GRAND SLAM '16
Internet of Things Virtual Conference
December 1st 2016
An IoT Slam® Production

SPIRENT

Developing and Deploying IoT Solutions – a Practical and Pragmatic Approach
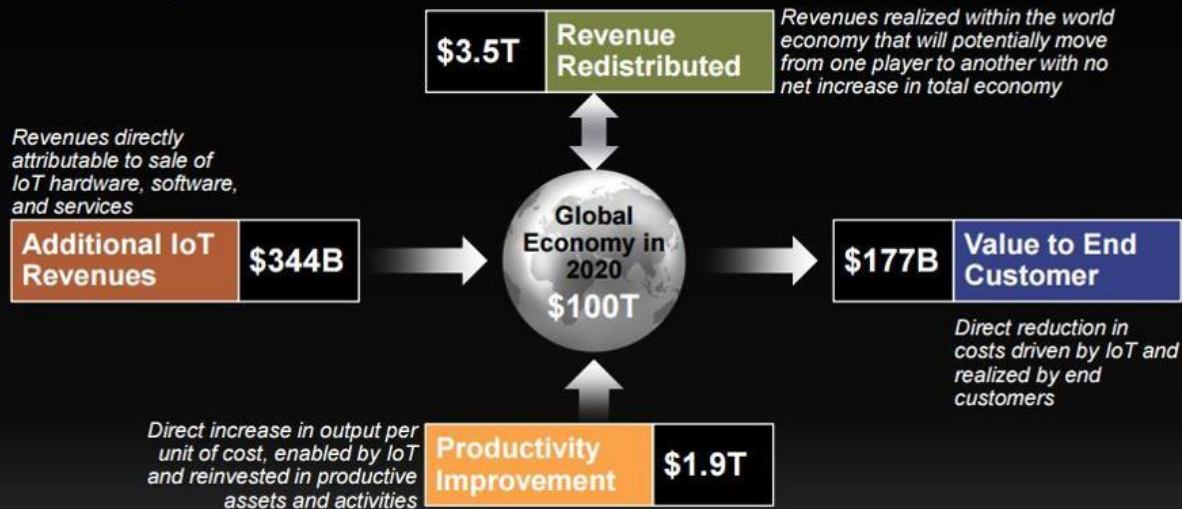
Anatoli Levine, Spirent Communications

IoT – State of the Market

IoT Role in Global Economy in 2020

ATKearney

By 2020 IoT will impact close to 6% of the global economy

$3.5T Revenue Redistributed — *Revenues realized within the world economy that will potentially move from one player to another with no net increase in total economy*

Revenues directly attributable to sale of IoT hardware, software, and services

Additional IoT Revenues **$344B**

Global Economy in 2020 $100T

$177B Value to End Customer

Direct reduction in costs driven by IoT and realized by end customers

Direct increase in output per unit of cost, enabled by IoT and reinvested in productive assets and activities

