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Java Embedded, M2M, The Internet of Things

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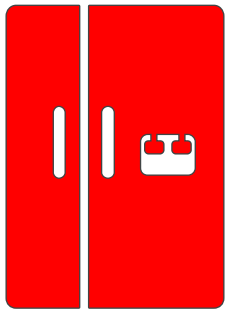
Principal Sales Consultant

Executive Summary

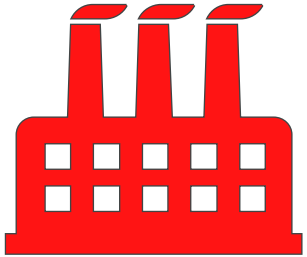
- The advent of Internet of things will dramatically increase the demand for new services that span edge devices and enterprise applications
- Java Embedded enables intelligence on edge devices. Java turns devices into a value-creating services platform, enabling data management, application management and event analysis on these devices
- Java Embedded can be deployed on a wide range of embedded platforms, spanning from constrained devices to high-end embedded systems

Java Embedded
INTRODUCTION & BUSINESS DRIVERS

Enabling New IoT Services



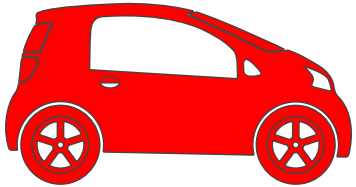
Home Automation



Industrial Automation

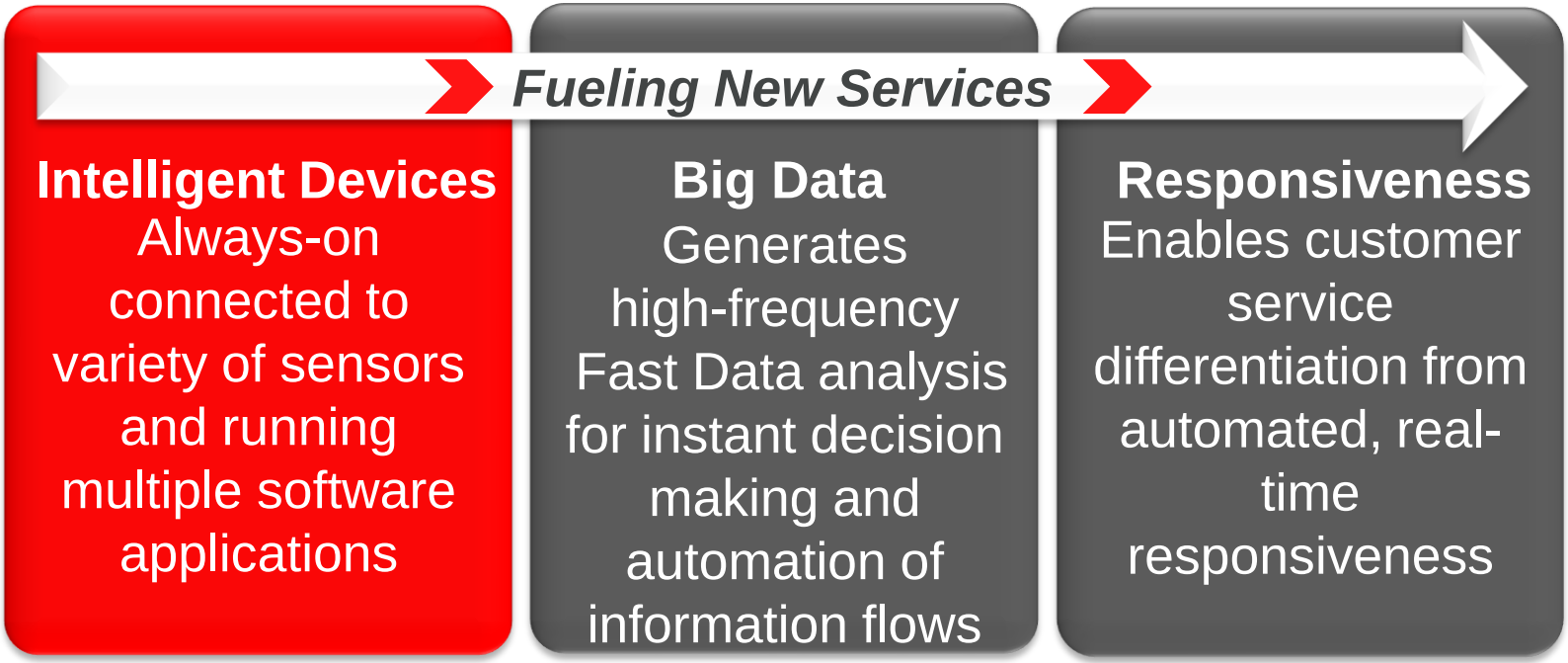
Smart Utilities

Healthcare



Automotive Telematics

The Path to New Services



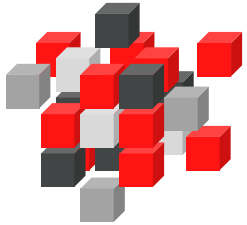
Device Needs

Always On

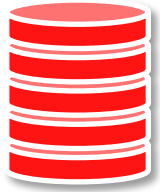
Performant and Scalable

