



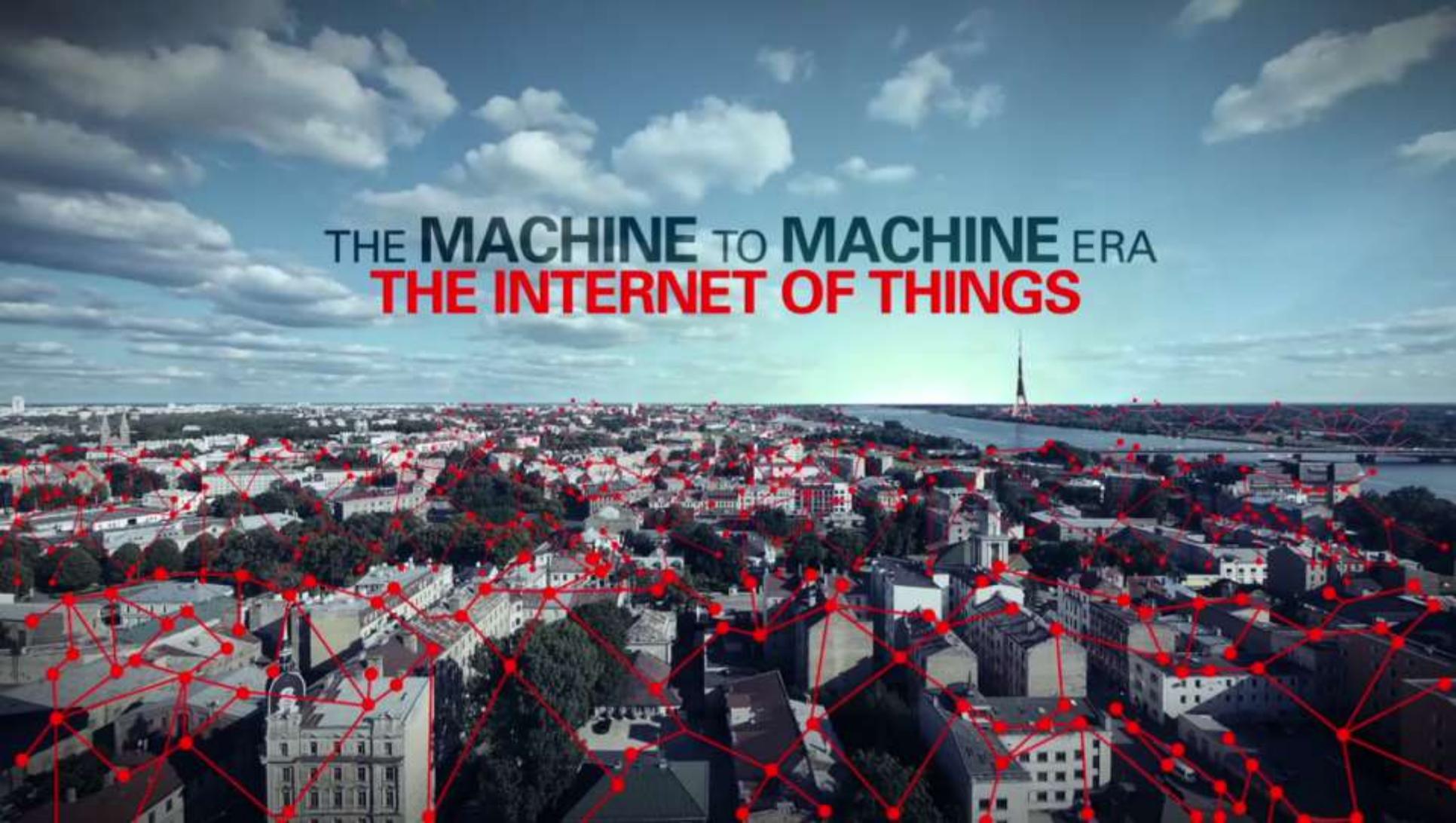
# Managing Complexity

By 2020 50 Billion Devices  
will Create an Endless  
Amount of Data



The Data, Insights, Actions  
at the Right Time



An aerial photograph of a city, likely Copenhagen, with a dense network of red lines and dots overlaid on the buildings and streets, symbolizing the Internet of Things. The city is viewed from a high angle, showing a mix of old and new architecture. A prominent church spire is visible in the distance. The sky is blue with scattered white clouds.

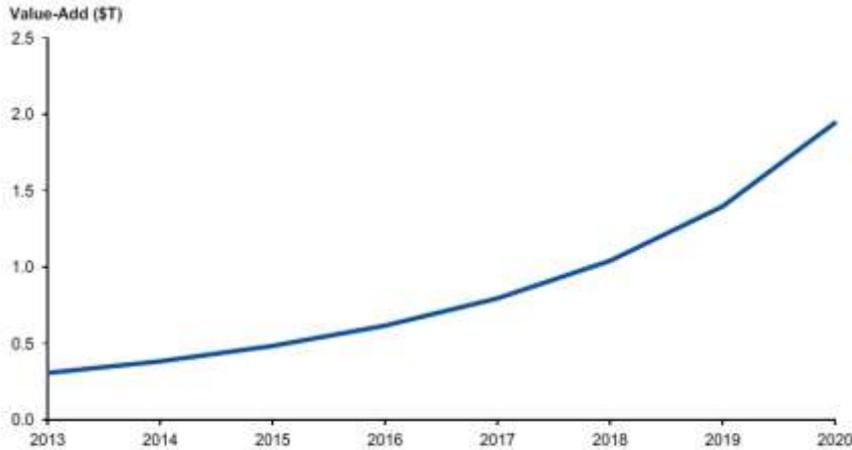
**THE MACHINE TO MACHINE ERA**  
**THE INTERNET OF THINGS**