Productivity Improvement **$1.9T**

IoT will be **materially disruptive** – there will be **winners** and **losers**

Source: A.T. Kearney

IoT Installed Devices Forecast

IoT installed base, global market, billions

Source: IHS

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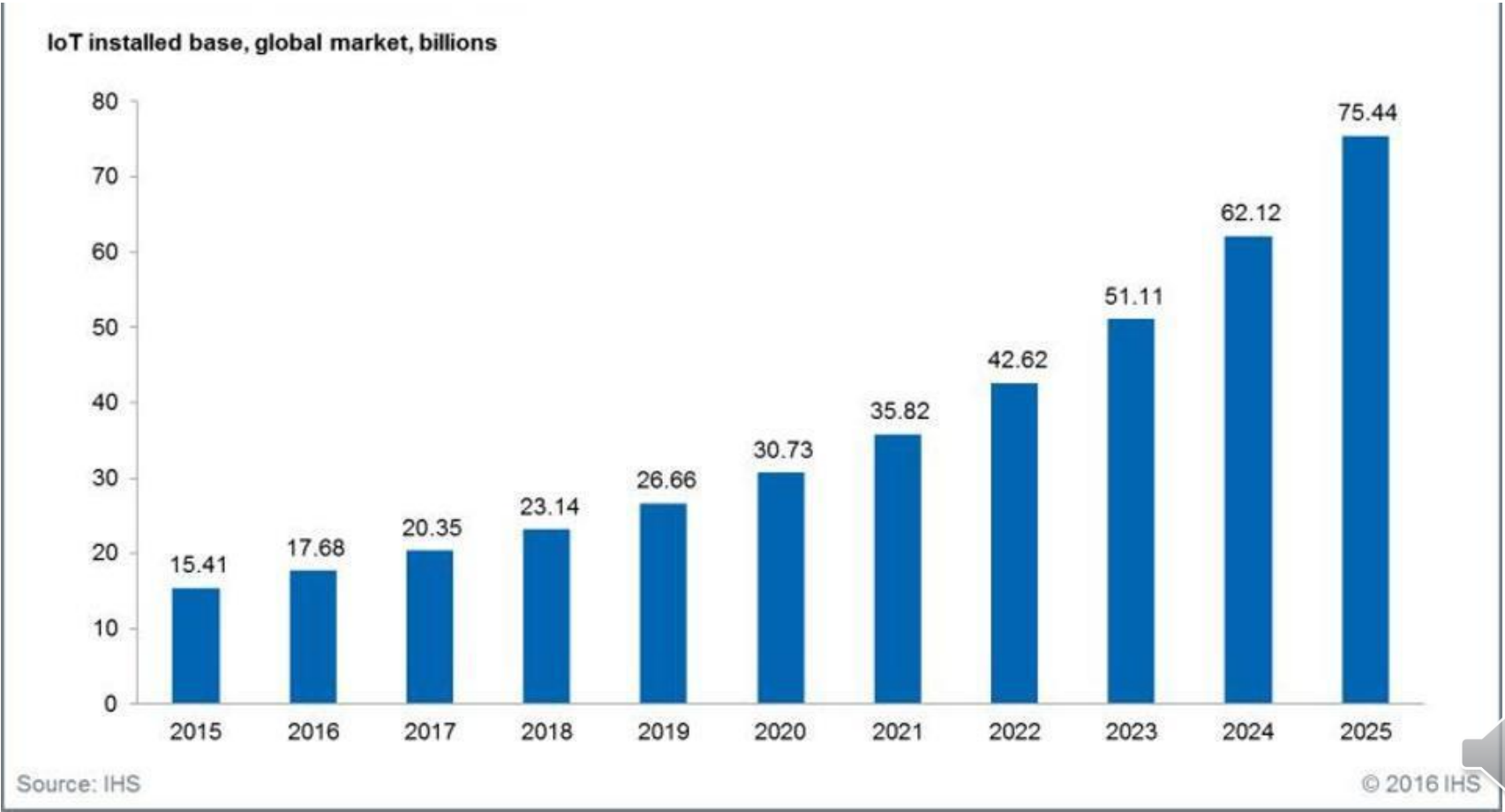
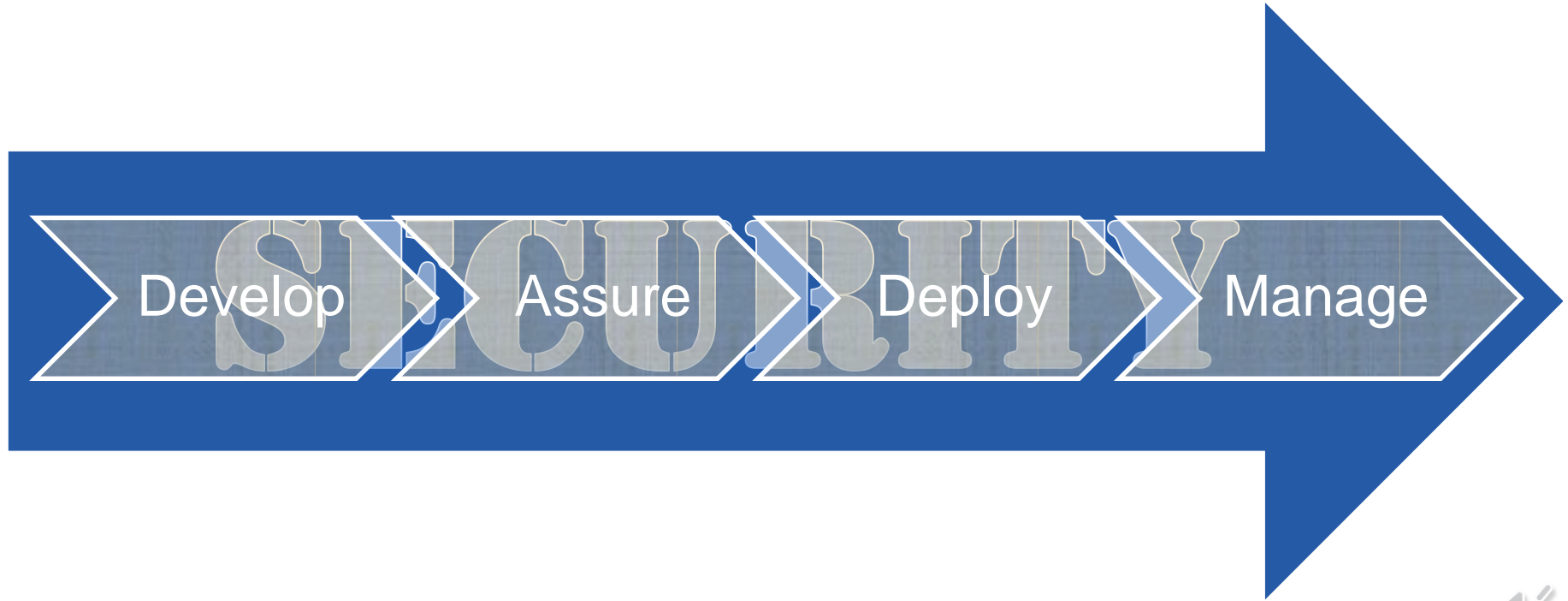# Potential of IoT Deployments – Cool, Warmer, Hot
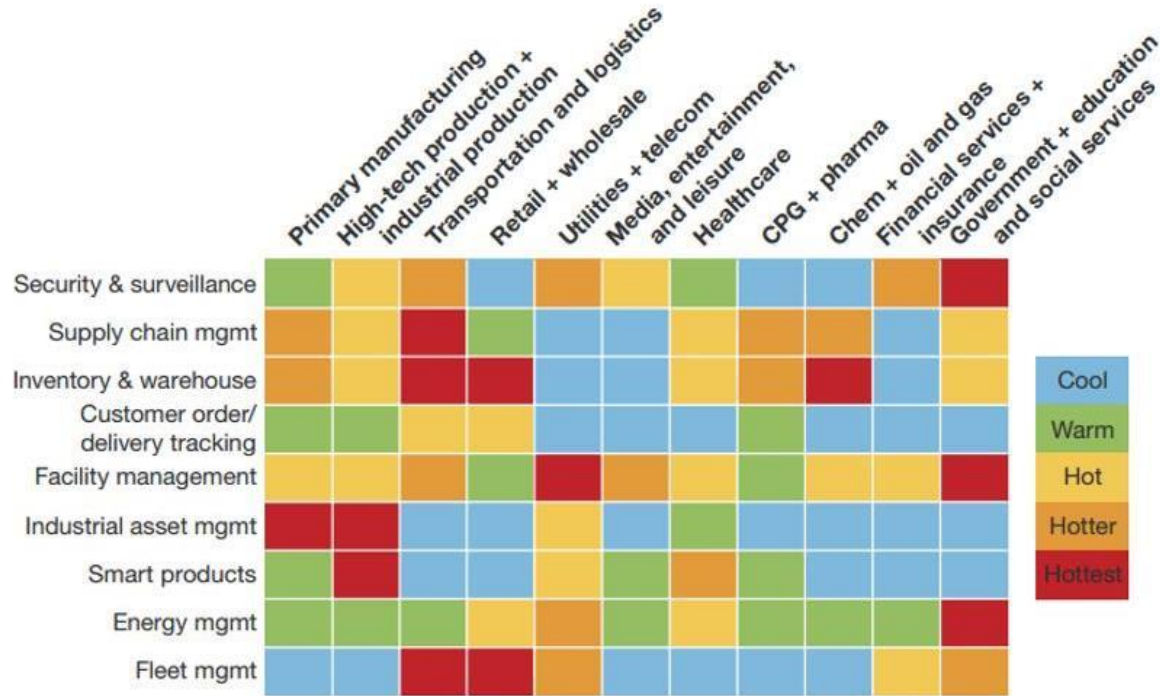
Heat Map Of Key IoT Opportunities Varies By Industry And Application
**Source: Forrester Research**

