IoT - Demo

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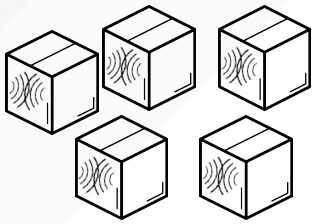
Agenda

- Demo Scenario Introduction
- IoT Enablers
- IoT is Business Driven
- IoT is Data Driven
- IoT in 3 Tiers
- Importance of Frameworks
- Open Source IoT
- Some News from Barcelona
- Fun Demo Stuff

Demo Scenario Introduction

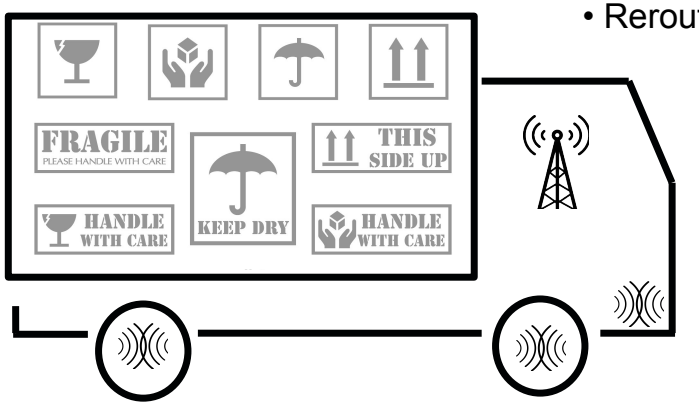
IoT IN ACTION

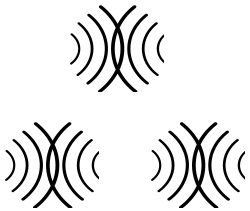
The packages and the truck itself become “things” with addition of sensors; intelligent gateways relay data to the cloud for processing; business rules create alerts for driver, HQ staff, maintenance



Asset tracking
- Security
- Temperature control
- Vibration control
- Humidity control
- Location monitoring

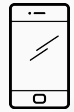
Real-time alerts and business rules
- Dispatch control
- Customer notification
- Rerouting





Vehicle monitoring
- Engine diagnostics
- Engine temperature
- Oil temperature
- Brake wear
- Tire pressure

Transportation monitoring
- Driver behavior
- Acceleration
- Excessive braking
- Location
- Travel time
- Route traveled



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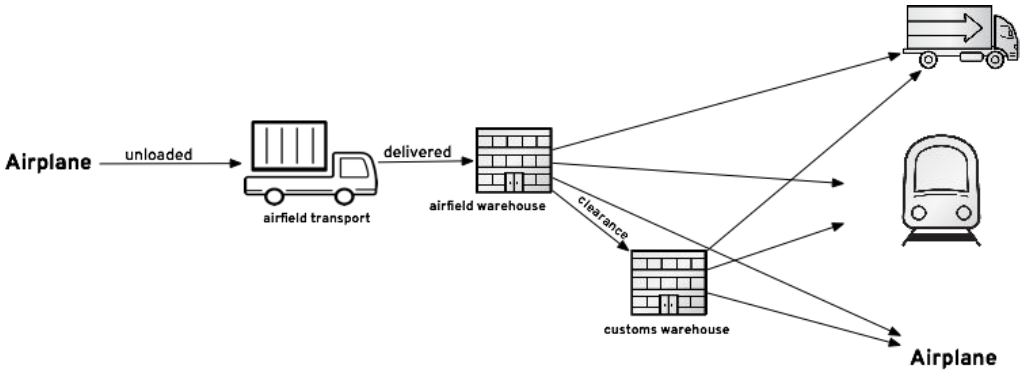
FLEET TELEMATICS/ASSET TRACKING RESULTS



BUSINESS OUTCOMES:

- Predictive maintenance capabilities reduces repair costs.
- Corrective action taken before damage to packages occurs reduces claims for damaged items.
- Insights from gathered data improves existing business processes and created new ones.
- Fleet monitoring improves operating performance, reducing driver error and increasing staff responsiveness.
- Reduction of damages, and visibility to shipment status improves customer and partner satisfaction.
- Personalized mobile app increases driver satisfaction.

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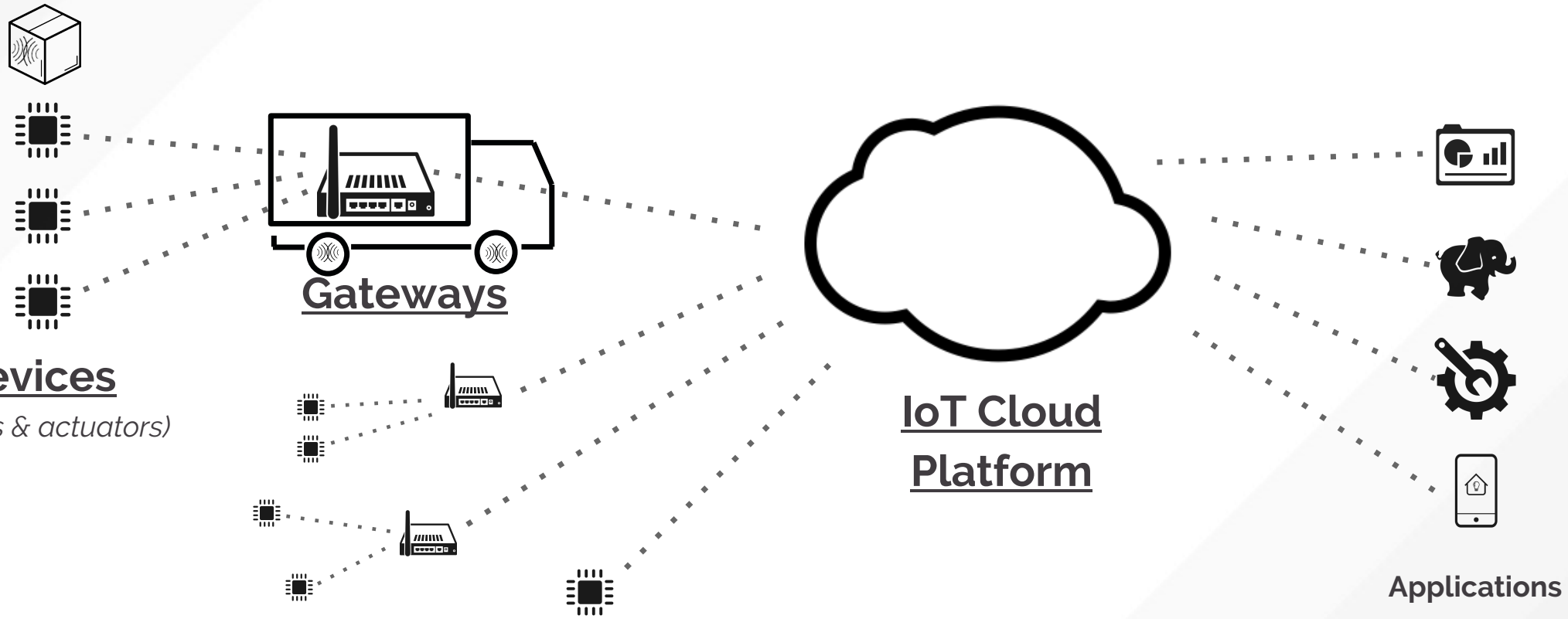
Asset Tracking demo

Logistics made easy



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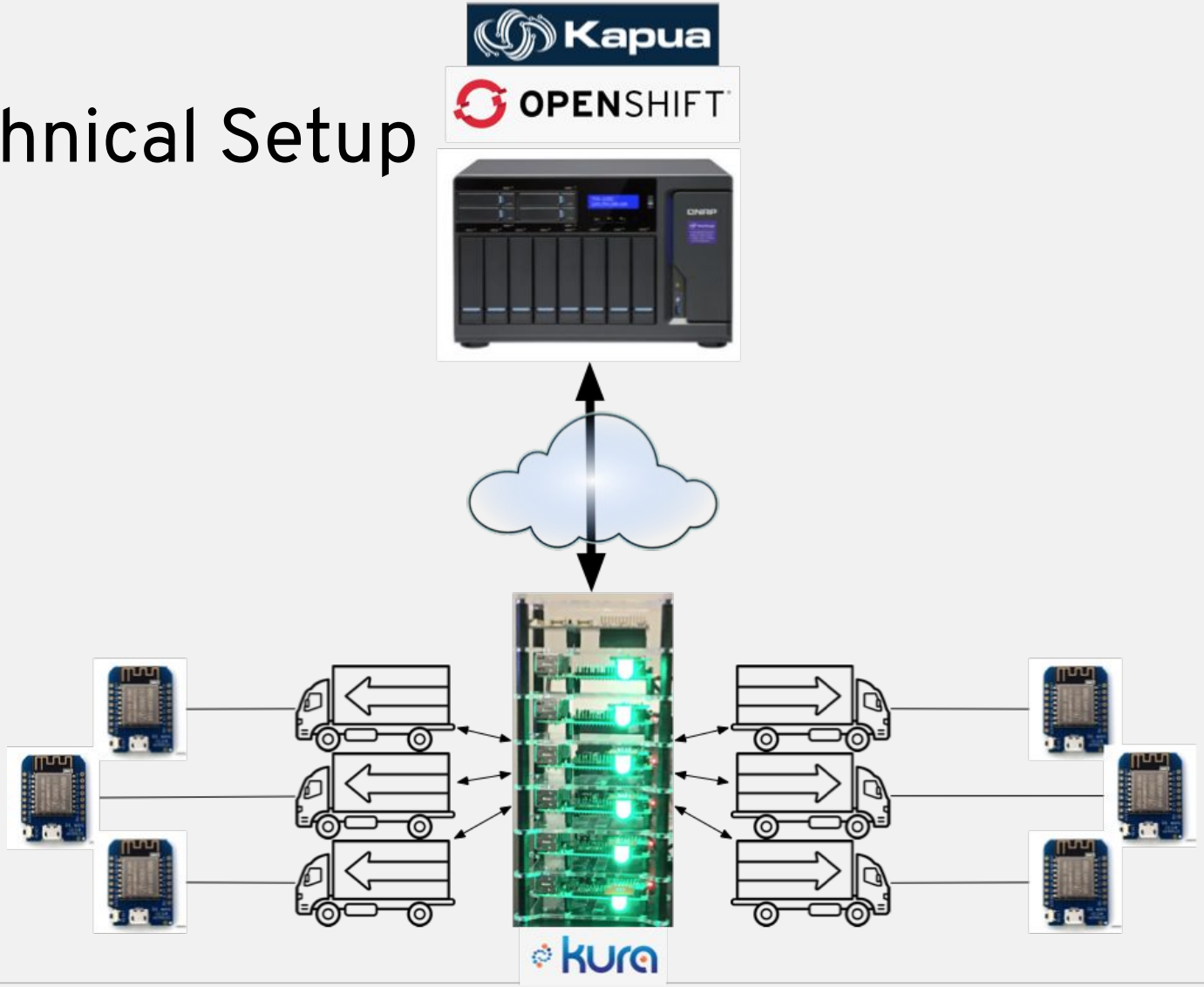
The Technical Setup



VANDELAY INDUSTRIES

Red Hat + Eurotech IoT Fleet Telematics Demo

25 Shipment(s) | Mary Q. Shipper

Fleet Central | Business Central

Vehicles

Find...