# Agenda

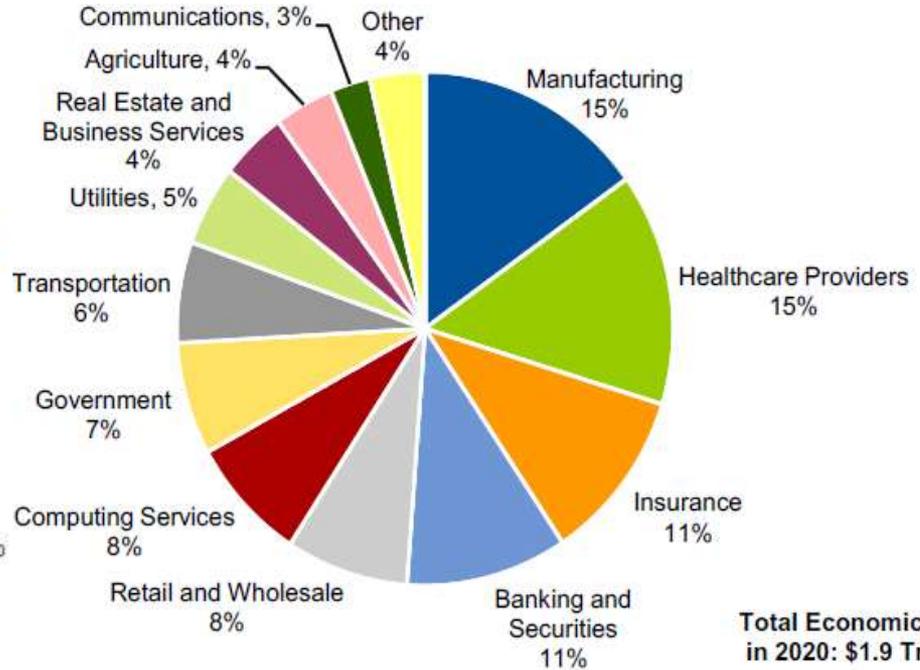
- **IoT Market Potential**
- **Internet of Things Value Chain**
- **Oracle's IoT Platform**
- **Fusion Middleware Product Walkthrough**
  - **IoT Infrastructure Platform**
  - **Real-time Event Processing**
  - **Integration and Process Orchestration**
  - **Turning Data into Information**
  - **Securing IoT**

# Internet of Things| Open a World of Possibilities

Total economic value add estimated at **\$1.9 Trillion**, Source:Gartner



Source: Gartner (November 2013)

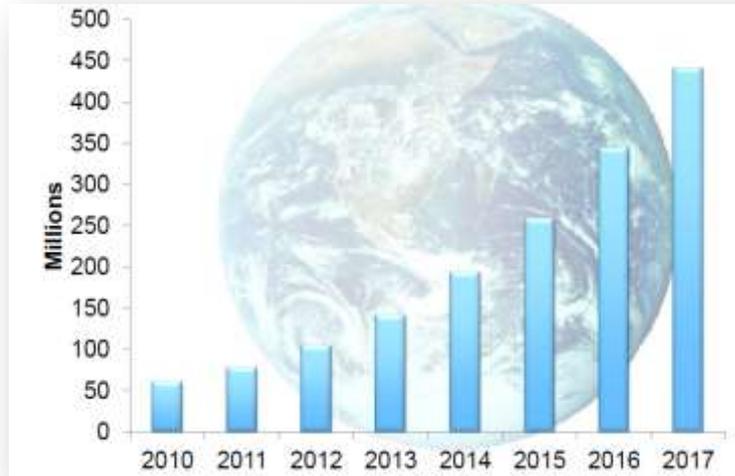


Total Economic Value-Add in 2020: \$1.9 Trillion

Source: Gartner (November 2013)

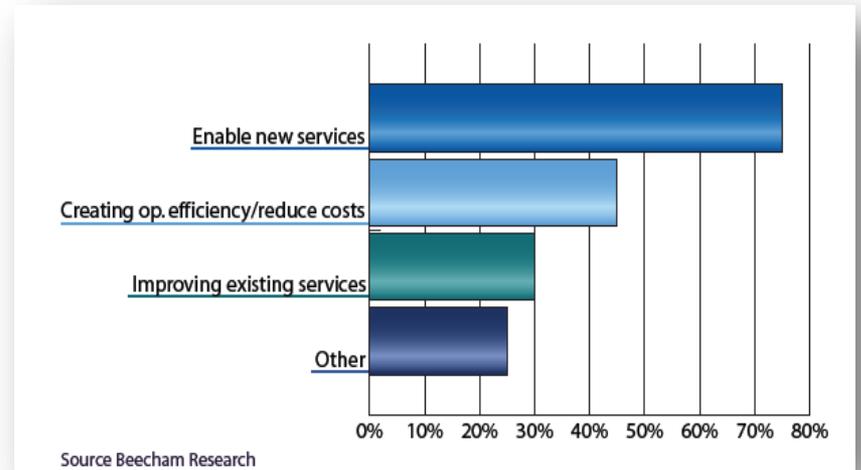
# IoT/M2M Market Potential

**M2M Connections driven by developed markets will double in 2 years**



Source: IDC's Worldwide M2M Connection Forecast, 2013

**Primary drivers in Implementing M2M Projects**



Source: Beecham Research

# Internet of Things: Challenges

## Challenges

- Complex value chain
- Lack of standardization to build, deploy & manage IoT applications
- Need to analyze *Fast* data in real time
- No consistency in managing security of data and identity of devices
- No integration platform to convert data into business automation