Delivering IoT Solutions

Delivering IoT Solutions – Step by Step Guide

Develop > Assure > Deploy > Manage

IoT Security

- Authentication, Authorization

- Data protection and encryption

- Key and Certificate Management

- Robustness and resiliency of HW, SW and overall design

- Physical security

- Communication/network access security

- Threat Management

- Remote (OTA) upgrades and updates

- …
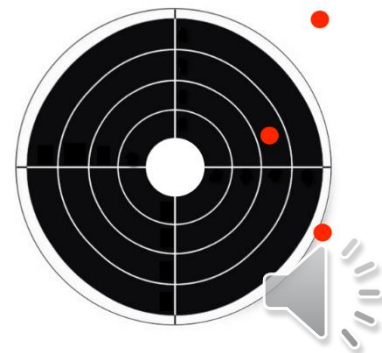
Develop – Sea of Standards, Technologies and Protocols

Service Platform

Connectivity Platform

- Application
- Presentation
- Session
- Transport
- Network
- Link
- Physical

oneM2M · OPEN CONNECTIVITY FOUNDATION · industrial internet CONSORTIUM · HomeKit · QIVICON · ASHRAE BACnet · IPSO Alliance · THREAD GROUP · Modbus · LonWorks · LwM2M · TR-069 · CoAP · MQTT.ORG · ZigBee Alliance · WiFi · Bluetooth · 3GPP · Green. Smart. Wireless. enocean · Z-WAVE · LoRa · SIGFOX One network A billion dreams · INGENU · 6LoWPAN