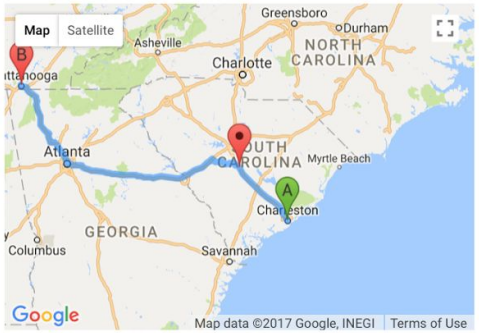
Vehicle ID	Route	ETA	Status
truck-6	Showshoe, WV Lexington, KY	Oct 7, 2017 5:51:03 AM	✓
truck-1	Charleston, SC Chatanooga, TN	Oct 6, 2017 8:34:32 PM	✓
truck-4	Virginia Beach, VA Chatanooga, TN	Oct 6, 2017 9:00:56 PM	✓
truck-5	Huntsville, AL Des Moines, IA	Oct 8, 2017 10:44:37 AM	✓
truck-2	Raleigh, NC Des Moines, IA	Oct 8, 2017 11:17:17 AM	✓
truck-3	Huntsville, AL Lexington, KY	Oct 8, 2017 10:04:31 AM	✓

Client Shipments

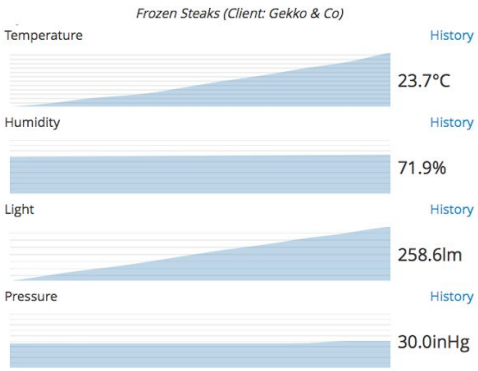
Find...

Client Package	Route	ETA	Status
Gekko & Co (Frozen Steaks)	New York, NY Chatanooga, TN	Tomorrow at 8:45 PM	✓
NY Enquirer (Fresh Fruit)	Knoxville, TN Chicago, IL	Monday at 4:49 AM	✓
Bubba Gump Shrimp Co (Polyjuice Potion)	New York, NY Chatanooga, TN	Today at 5:40 AM	✓
Ollivander's Wand Shop (Frozen Cells)	Charleston, SC Lexington, KY	Monday at 7:10 AM	✓

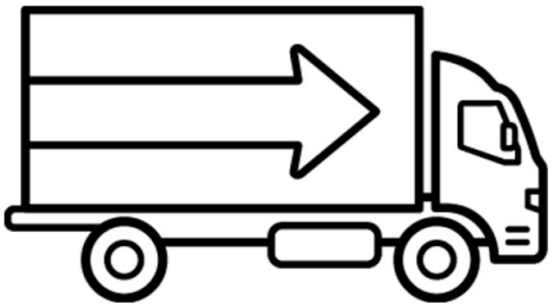
Vehicle Tracking



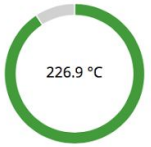
Package Telemetry



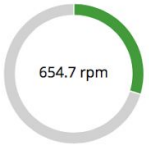
Vehicle Telemetry



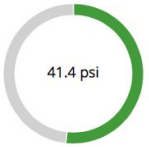
Engine Temp



RPM



Oil Pressure



VANDELAY INDUSTRIES

Red Hat + Eurotech IoT Fleet Telematics Demo

25 Shipment(s) | Mary Q. Shipper

Fleet Central | Business Central

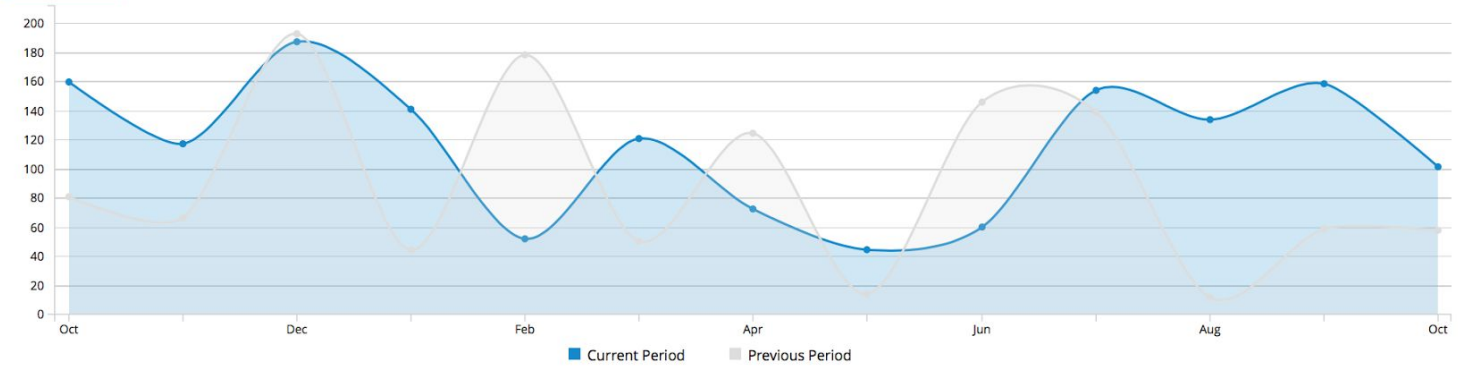
17 Clients | 25 Packages | 6 Vehicles | 19 Operators | 21 Facilities | 23 Managers

21 | 4 | 1

Business Trends

Last Year

Fuel Efficiency | Value Under Transport | On-Time Performance | Customer Satisfaction