Industrial  
Automation



Smart  
Grid



Home  
Automation



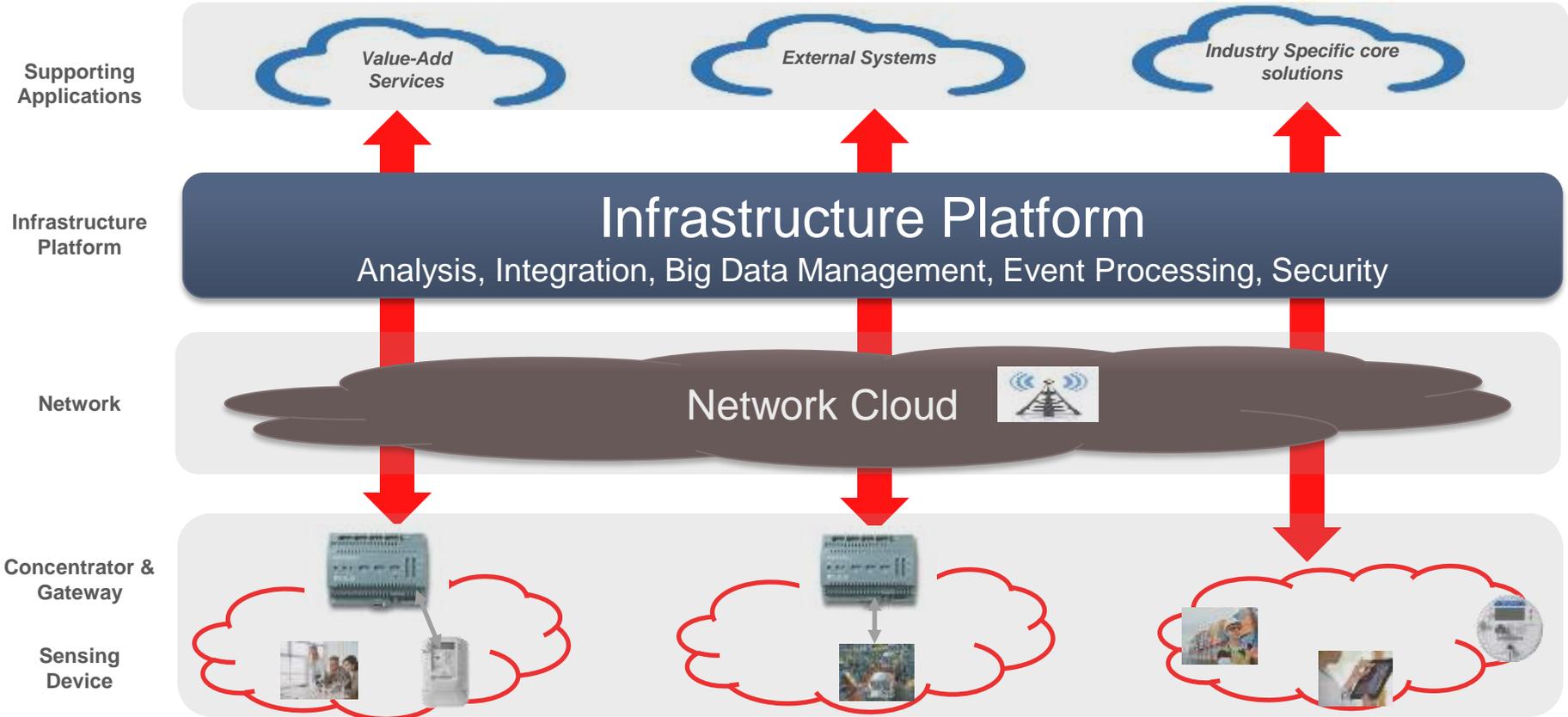
Health  
Care



Automotive  
Telematics



# Internet of Things Value Chain



# Driving Value through the Supply Chain

CPU Designer

System on Chip Vendor (SOC)