Secure

Remotely Manageable



A Platform
for New Services



Local Intelligence

Vendor Ecosystem Needs

Manage BOM & Profit

Innovation and
Competitive Edge

Standards &
Regulatory Compliance

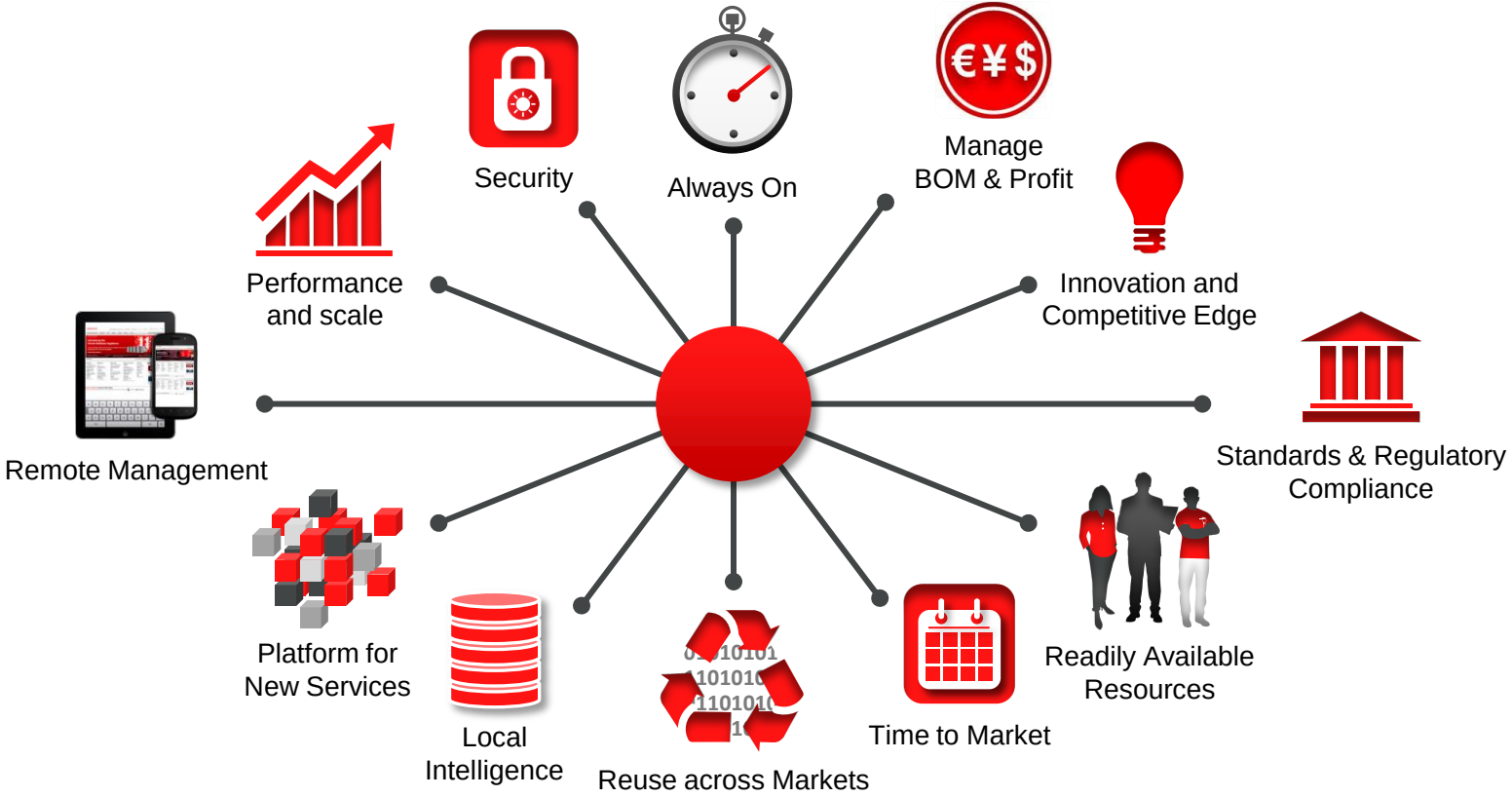
Time to Market

Readily Available
Resources

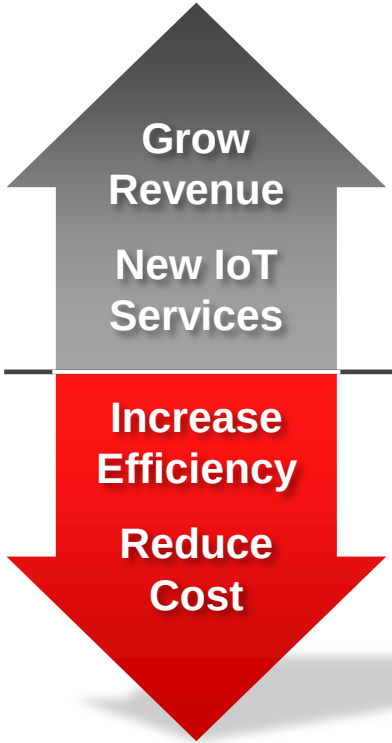
Reuse Across Markets

Java Embedded
VALUE PROPOSITION

Java Enables Intelligence on Edge Devices



Business Value of Java on Embedded Devices

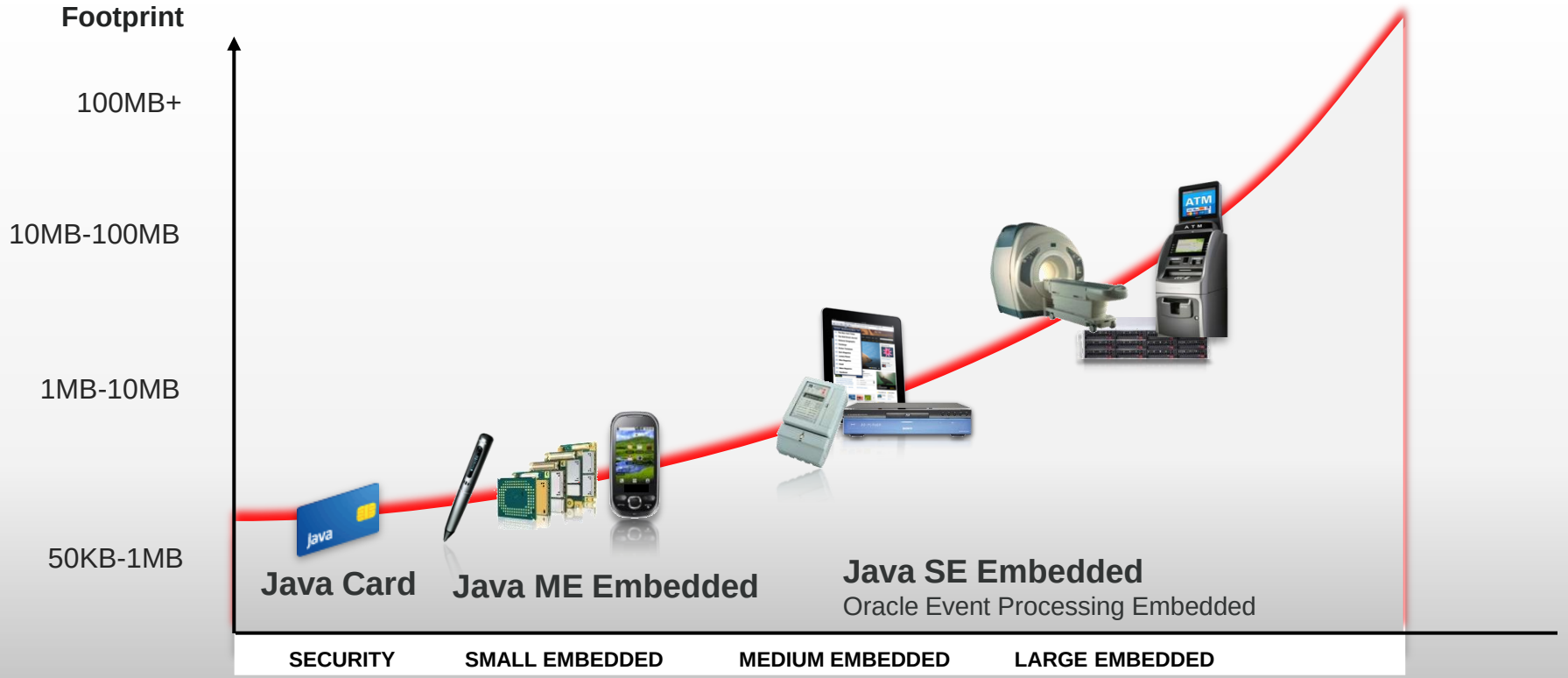


- Extended Product Lifecycle
- Enhanced Experience
- Increased Market Reach/multiple UEs
- Proven, Reliable, Secure

- Control over BOM and Roadmap
- Strong Resource Availability
- Shorter Time-to-Market
- Reduced Support Costs
- Reduced Risk

Java Embedded
PRODUCT MAPPING

Java Embedded Product Portfolio



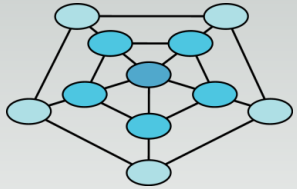
Java ME Embedded

Features at a Glance

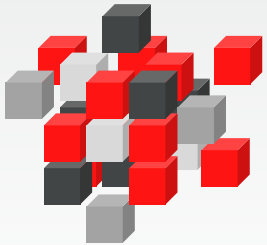
Proven Java embedded platform based latest Java ME 8 standards

Highly optimized, robust multitasking Java Virtual Machine

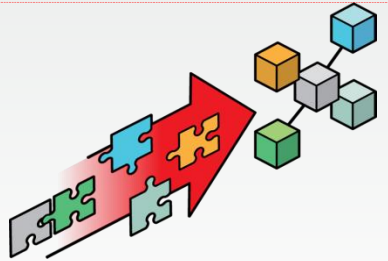
Fully headless operation with wired & wireless connectivity