Top Facilities

Last Month

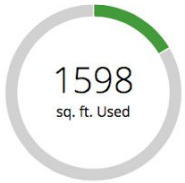
Lexington, KY — 47% Used

Chatanooga, TN — 43% Used

Des Moines, IA — 33% Used

Facility Utilization

8070 Available of 9668 sq. ft.



Fleet Maintenance Events

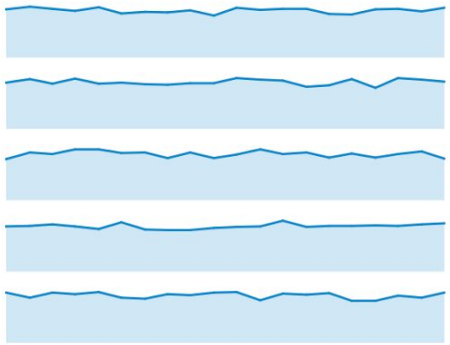
4 Events This Period

View All Events

Last Month

State of the Business

Last Month



96% Retention 96 of 100

92% Margin 92 of 100

81% Facilities 81 of 100

93% P/E Ratio 93 of 100

98% Closed 98 of 100

IoT Enablers

THE INTERNET OF THINGS LANDSCAPE

Connectivity and “smarter” devices driving change

EXPLOSIVE GROWTH IN CONNECTED DEVICES

UBIQUITOUS INTERNET CONNECTIVITY

AFFORDABLE BANDWIDTH

COMMODITIZED STANDARDIZED HARDWARE

- Microcontrollers
- Electronic sensors

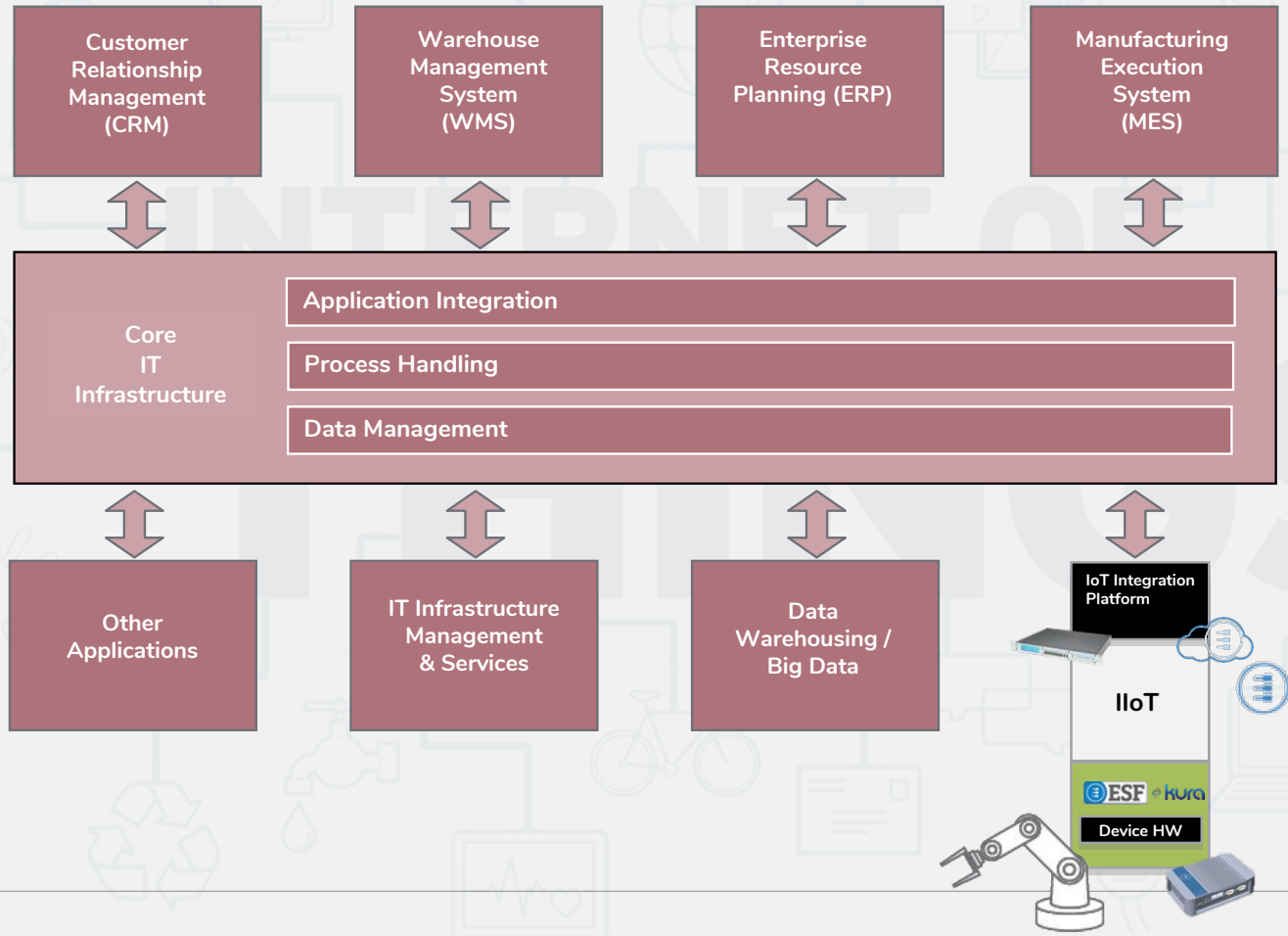
ADVANCES IN CLOUD COMPUTING

- Decreased cost of storing and processing data

STANDARDS BASED AND OPEN SOURCE SOFTWARE

The Internet of Things

Putting things in perspective



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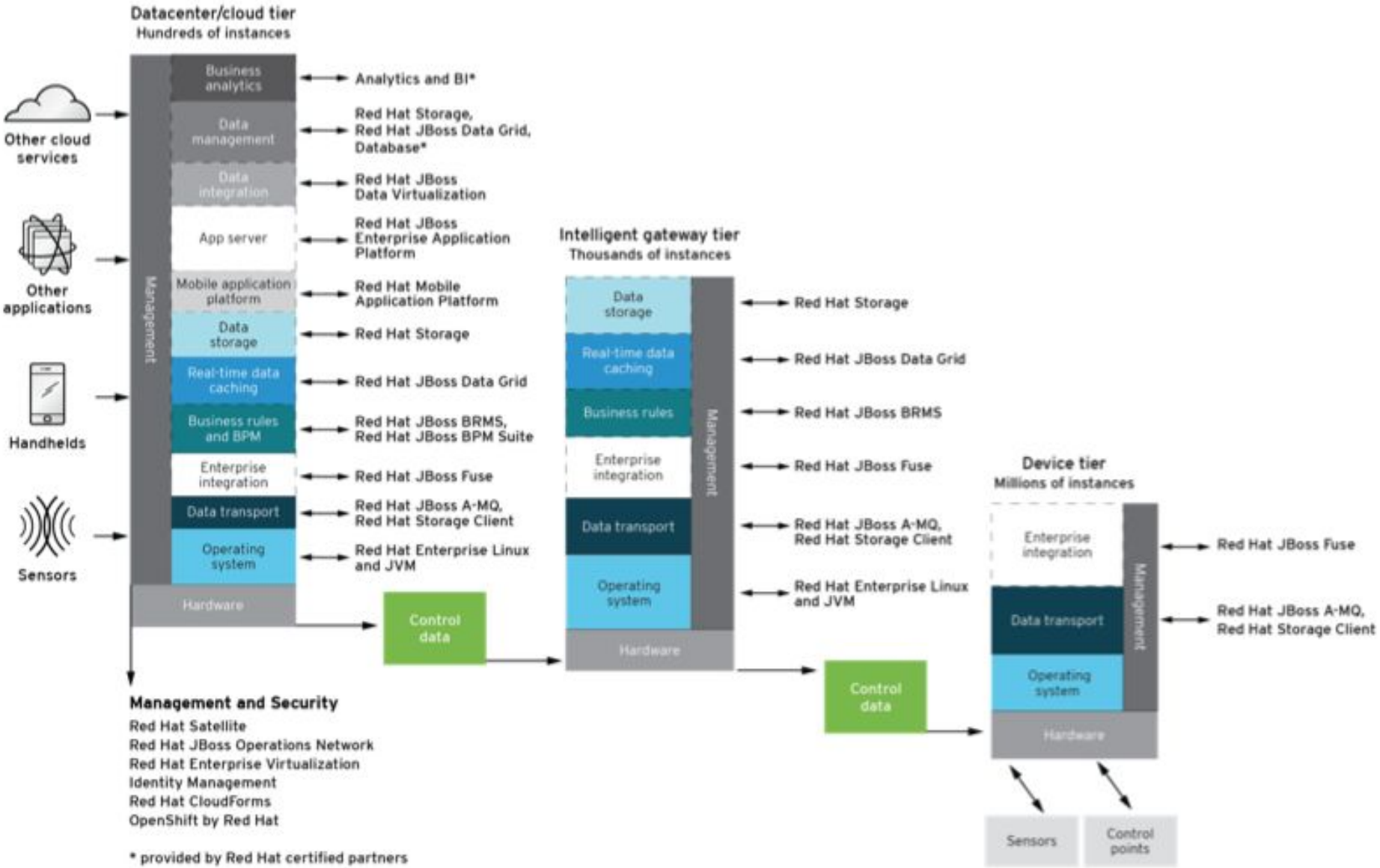
POWERED BY RED HAT

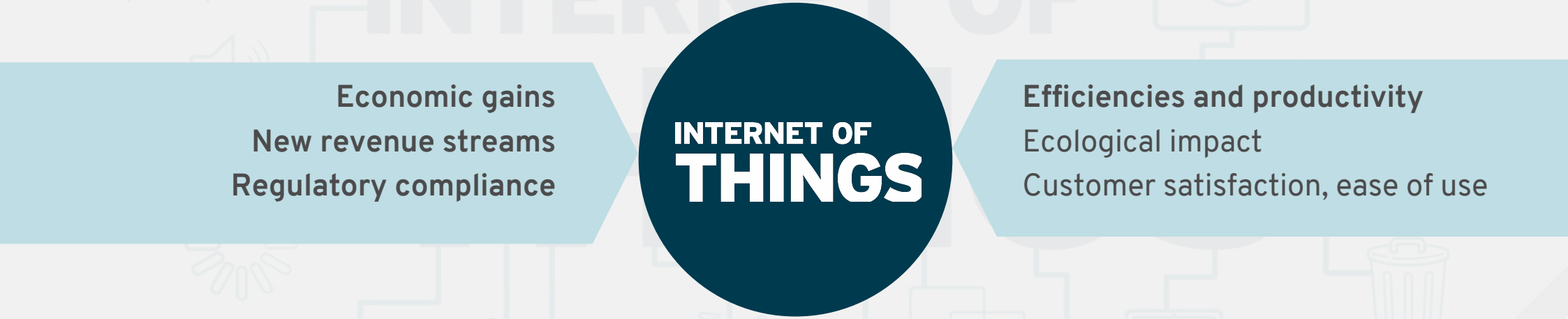
Internet of Things Red Hat Architecture



IoT is Business Driven

BUSINESS DRIVERS

Business drivers behind enterprise IoT investment



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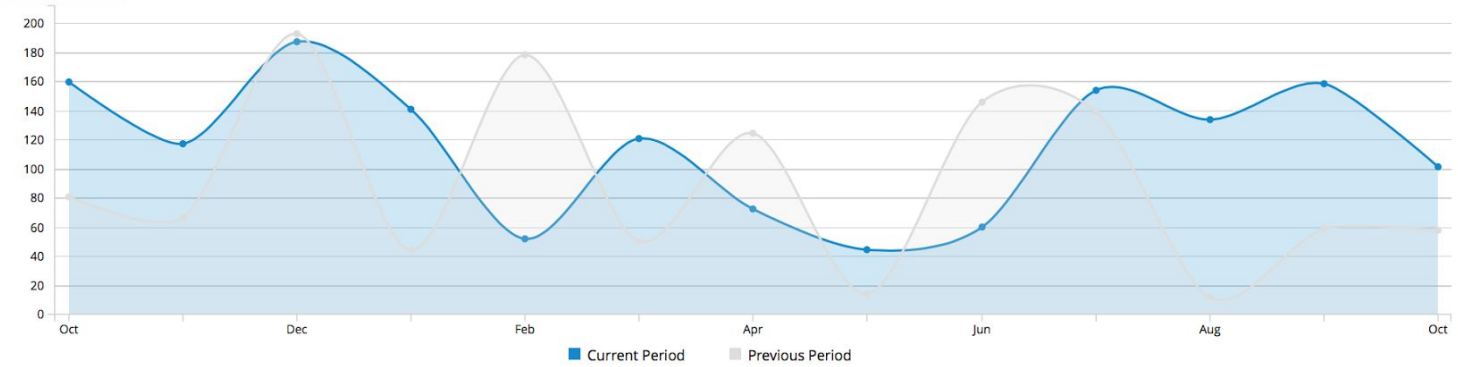

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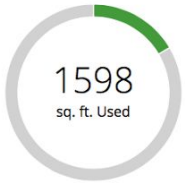

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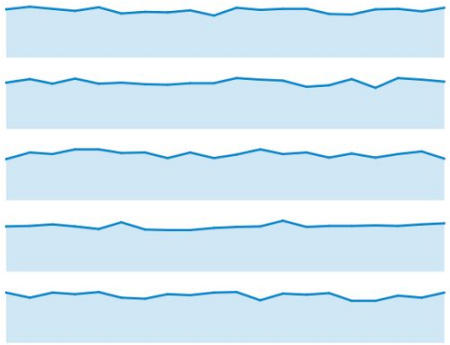