OEM/ODM

Solution Partner

Service Provider

Enterprise

System Integrator

Application Platform Providers



Whitepaper



Blog



Customer Use Case

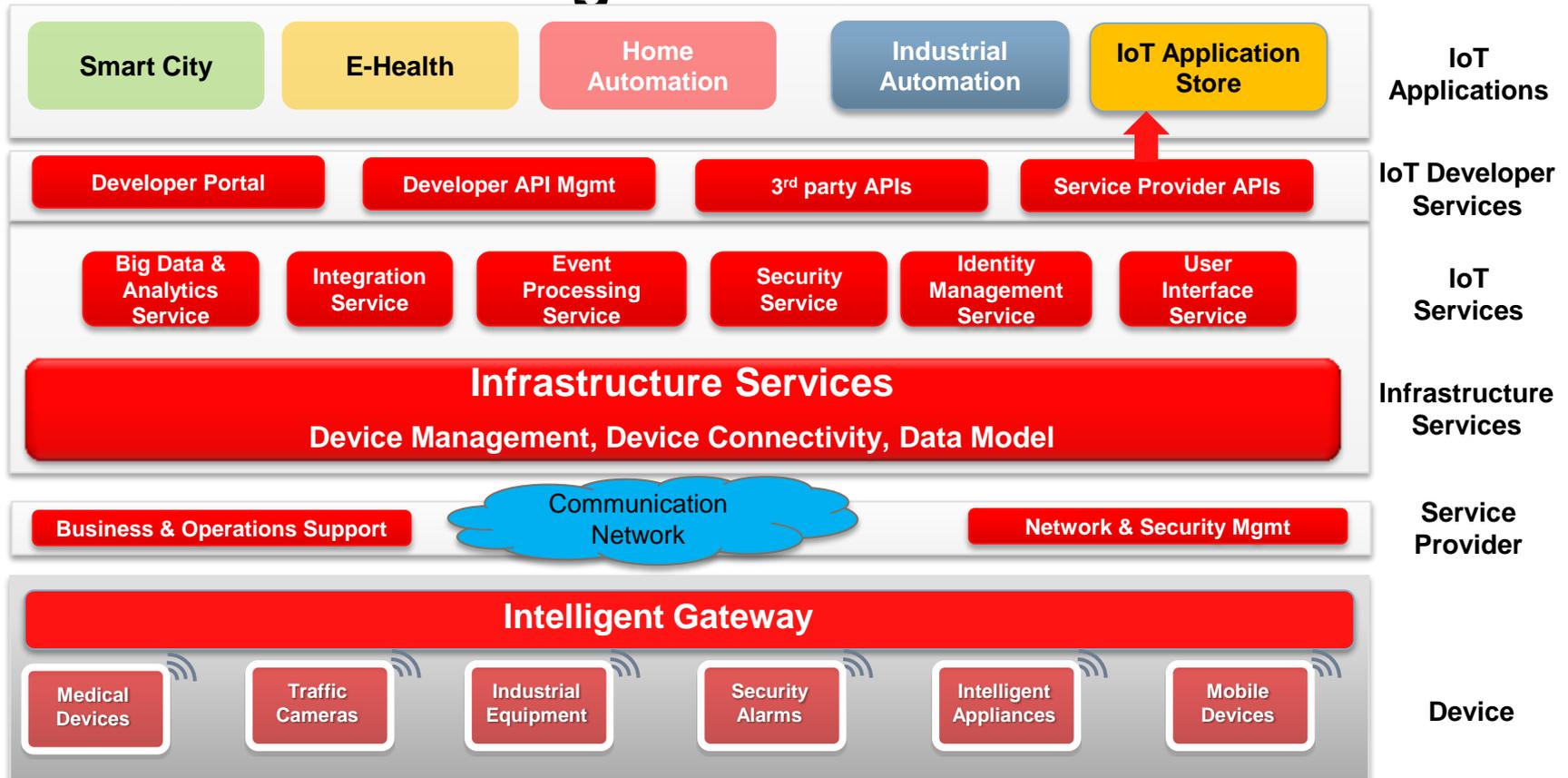


Press Release

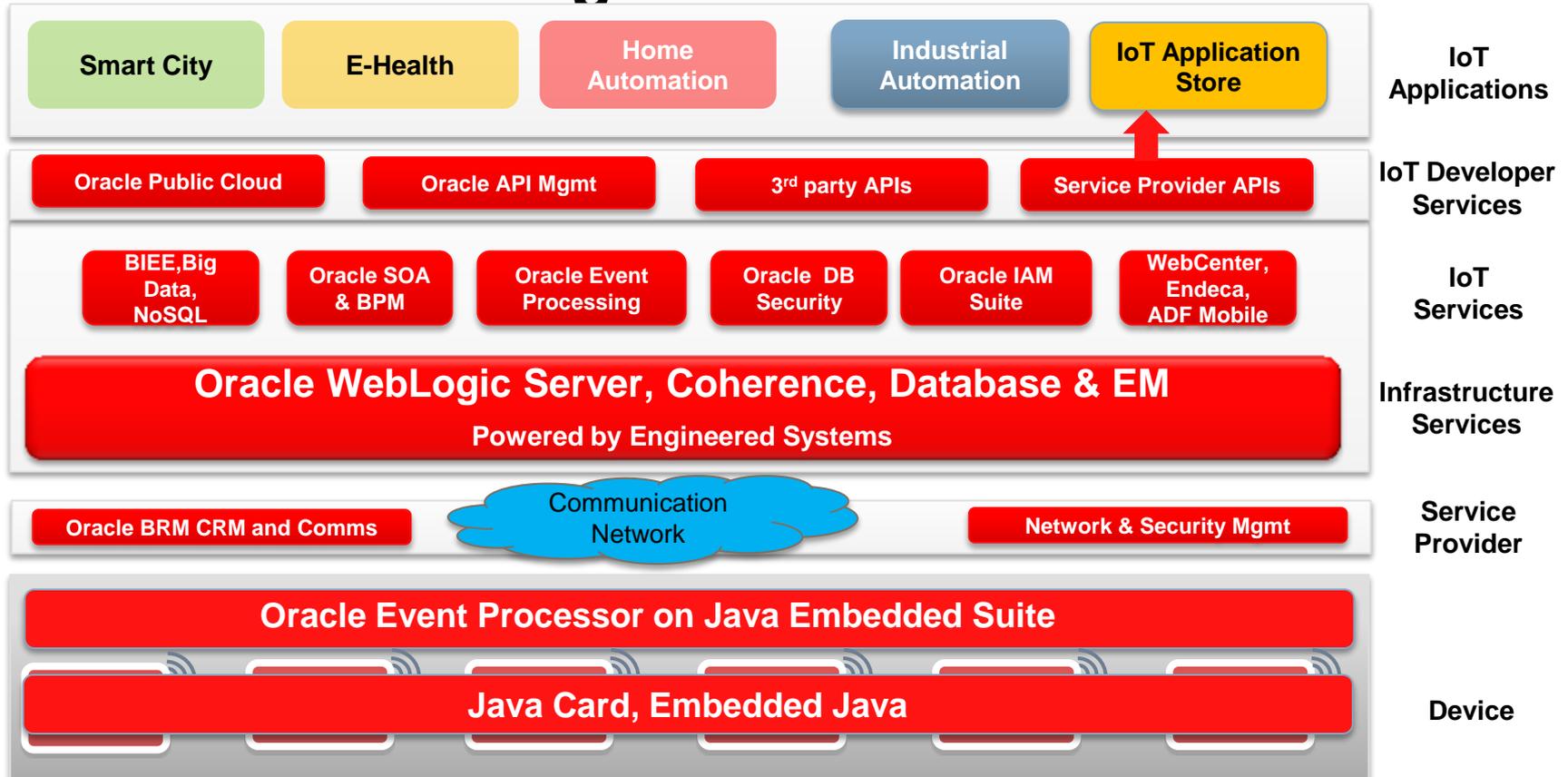


Announcements

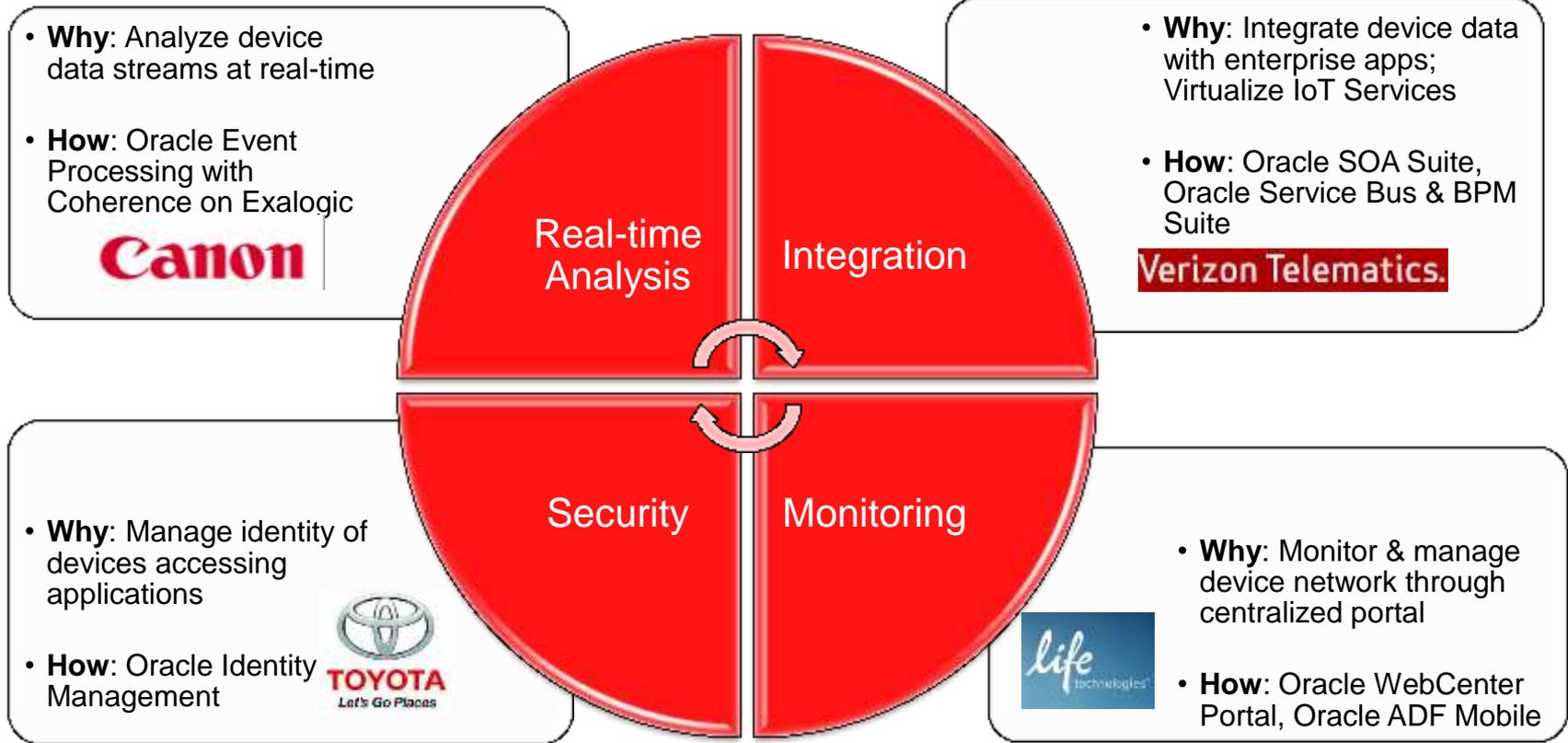
# Internet of Things Platform



# Internet of Things Platform: Oracle View



# Why Oracle Fusion Middleware matters for IoT?



# Customers

NTT  
**docomo**



Deutsche  
Telekom

**OnStar**

**TURKCELL**



**TOYOTA**  
Let's Go Places

**SFpark**



City of  
**LOS ANGELES**  
California



**Canon**

**CINTERION**  
WIRELESS MODULES

**EMERSON**  
Climate Technologies

*life*  
technologies

**HITACHI**  
Inspire the Next

**izmir**  
İzmirliğin Gözbeğeni

**Sascat**

**arkessa**

**SDGE**

Southern  
California  
Gas Company