Versatile, cross-platform access to peripherals and networks

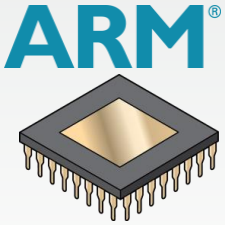


Modular software platform, ideal for granular in-field upgrades



Remote software deployment and management

Multiple RTOS or bare metal supported

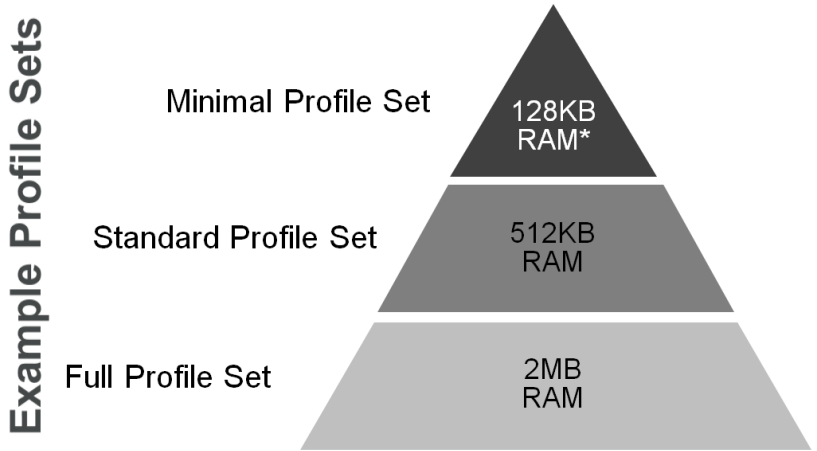


Scalable from microcontroller-class systems upwards

Java ME Embedded

Java 8 Release Highlights

- Configurable Footprint
- Improved Development Team Productivity
- Built for Embedded
- Enhanced Connectivity
- Enhanced Security



* *MEEP 8 Minimal Profile Set customized for single-function device.*

Actual footprint will vary depending on target device and use case

Java SE Embedded

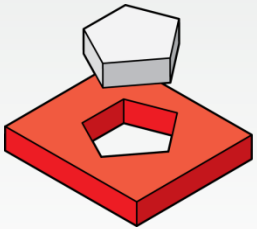
Features at a Glance

Full featured Java SE platform with Java 8 language support

Industry standard, high-performance HotSpot Just-In-Time compiler optimized for embedded

Three new optimized Java runtimes a.k.a. Compact profiles

Headless and Headful (JavaFX or AWT/Swing) configurations



Production ready binaries optimized for multiple embedded platforms

Detailed JVM runtime profiling and after-the-fact incident analysis

Simple migration of legacy headless CDC applications

ARM®

Power

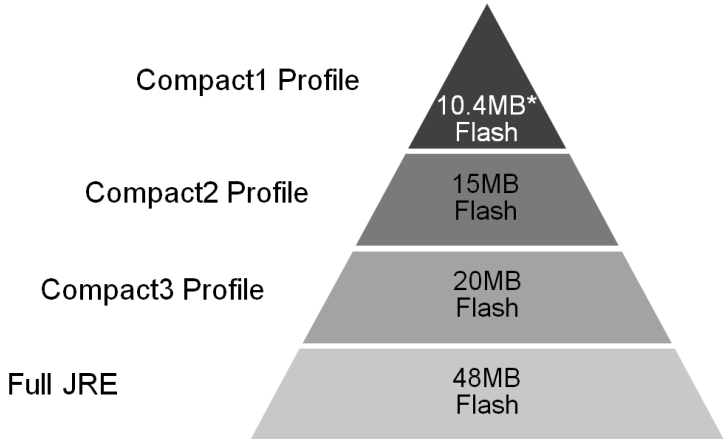
intel Atom inside

Reduced static footprint & memory requirements on embedded systems

Java SE Embedded

Java 8 Release Highlights

- Configurable Footprint
- Better Performance
- Optimized for Embedded
- Flight Recorder & Mission Control
- Rich graphics



* *Headless Compact Profile 1 for ARM v7 VFP, Hard Float.*
Does not include JavaFX.
Actual footprint will vary depending on target device and use case

Oracle Event Processing for Java Embedded

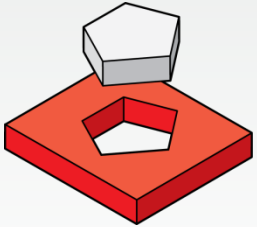
Features at a Glance

Industry leading event processing engine

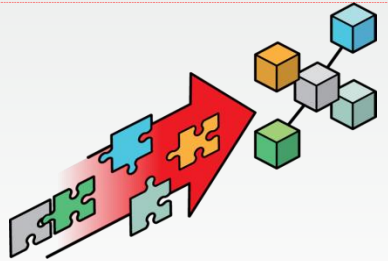
Continuous Query Language (ANSI standard)