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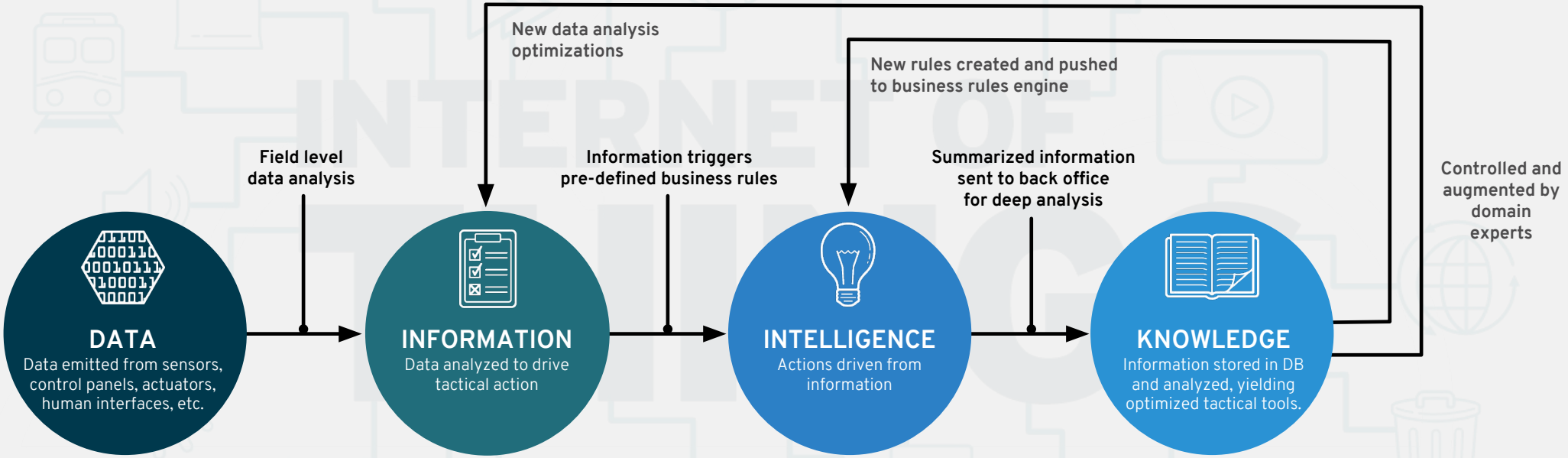
IoT is Data Driven

THE DATA-DRIVEN IoT

Devices are the eyes and ears of the intelligent system, not its brain.

INTERNET OF THINGS INFORMATION LIFECYCLE

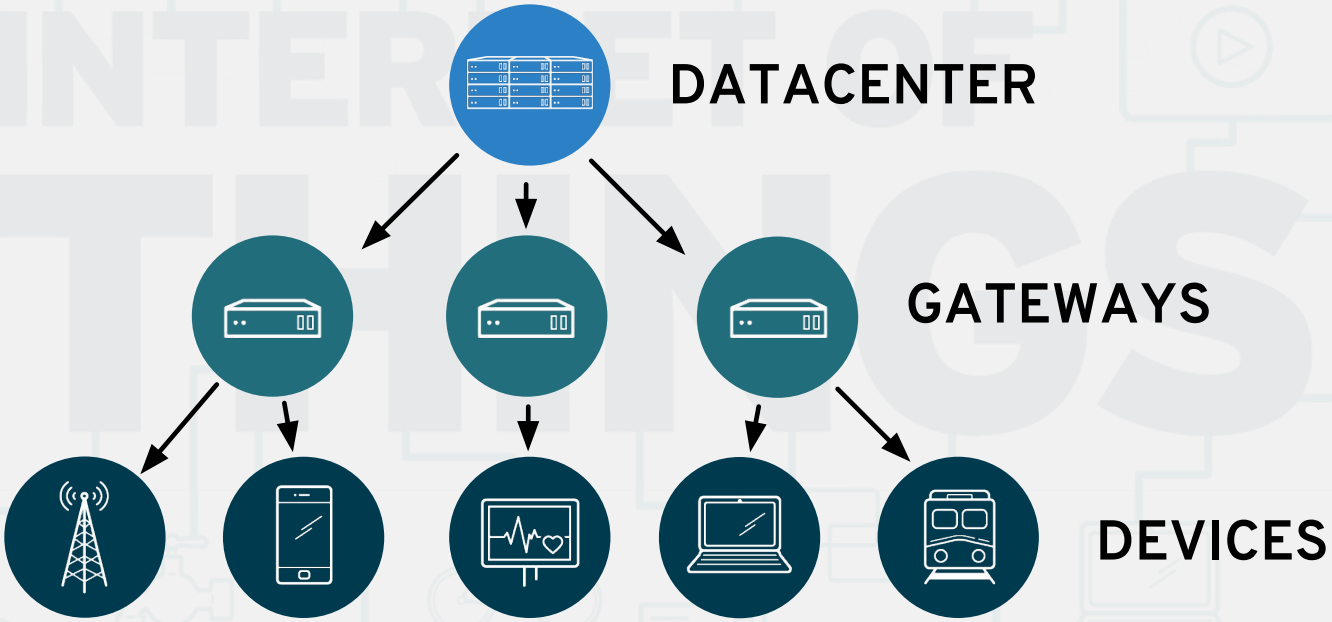


IoT in 3 Tiers

Industrial IoT

ENTERPRISE IoT ARCHITECTURE

Driving datacenter function to the edge



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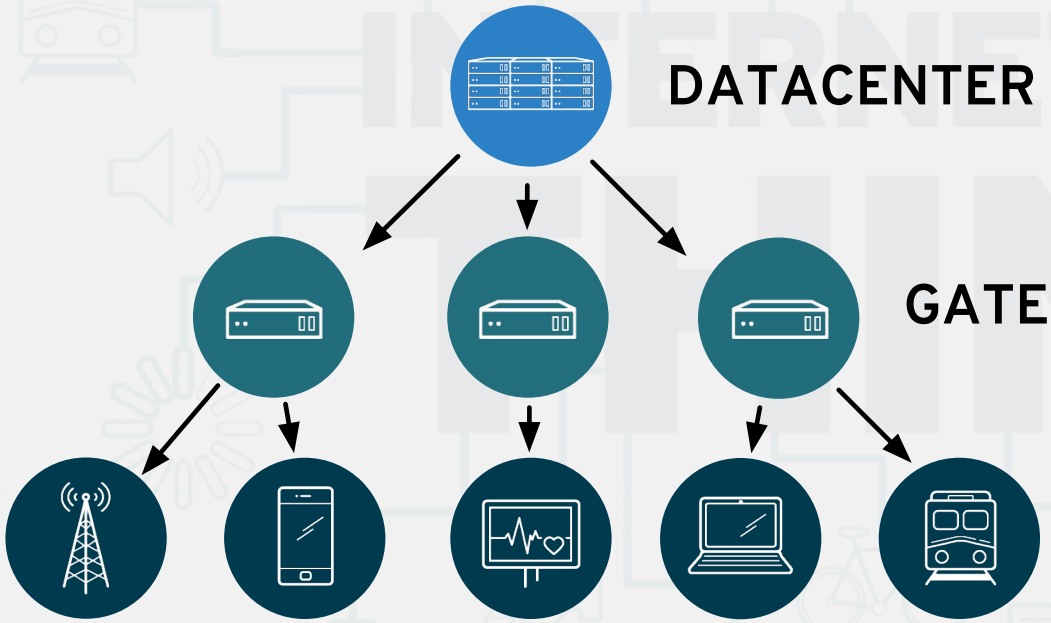


DATACENTER

- Business processing
- Reporting
- Long-term data analytics
- Data infrastructure
- Enterprise integration
- Software-defined storage

GATEWAYS

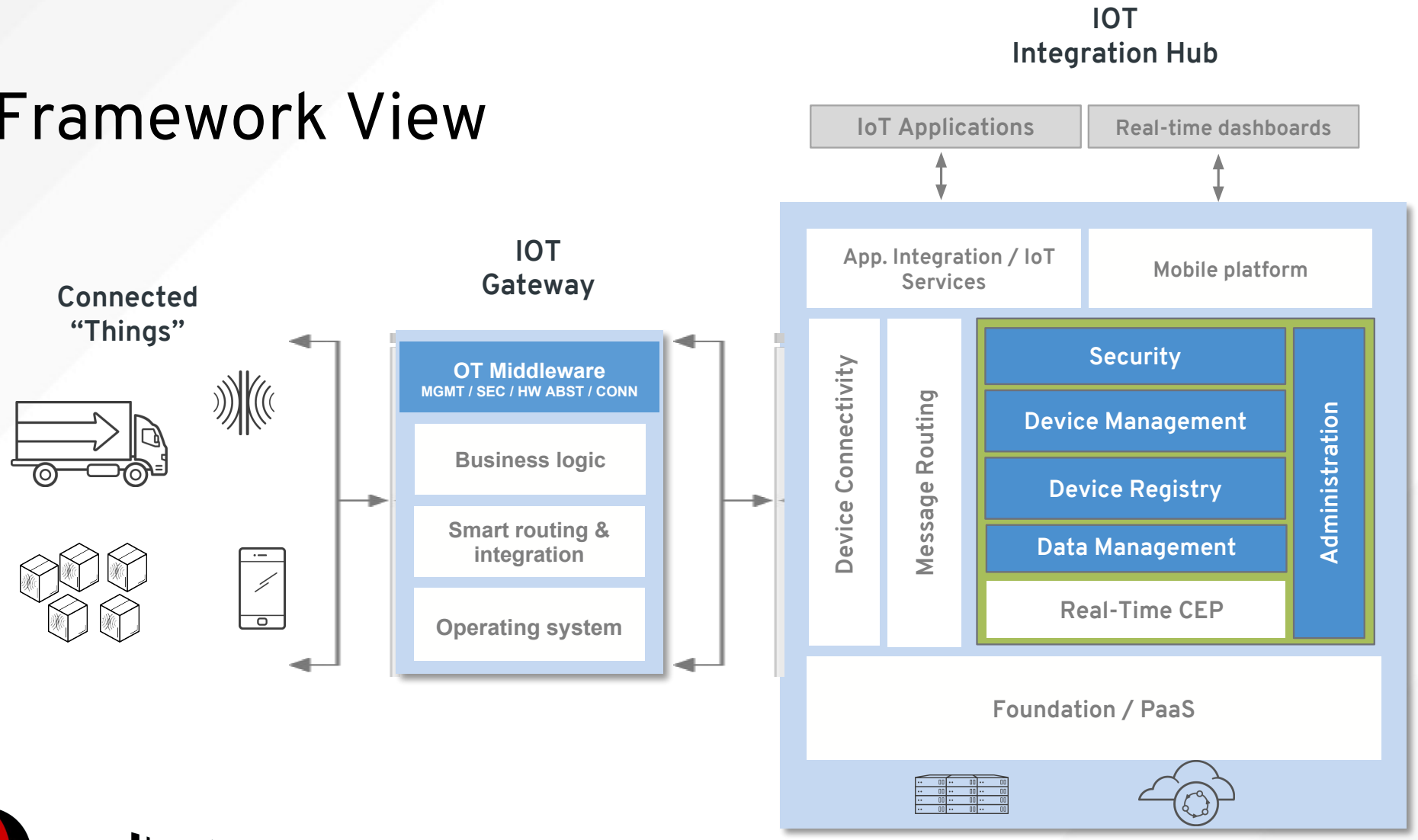
- Communications/messaging
- Data pre-processing
- Real-time data analytics
- Real-time actions/rules
- Software-defined storage
- Security