**NTT Communications**

**MFORMATION**

**Axeda**

**INFOTECH V2COM**

Sempra Energy utilities

# Java Embedded Real-world Device Deployments

## Selected devices powered by Oracle Java Embedded



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

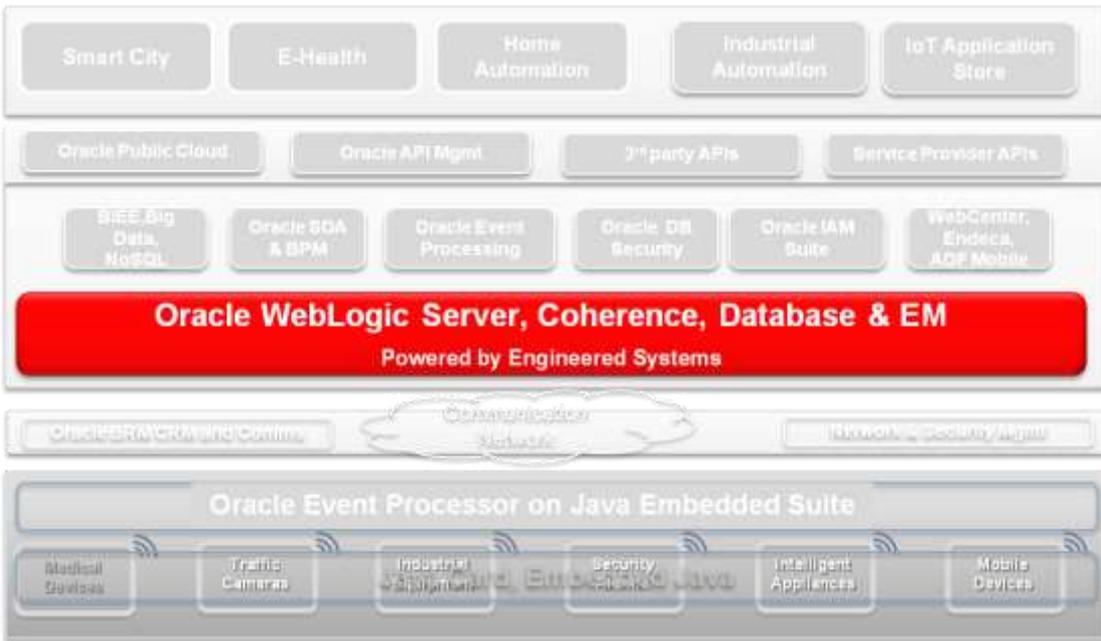
- Routers & Switches
- Storage Appliances
- Network Management Systems
- Factory Automation Systems
- Security Systems
- Smart Meters

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



# Infrastructure Service Platform

## Oracle WebLogic, Exalogic, Partner Adaptors



- **Oracle WebLogic Server** provides reliable J2EE platform to deploy IoT Infrastructure Services (Connectivity, Management, Communication)
- **Oracle Exalogic** offers scalability & performance for large IoT deployments (1M+ devices)
- **Oracle Engineered Systems** are pre-tested, preconfigured, pre-certified hardware systems to address changing business demands.