Operates on multiple streams of disparate data

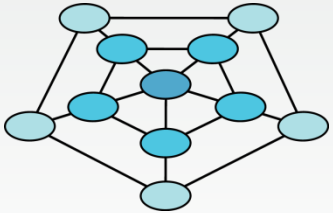
Join incoming streaming data with persisted data



Pluggable framework for I/O adapters



Dynamic remote provisioning of OEP applications



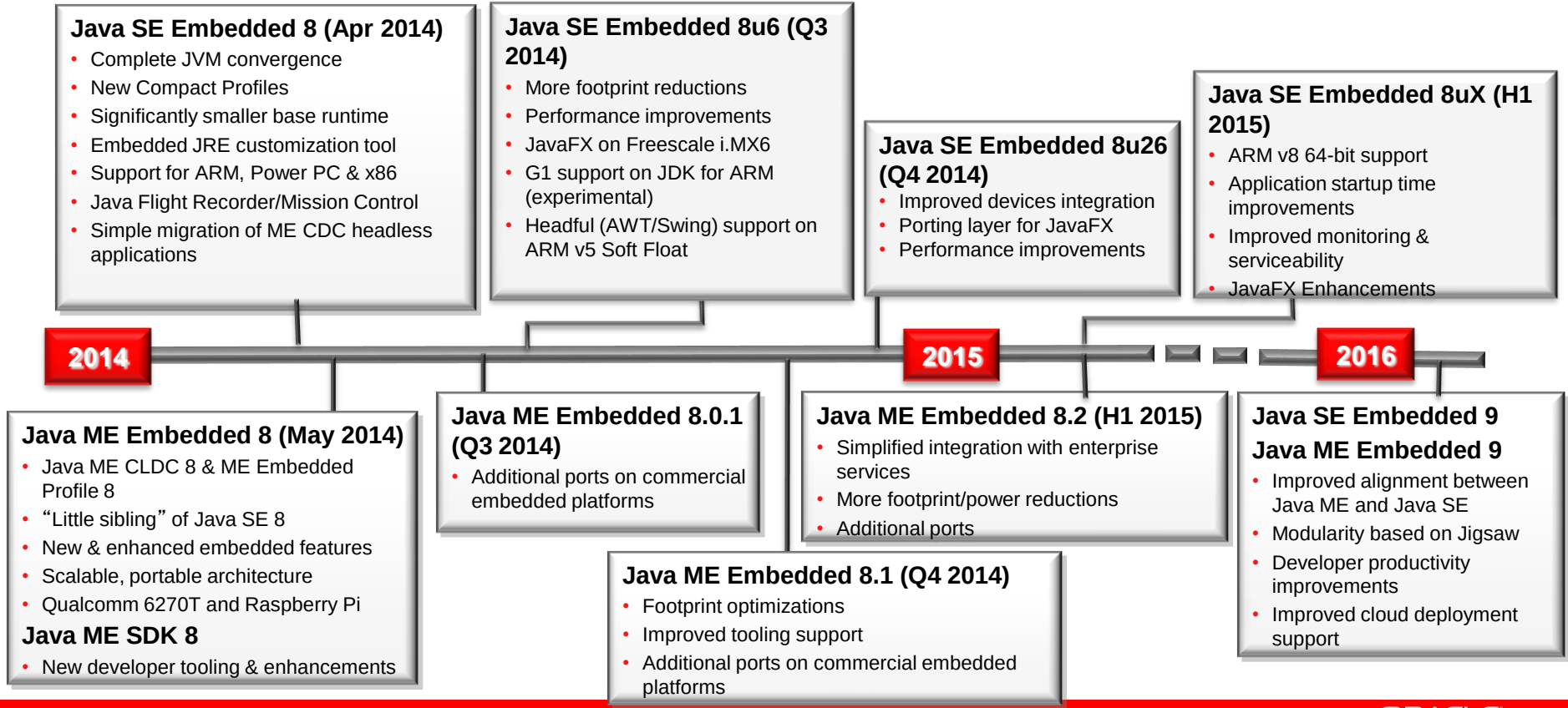
Event processing network simplifies IoT integration