DEVICES

- Communications/messaging
- Data acquisition

Importance Of Frameworks

Framework View



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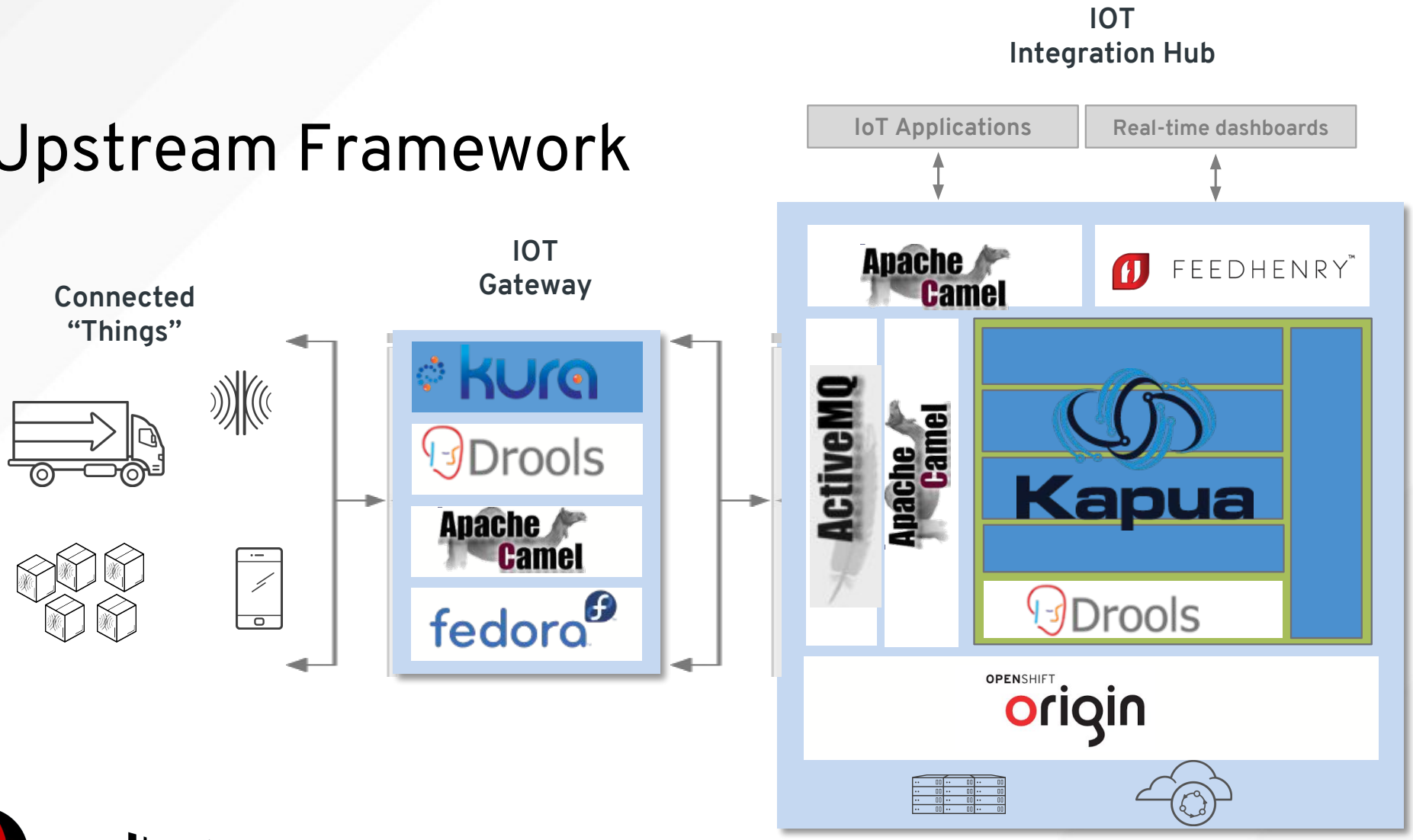
Open Source IoT

Upstream Framework



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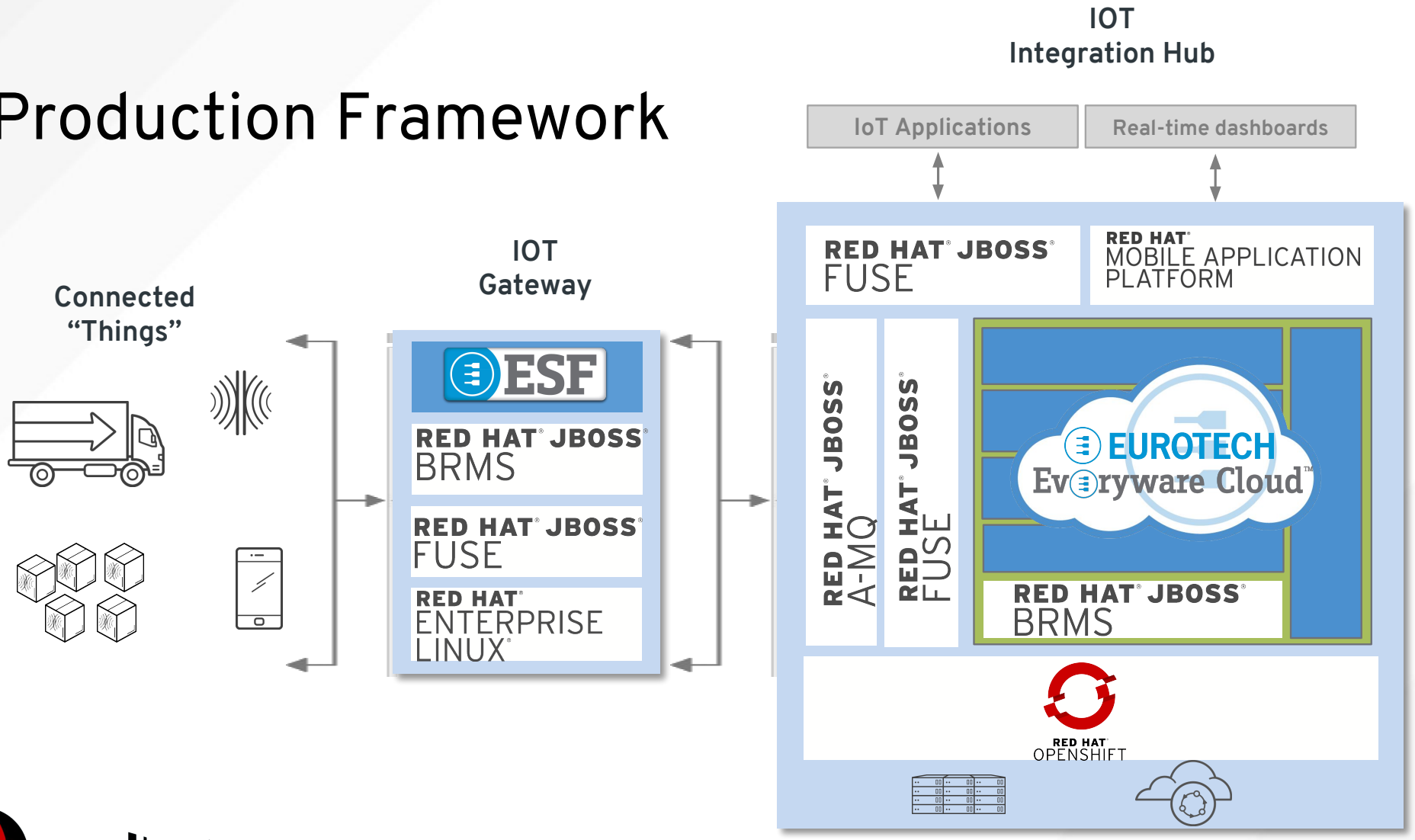
Production Framework



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Open End-to-End IoT Architecture: Functional

Integrating IOT Operating Technology, Data Management, Analytics, and Applications

Connected "Things"

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Open End-to-End IoT Architecture: Functional

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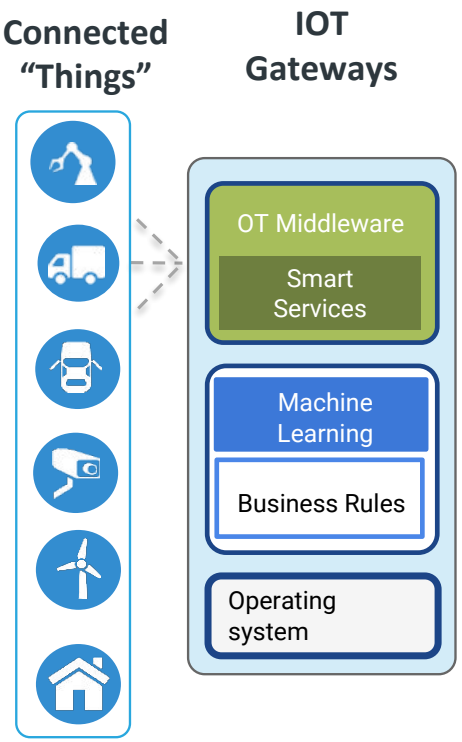