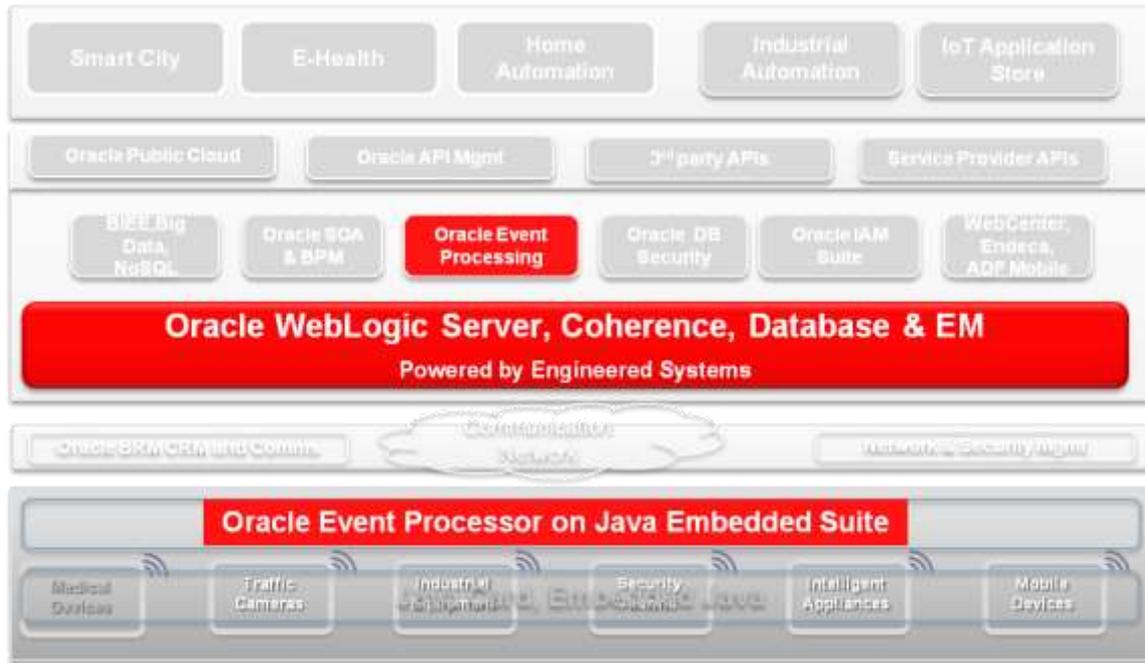
## Smart Automation: Remote Device Management

- Recognized global leader in mobile device management
- 50+ operator customers
- 500+ million mobile devices managed
- 10,000+ device types supported
- 24/7 global support



# Real-time Event Processing

## Oracle Event Processing (OEP), Coherence, Oracle Spatial & MapViewer



- **Oracle Event Processing(OEP)** is a complete solution for building applications to filter, correlate, and process events in real-time
- **Oracle Coherence** is used to enrich Data for More Accurate Decisions
- **Oracle Spatial** includes spatial data and analysis and is a foundation to help location-enabled business applications.

# Emerson Network Power



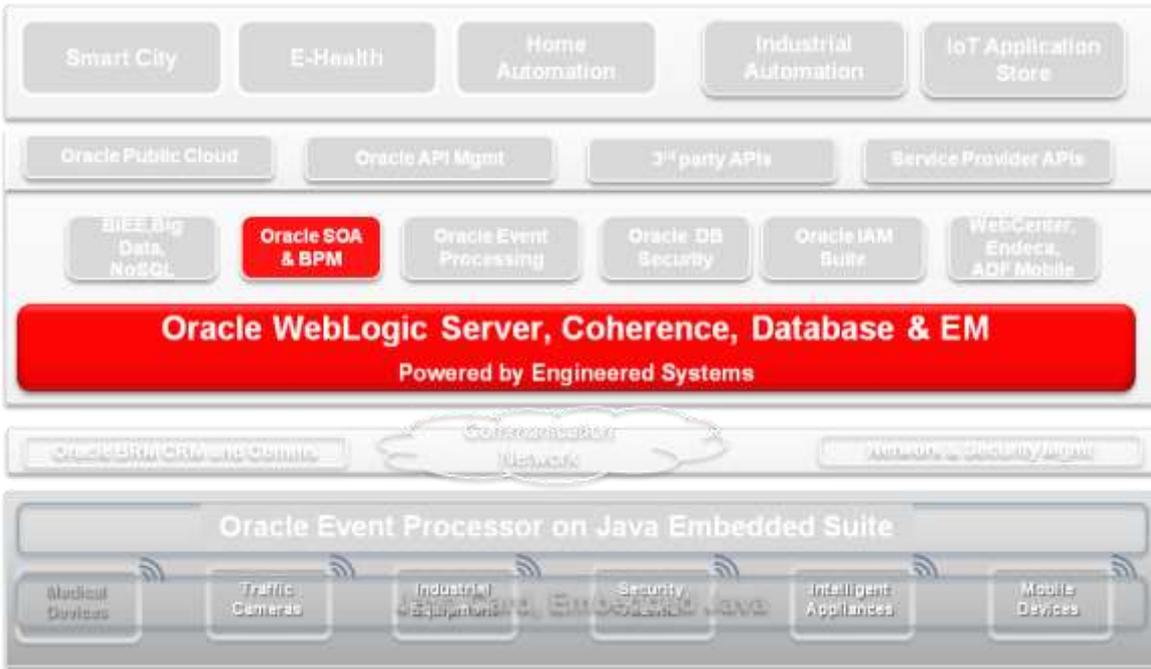
## Remote Data Center Management

- Increasing efficiencies, reducing costs and maintaining availability are top priorities for today's data center administrators.
- Smart Data Center Infrastructure Management Platform (DCIM)
- DCIM is the ability to bridge the gap between critical IT assets and Facilities infrastructure



