Cloud modelling & execution

Communications

Open IoT platform

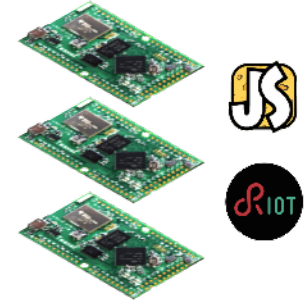
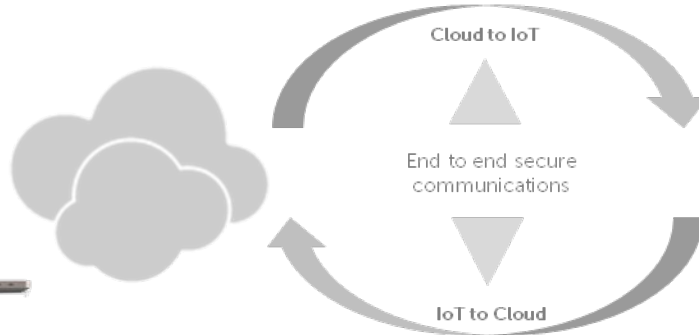
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Xtext



- Cloud based behaviour modelling
- Open LWM2M registry
- JS generation & deployment



- Javascript execution engine
- Access to underlying RIOT APIs
- Easy (re)deployment

Shared Metamodel

Benefits

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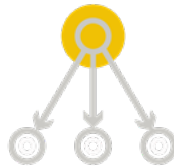
Simplified development

Non-specialised developers can easily build, deploy and test IoT applications



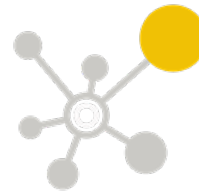
Flexible deployment

Business logic can be built and flexibly deployed to both the cloud & devices



Easy integration

Devices easily integrated into wider systems using web protocols e.g. CoAP



Power optimized

Approach does not require expensive firmware updates and distribution



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