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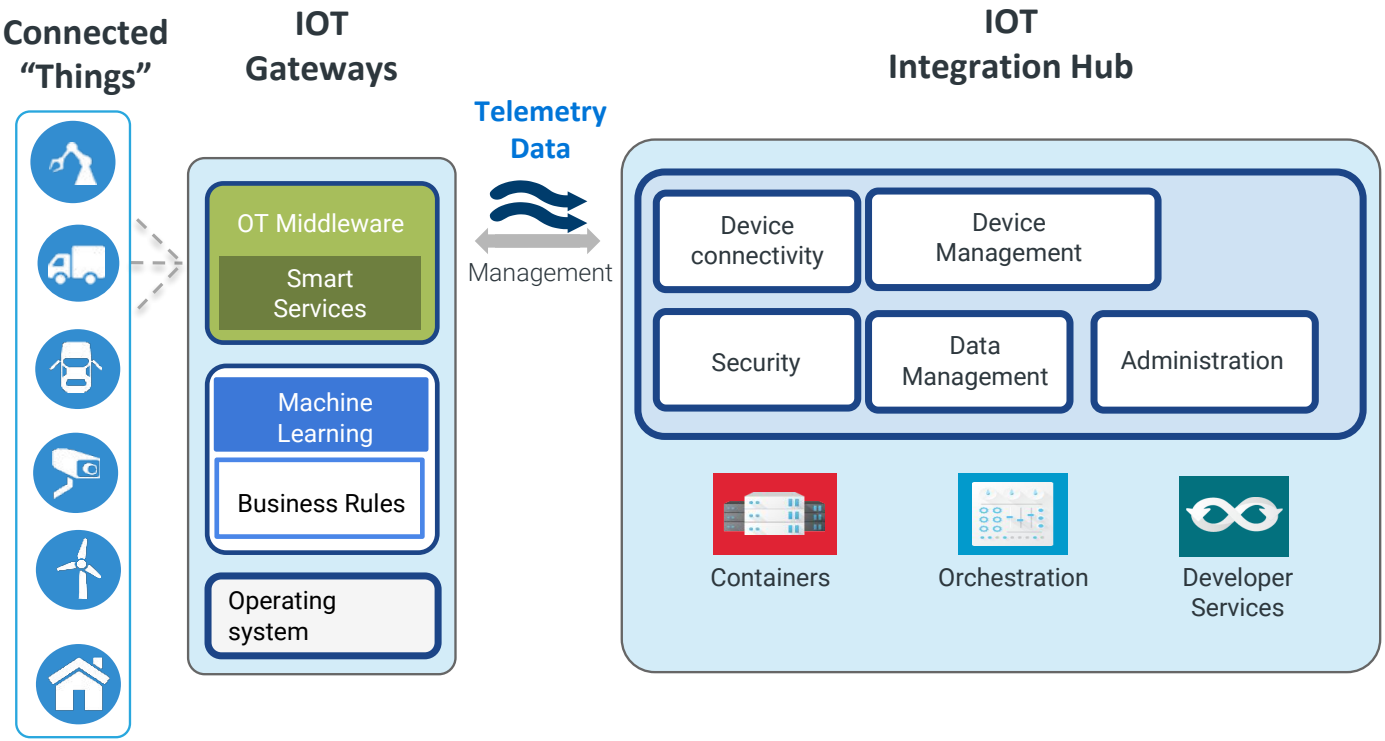

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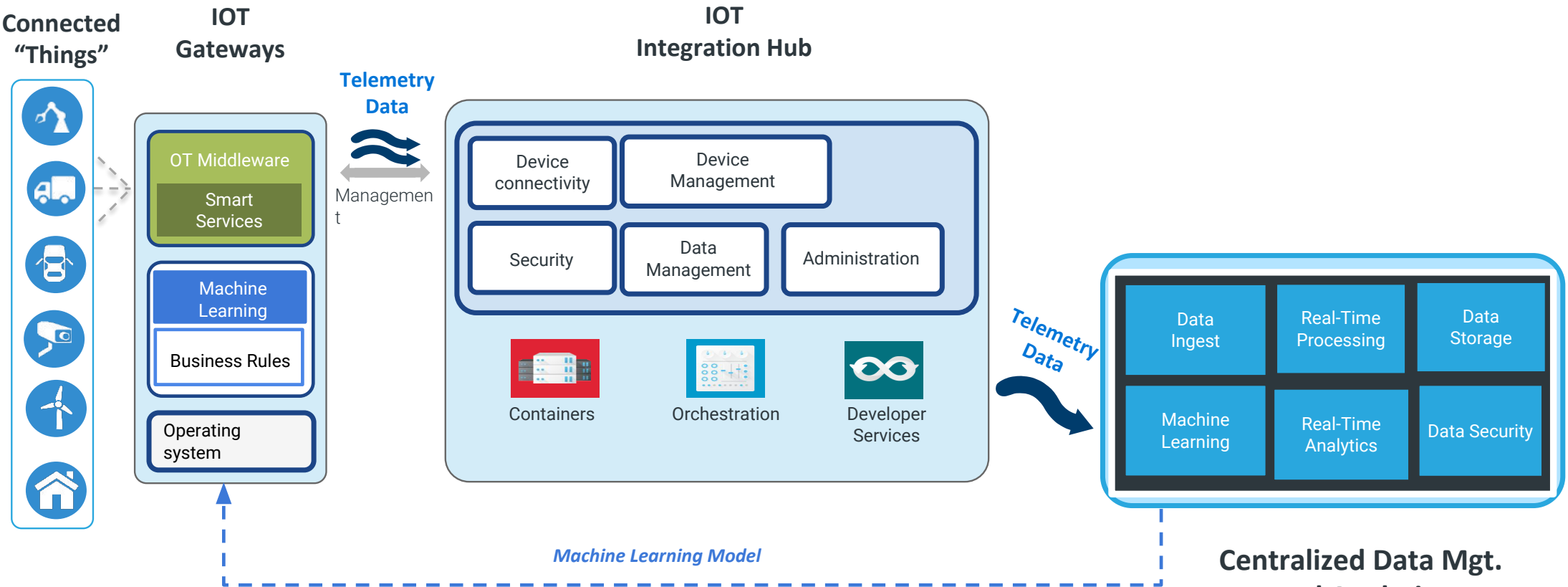

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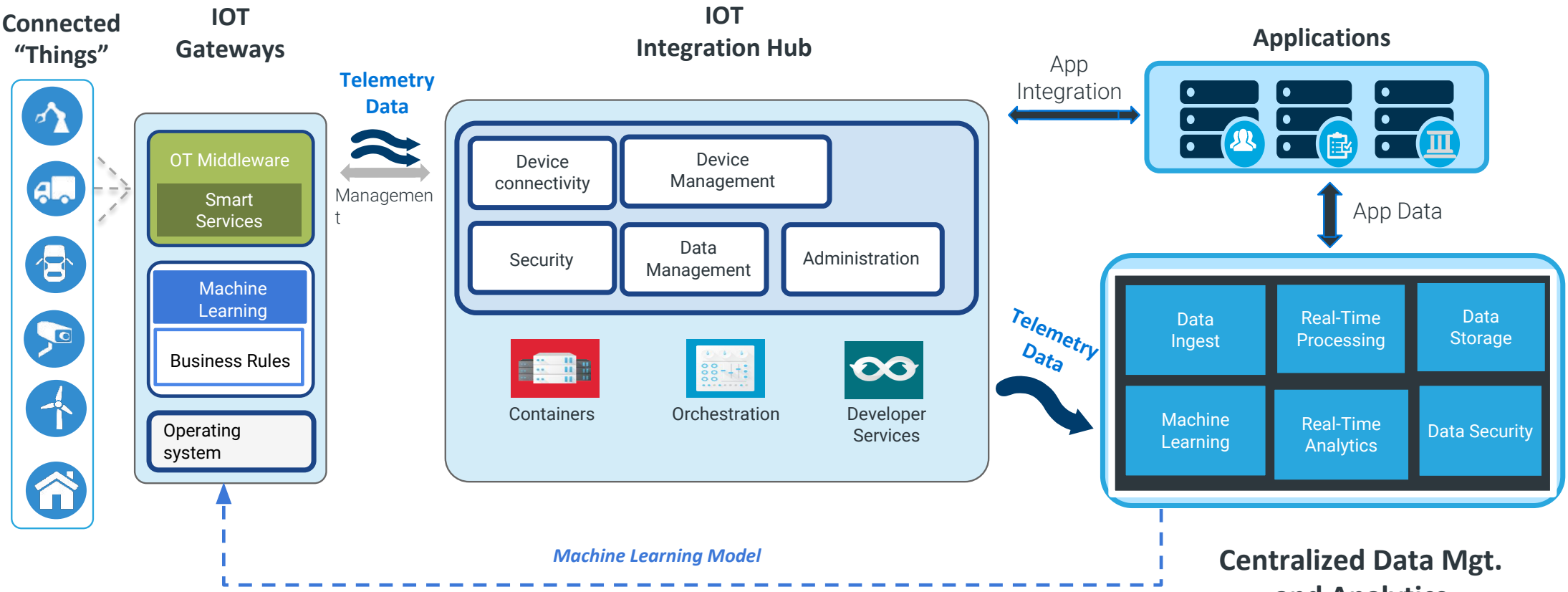