ARM®

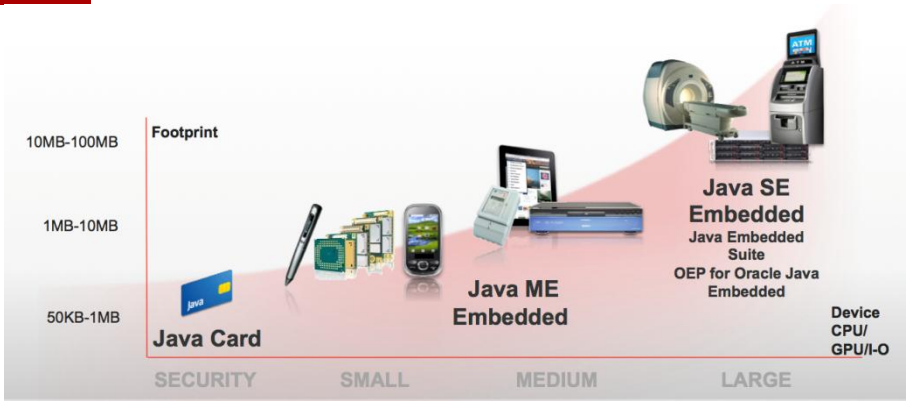
intel Atom inside™

Optimized for ARM and x86 embedded systems

Java Embedded Roadmap



Oracle Embedded Java



Products

Stewardship & Innovation

ORACLE PARTNERNETWORK

Partnership

Increase your market reach

Increase the value of your proposition

ORACLE OTN

Developer expertise and education

World's largest community of developers, admins and architects

Industry-wide Collaborations

freescale

News Release

Freescale Collaborates with ARM and Oracle to Add New Vertical Segment Support for 'One Box' IoT Gateway

Companies also te

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M2M. These

development of edge/sensor nodes for the Internet

Gemalto launches next generation M2M product range adding Oracle Java ME8 solutions capability based on chipsets from Qualcomm Technologies

New products accelerate cost effective design and deployment of optimized M2

Together with SensorLogic cloud-based software as a service (SaaS) platform,

Machine-to-Machine (M2M) technology and speed up application development

Internet of Things (IoT)

CES, Las Vegas , Jan 7, 2014 - Gemalto (Euronext NL0000400653 GTO), the wor

today announced the addition of next generation Oracle Java™ ME Embedded v

Qualcomm Technologies, Inc. (QTI) chipsets to its Cinterion® portfolio of cellul

With support for Java and for the SensorLogic cloud-based software as a servic

products enable Gemalto to launch next generation embedded solutions and se

-to-Machine (M2M) technology and speed up application development to expan

Things (IoT). The new products(1) will target applications from medical devices

meters to shipping containers, home appliances and alarm systems.

Qualcomm Technologies, Inc. and Oracle Collaborate on Platform for Machine-to-Machine Applications

Java Platform, Micro Edition Enabled on QTI's QSC6270-Turbo Chipset to Provide a Robust Platform for Machine-to-Machine Applications

IEGO – October 03, 2012 – Qualcomm Technologies, Inc. (QTI), a wholly

rated (NASDAQ: QCOM), and Oracle, today

bedded 3.2 support to

ARM AND ORACLE ANNOUNCE PLANS TO OPTIMIZE JAVA SE FOR ENTERPRISE AND EMBEDDED MARKETS

22 July 2013

Multi-year agreement will provide ARM architecture support for key markets including data centers, network infrastructure and embedded computing

Cambridge, UK – 22 July 2013 – ARM today announced it has entered into a multi-year agreement with Oracle to further optimize the existing Java Platform, Standard Edition (Java SE) for ARM® 32-bit platforms and to add Java SE support for ARMv8 64-bit platforms. This agreement will focus on delivering throughput and efficient scalability for ARM-based multi-core systems. This agreement reflects the increasing applicability of the combination of ARM and Oracle technology in server and network infrastructure. It also benefits emerging applications in the machine-to-machine (M2M) market, such as industrial control, factory automation and single-board computers, where energy-efficient ARM technology is increasingly being deployed.