# Integration and Process Orchestration

Connect device data with enterprise: SOA, BPM, Service Bus



- Oracle SOA Suite & Oracle BPM Suite acts on business events to drive key business processes
- Integrate device data into enterprise applications
- Oracle Service Bus delineates devices from enterprise applications

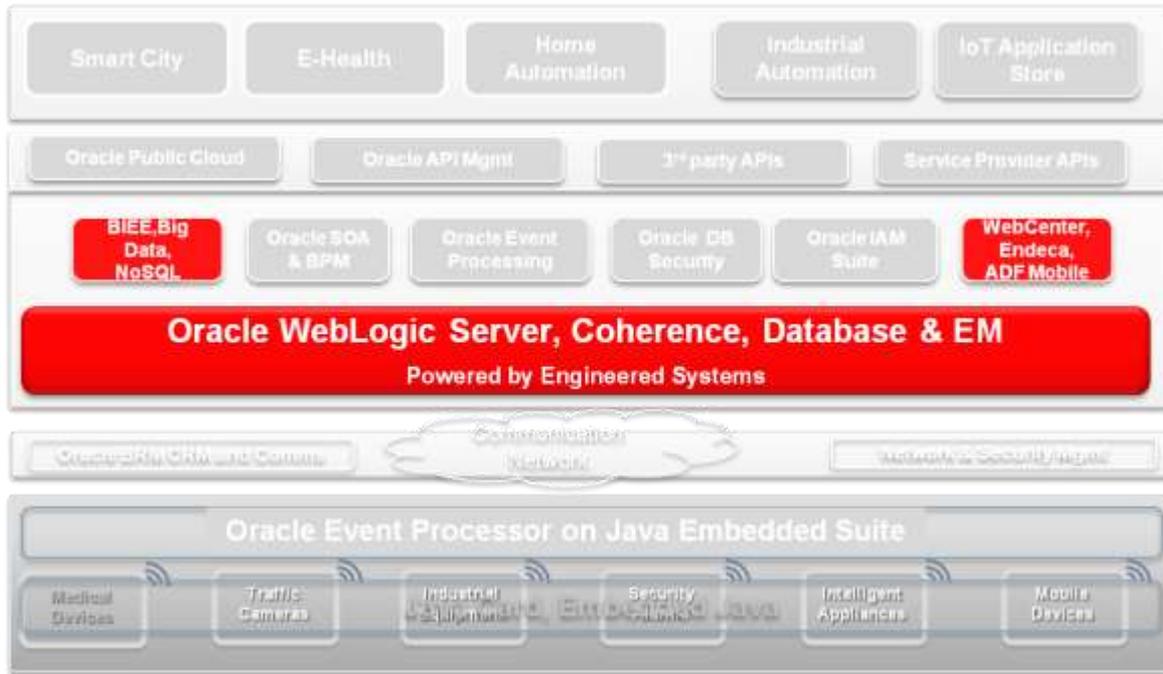
## Healthcare

- Biotechnology company based in the US, provides products and services for scientific research, genetic analysis and applied sciences
- Presence in approximately 160 countries, and holds more than 3,100 patents and exclusive licenses
- Lifetech's My Life Service portal is the first of its kind in the biotechnology instrument services industry



# Turning Data into Information

## Enable Mobility & Analytics of Device Data: OBIEE, RTD



- Oracle BIEE dashboards with Oracle RTD turn device data into information with historic & predictive visibility
- Expose IoT information via cross-platform mobile applications built using ADF Mobile & WebCenter