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Some news from Barcelona

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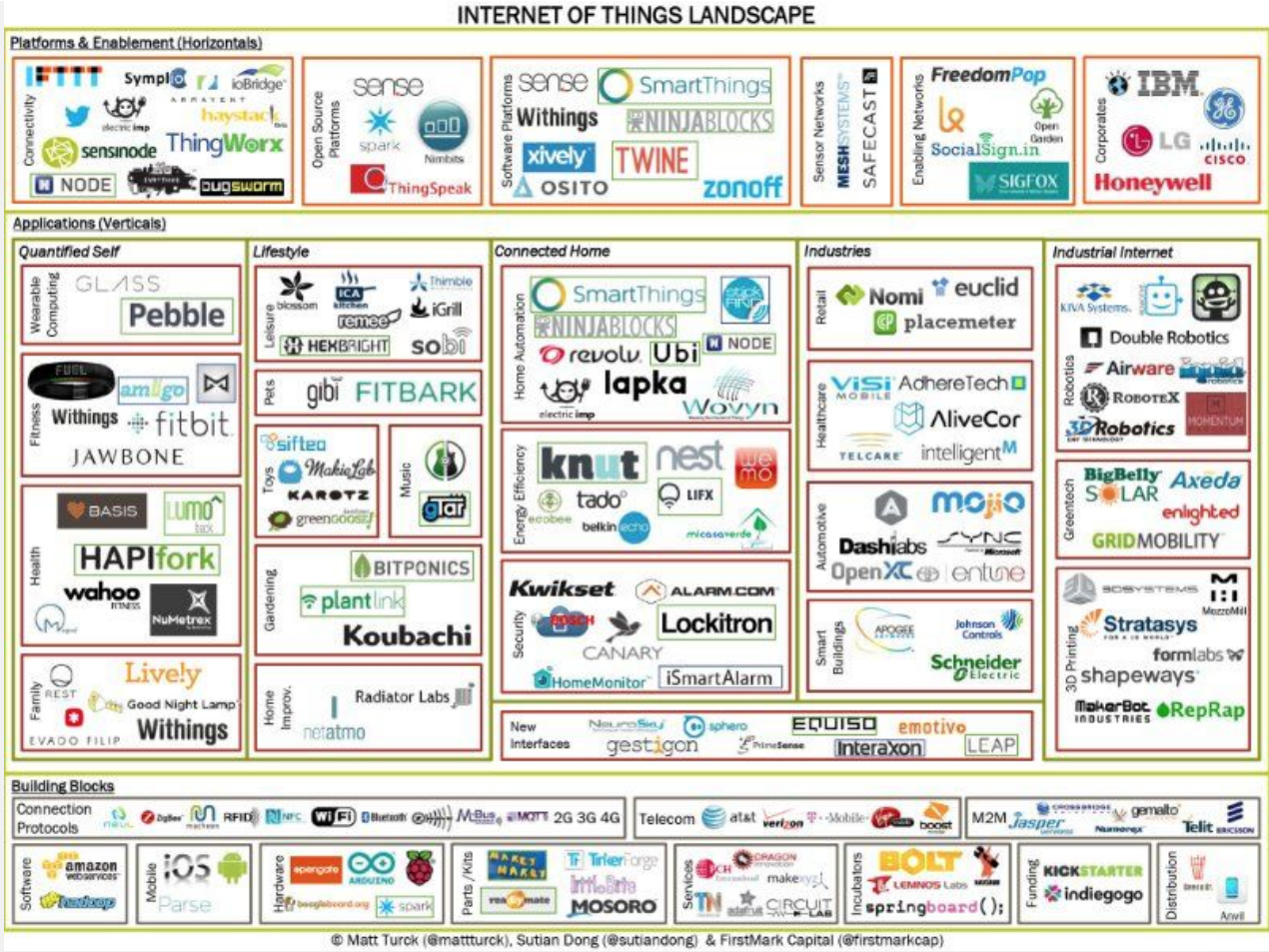
SOURCE IOT IN ACTION
redhat
PREVENTIVE MAINTENANCE
FOR INDUSTRY 4.0
INNOVATION THROUGH
COMMUNITY COLLABORATION
TaskWork


Telit
intel
WE KNOW THE FUTURE BECAUSE WE'RE BUILDING IT.

- Standards/Solution Overload
- Everybody talks about the Edge
  - 3 Tier IoT
  - Machine Learning
  - Security
- Top 2 Questions @ Booth
  - What is Red Hat
  - What is Open Source
- Pre-Emptive Maintenance was **the** main topic.



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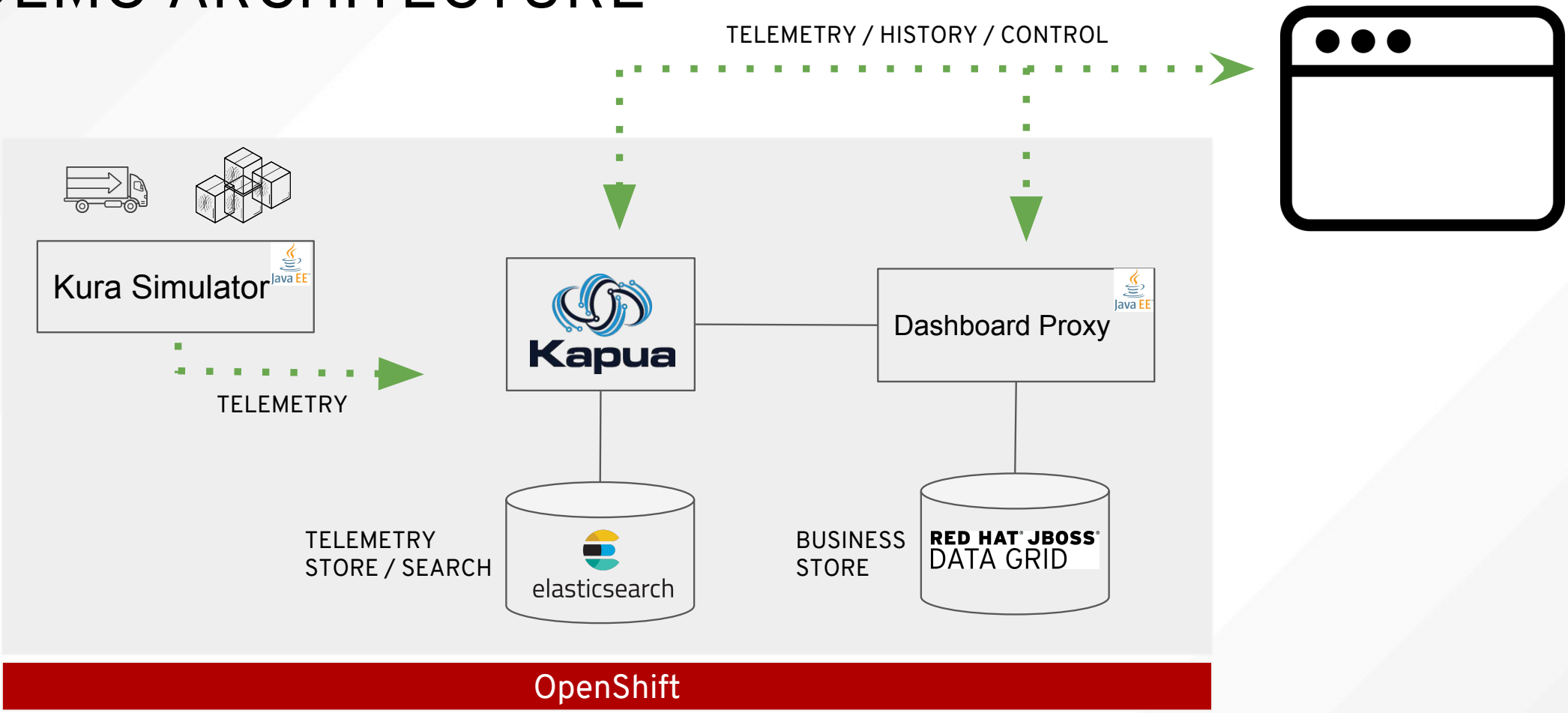
Fun Demo Stuff