Assure

- Security

- Testing

  - Performance

  - Conformance

  - Service Acceptance

  - Certification

  - Interoperability

- Pre-deployment provisioning

- Regulatory Compliance

- Localization

Focus on Quality

Deploy

- Security

- Authentication/Authorization

- Installation

- Provisioning

- Billing/Pricing

- Connectivity management

- Compliance/Regulations

- Testing, diagnostics and monitoring

Manage

- Security

- Control

- Administration

- Data processing

- Analytics

- Connectivity and subscription management

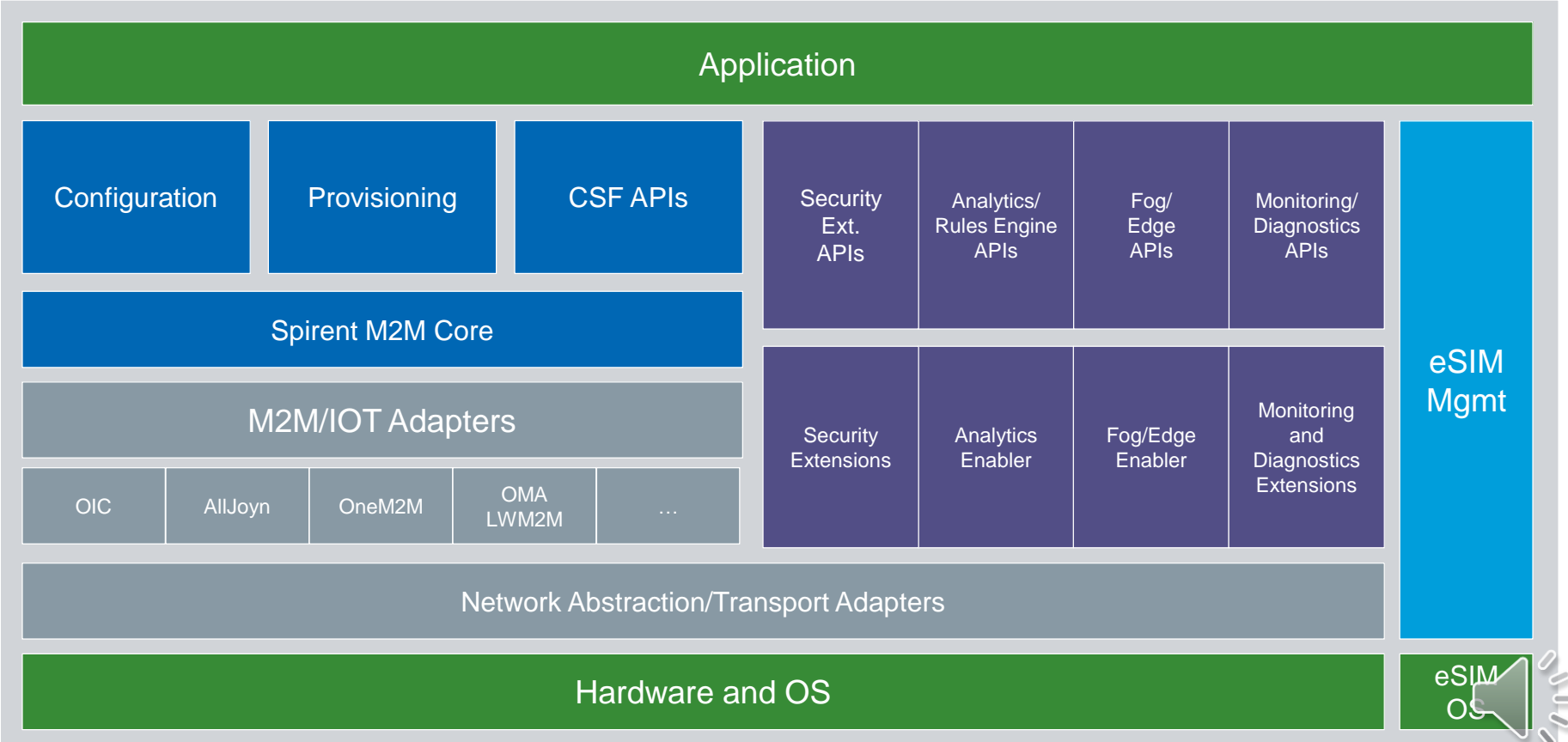- OTA upgrades and updates

- Billing

- Testing and diagnostics

Spirent CTM IoT Enablement Solution

IoT End to End Enablement Solution
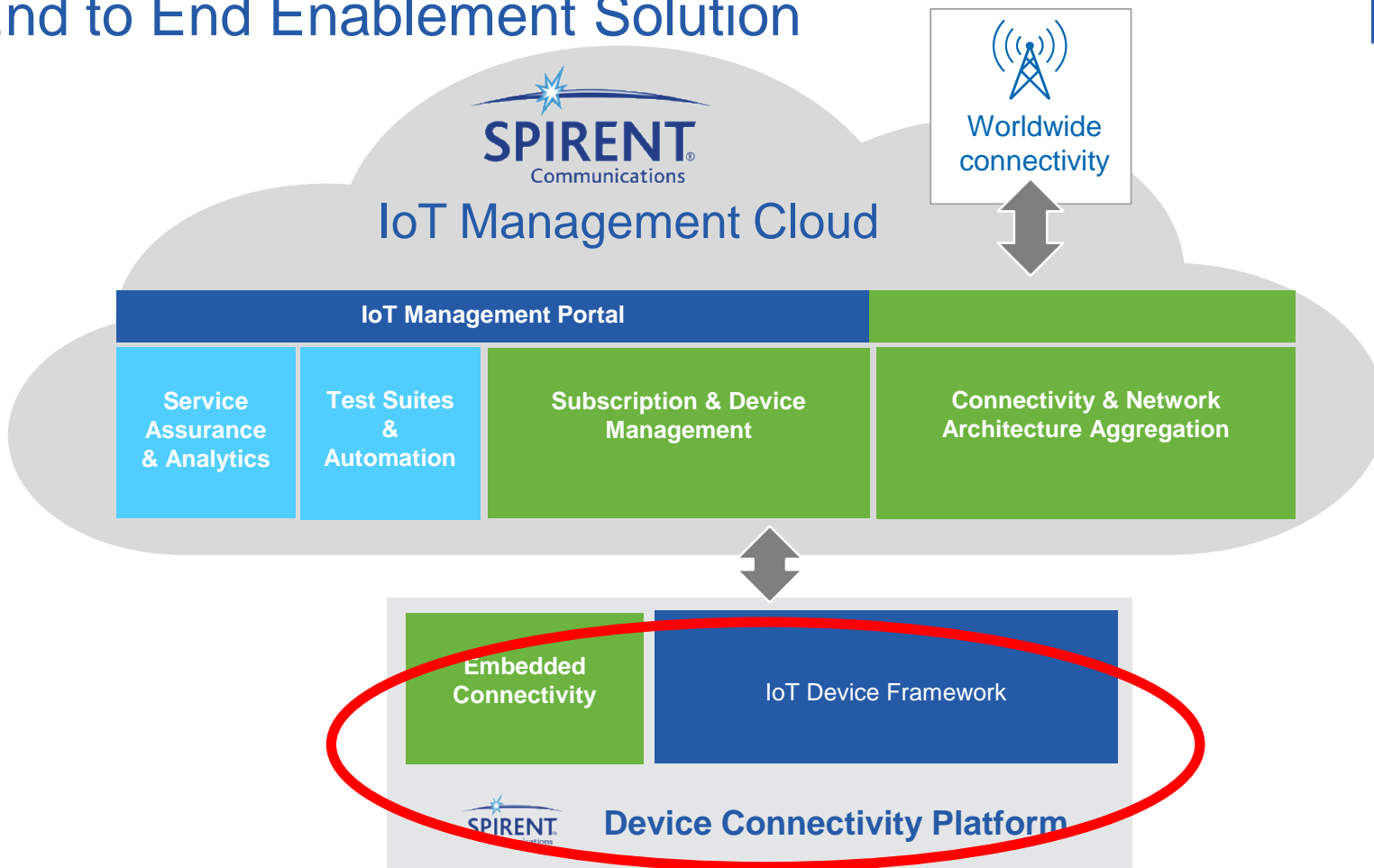
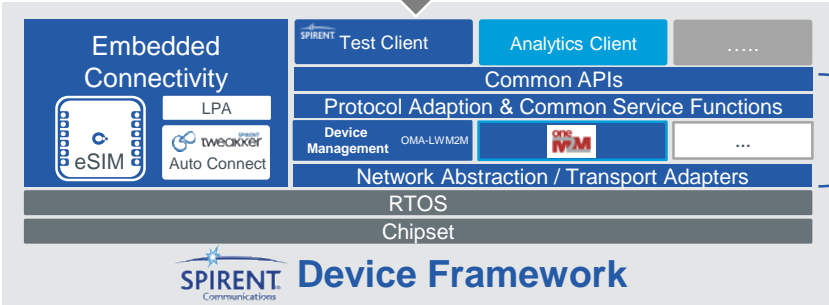# IoT Device Framework – Full Architecture

IoT Management Cloud & Device Framework
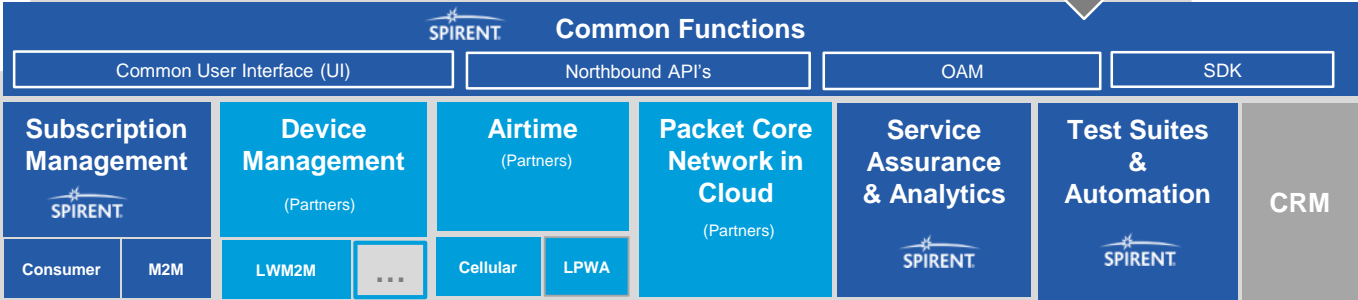
- Securely:
  - Develop
  - Assure
  - Deploy
  - Manage

Questions?

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Thank you!

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