Oracle's Java Virtual Machine (JVM) is a critical component for high-throughput Java applications used in enterprise servers and embedded systems and helps to increase the performance of ARM-based multi-core systems. Additional areas for co-operation include improving boot-up performance, power savings and library optimization – all of which are essential for designs used in the enterprise and embedded markets.

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Java Embedded
REAL WORLD DEPLOYMENTS

Java Embedded Real-world Device Deployments

Selected devices powered by Oracle Java Embedded





- RFID Readers
- Parking Meters
- Intelligent Power Module
- Wireless Modules

- Routers & Switches
- Storage Appliances
- Network Management Systems
- Factory Automation Systems
- Security Systems
- Smart Meters

- Multi Function Printers
- ATMs
- POS Systems
- In-Flight Entertainment Systems
- Electronic Voting Systems
- Medical Imaging Systems

IDTechEx “Best IoT Application Award”

V2COM, Gemalto, and Oracle collaboration

Smart Grid solution based on Java ME Embedded

Allows to reduce response times to power outages by 40%

More Information

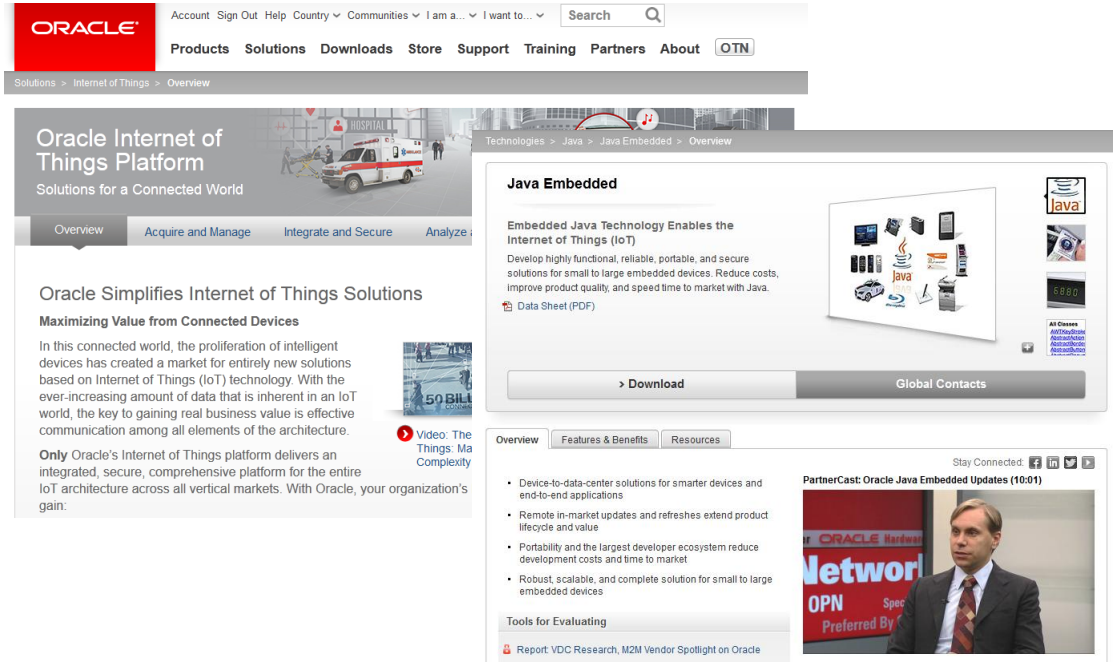
Get your team started

FREE resources
and downloads

oracle.com/goto/javaembedded

oracle.com/java8

oracle.com/iot



Summary

- Java Embedded-enabled intelligent devices are a perfect application platform for new IoT services
- Java 8 for Embedded introduces even more embedded functionality, more target platforms, and brings the power of the proven Java platform to even broader set of devices
- Java Embedded is available for free evaluation

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Hardware and Software

ORACLE

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