DEMO ARCHITECTURE



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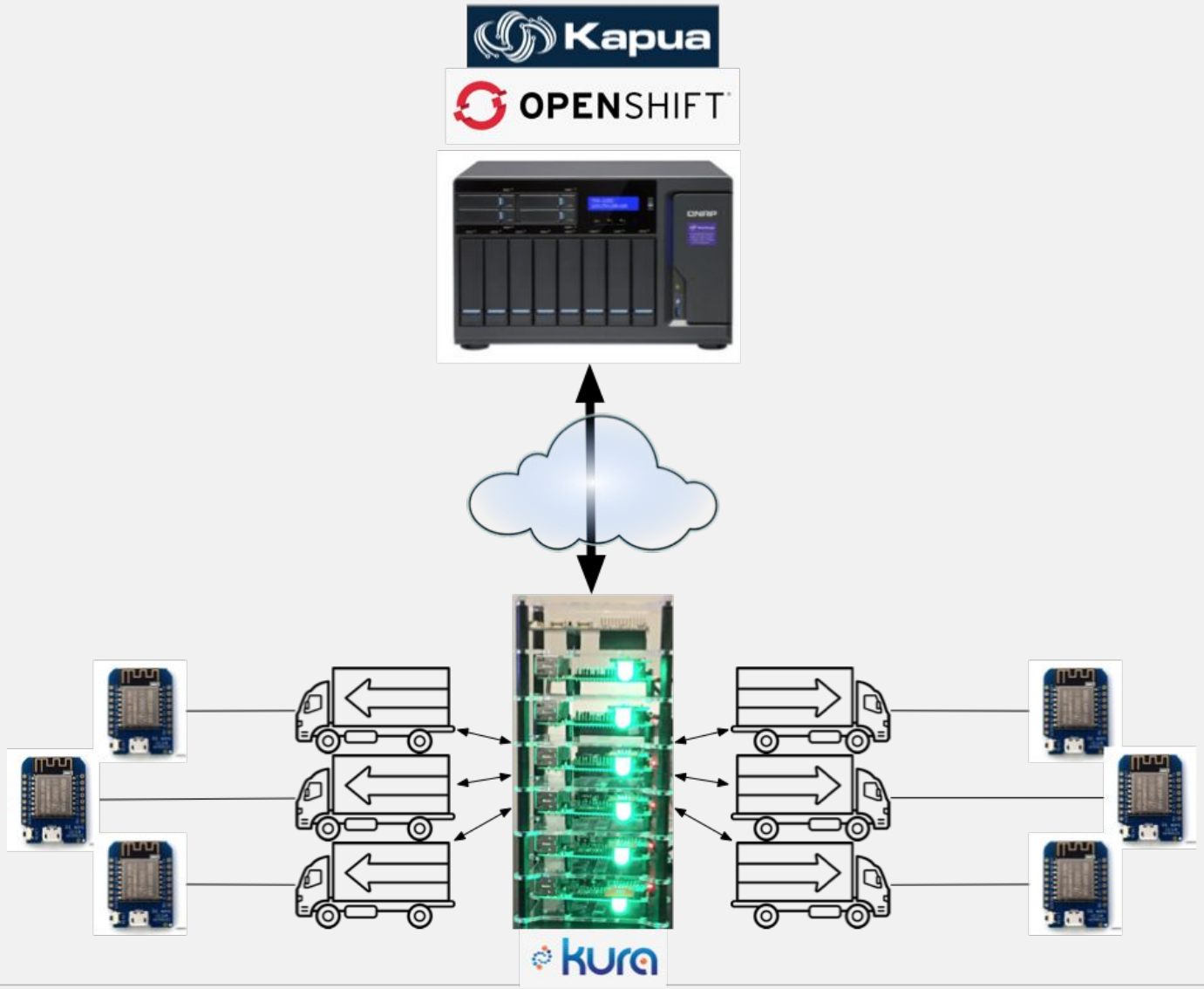
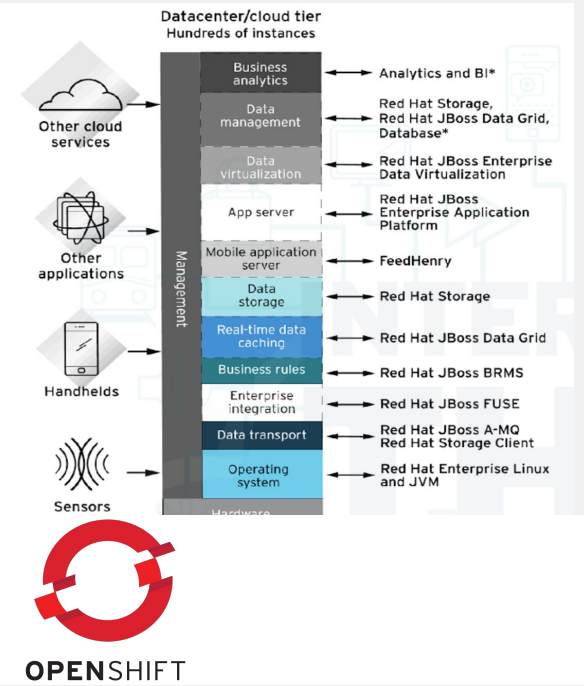
Demo



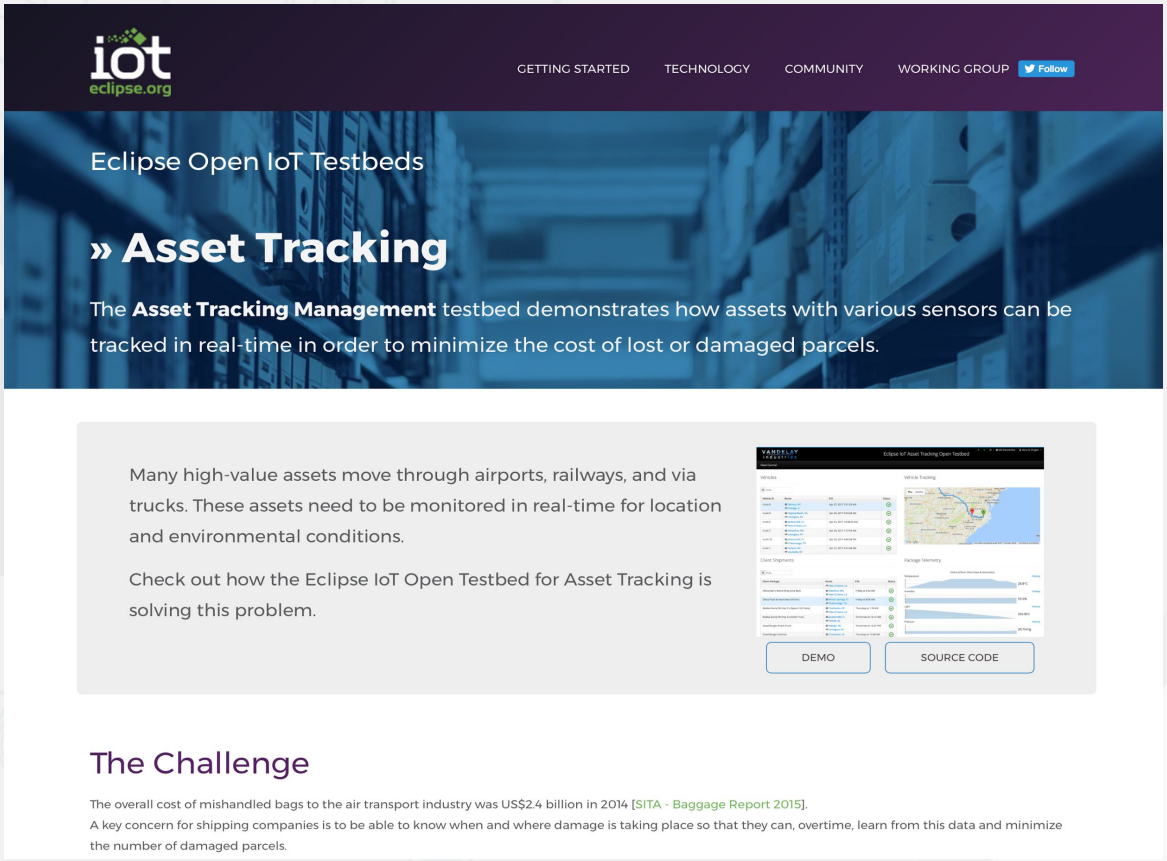
Things to take away

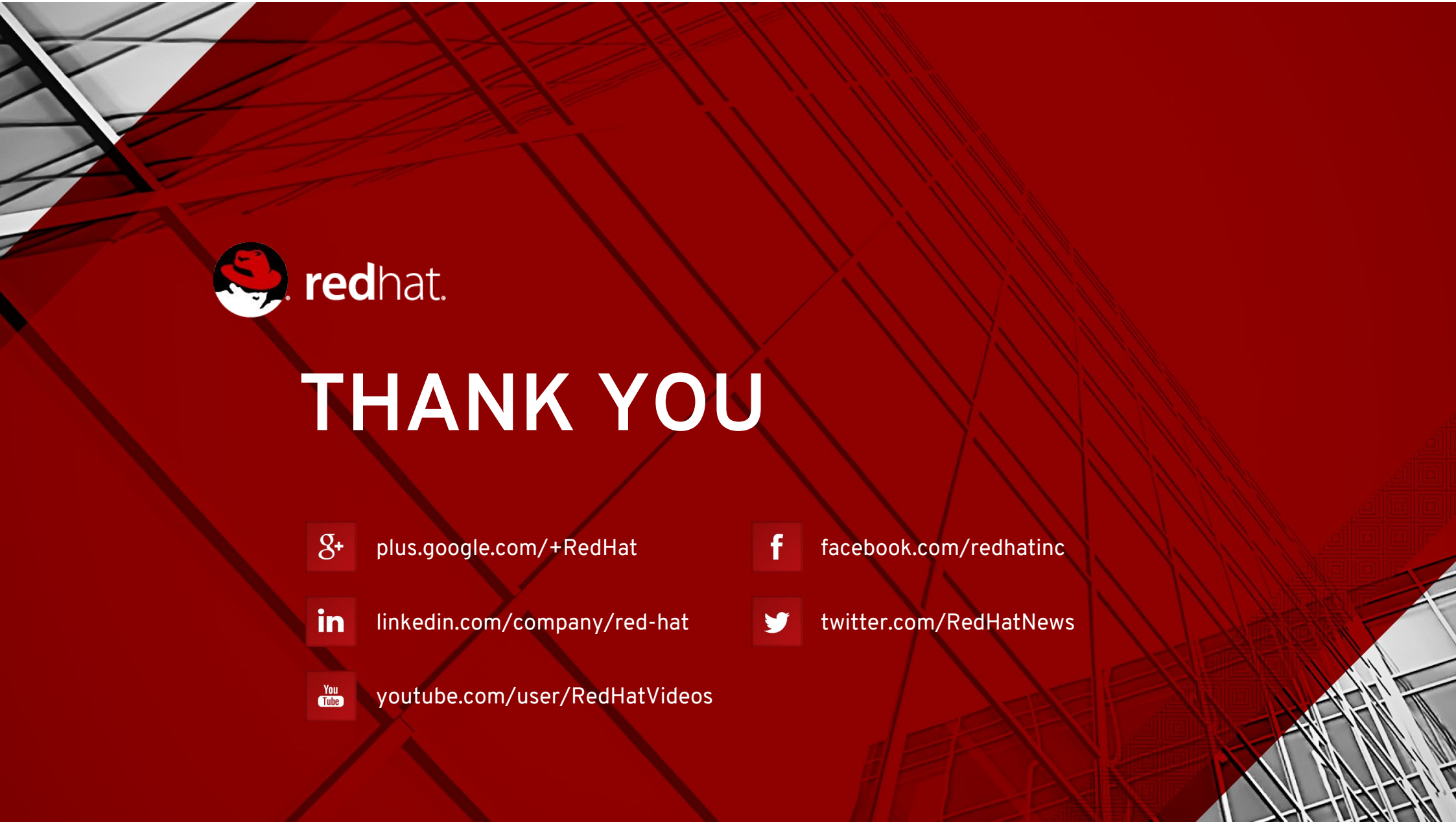
Getting into the game



- Business/Data Driven
- Frameworks do Heavy Lifting
  - Start OSS
    - Kura - Kapua - OpenShift Origin
  - Get Enterprise Support
    - ESF - Everywhere Cloud - OpenShift -JBoss MW
- Back-End Heavy
  - Cloud/Scalable Back-End: **OpenShift**

https://www.redhat.com/iot
https://developers.redhat.com/topics/iot/
https://iot.eclipse.org/testbeds/asset-tracking/
https://github.com/redhat-iot/summit2017

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youtube.com/user/RedHatVideos