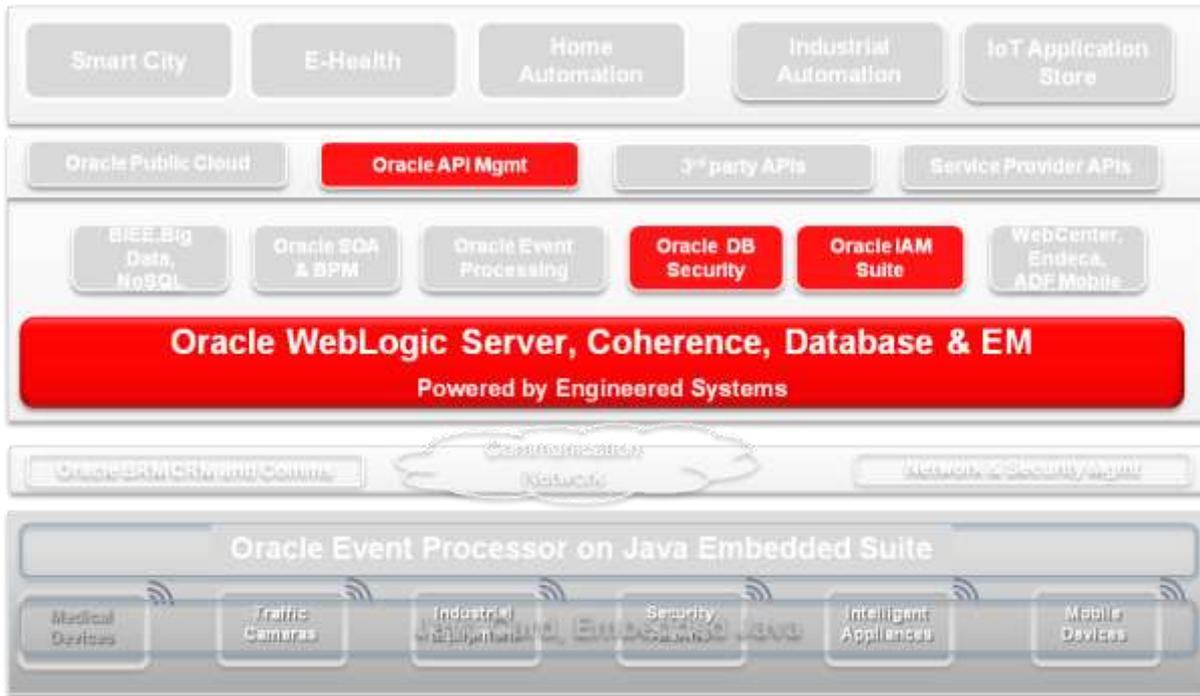
## Smart City: Parking Management

- The global first implementation of a city wide “smart” parking management system and technology to manage parking supply and demand more intelligently.
- Sensors at 8,200 of the city’s 27,000 metered parking spaces, to get information from the gate arms at the city’s 14 garages, which among them have about 13,000 spaces



# Securing Internet of Things

Manage user and device identities: OAM, Oracle API Gateway



- Mobile & Social Single Sign-on with **Oracle Access Manager**
- **Oracle API Gateway** secures & manages APIs to enable integration of devices with enterprise systems

# Toyota



## Telematics

- Leverage Mobility/Web technologies to provide advanced Infotainment and Safety Services like:
  - Remote operations
  - Vehicle diagnostic / info
  - Social check-in
  - Safe driver discount based on driving patterns

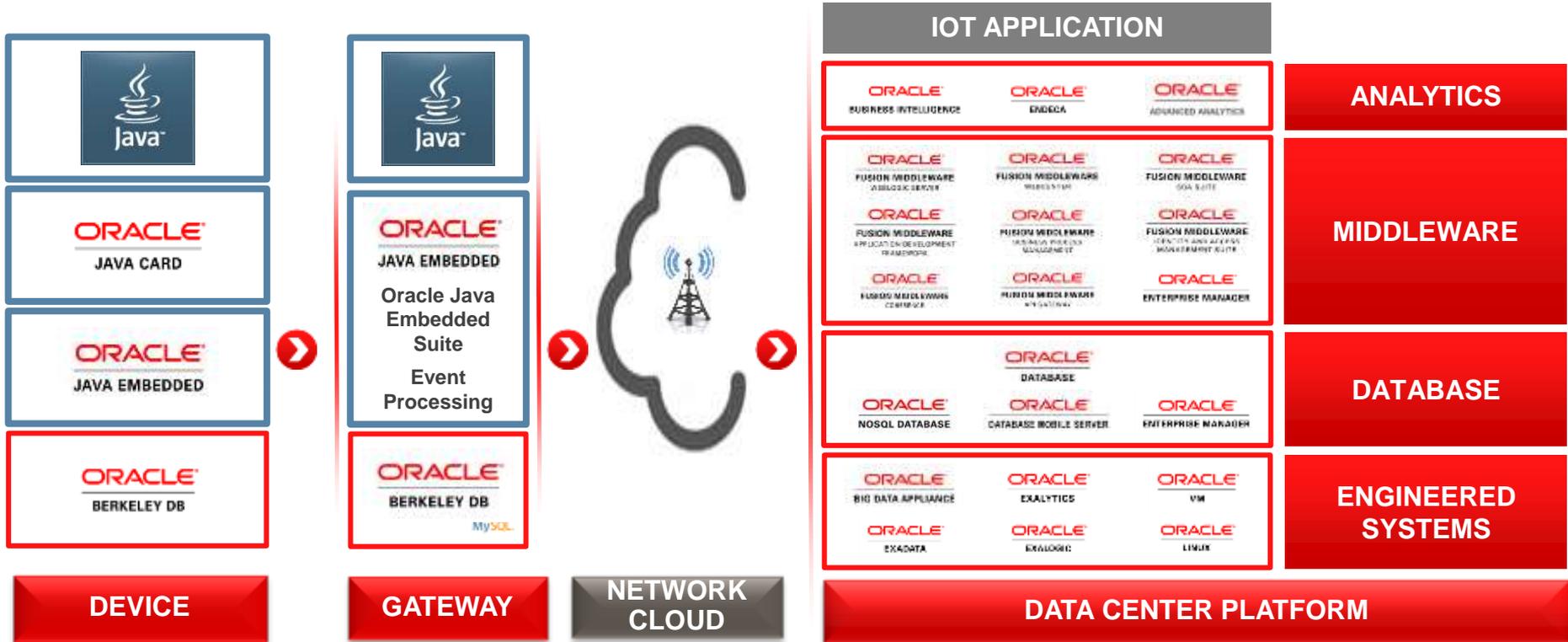
## Toyota



**IS** INFORMATION SYSTEMS

PUBLIC

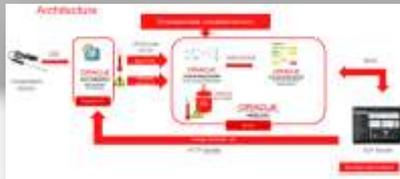
# Oracle's Internet of Things Platform



# More Information

- [Oracle.com/iot](http://Oracle.com/iot)
- Oracle IoT Business Whitepaper ([PDF](#))
- Brochure: Oracle's Internet of Things ([PDF](#))
- Internet of Things at Oracle Open World 2013 ([Link](#))
- Inside Oracle Interview: Navigate the Internet of Things ([podcast](#))
- Oracle IoT Platform for Smart City, Telecommunication, Home Automation & Industrial Automation - ([PPT](#)) ([Webcast](#))

- **FMW Assets**



Fusion  
Middleware for  
IoT Demo



Fusion Middleware for IoT  
Whitepaper

**Hardware and Software**

ORACLE

**Engineered to Work Together**

**ORACLE®**