

Software Protocols & Platforms

The Internet of Things

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Network Protocols: CoAP

- Constrained Application Protocol
- Designed for Constrained Devices
 - Small, Low Power, CPU, Storage, Memory
- Runs over UDP or DTLS
- ISO/IEC Standard
- Very Popular / Useful for Wireless Sensor Networks

Network Protocols: MQTT

- Message Queue Telemetry Transport
- Publish-Subscribe Messaging Protocol
- Lightweight & Suitable for IoT Devices
- ISO/IEC Standard
- Very Popular / Useful for Wireless Sensor Networks

Network Protocols: REST

- Representational State Transfer (ReST)
- Typically uses HTTP or CoAP
- Create, Read, Update, Delete Available
- Responses as XML, HTML, JSON
- Lightweight, Stateless, Ideal for the IoT
- <https://tools.ietf.org/id/draft-keranen-t2trg-rest-iot-05.html>

Network Protocols: Websockets

- Full-Duplex comms over a single TCP socket
- Can be used by any client or server
- Uses TCP ports 80 / 443 & Supports TLS Encryption
- IETF Standard RFC 6455 in 2011
- Faster & More Efficient than HTTP
- But Stateful & Difficult to Scale Horizontally

Platforms

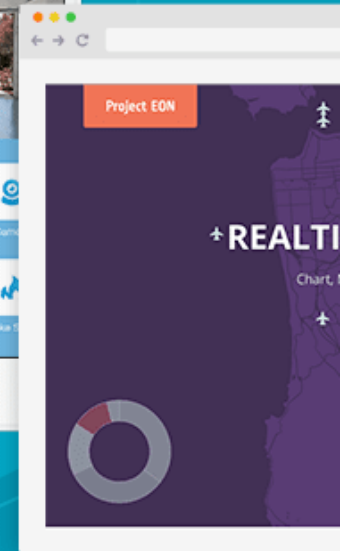
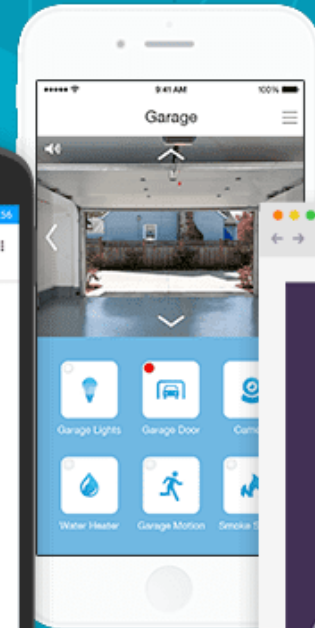
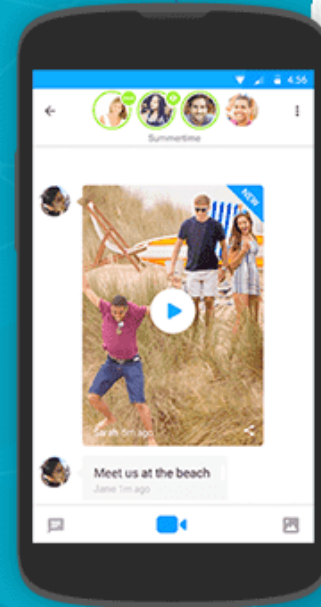
- Designed for IoT Protocols
- Designed for “Big Data”
- Can provide user interface
- Can provide analytics
- Sometimes Device or Ecosystem Specific



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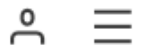


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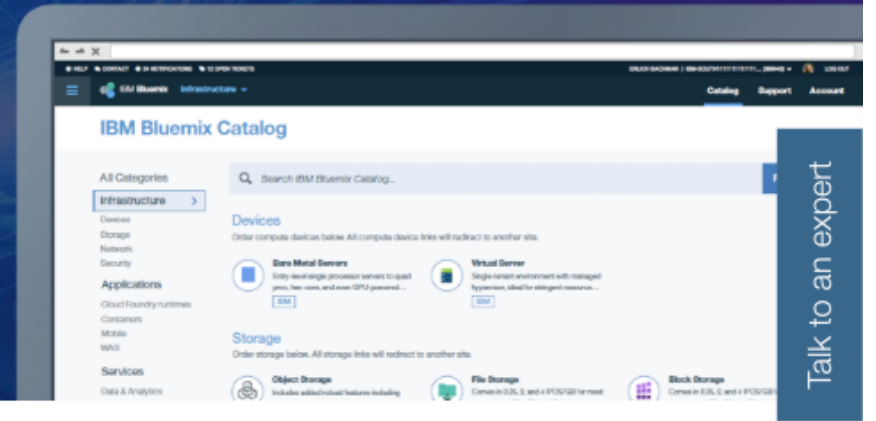
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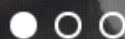
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The Internet of Things (IoT) is a term coined by Kevin Ashton, a British technology pioneer working on radio-frequency identification (RFID) who conceived a system of ubiquitous sensors connecting the physical world to the Internet. Although things, Internet, and connectivity are the three core components of IoT, the value is in closing the gap between the physical and digital world in self-reinforcing and self-improving systems.

If you knew the state of every thing in the world, and could reason on top of the data: What problems would you solve?



MAKE IOT IDEAS HAPPEN



What we do



Creators of Cayenne IoT Project x Jon Brewer

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- ADS1015
- Photoresistor
- TMP36
- TMP36
- GPIO
- Fan
- LED 2
- LED 3
- Light Switch

Overview Scheduling Triggers & Alerts

Demo Board

Processor

Live m h d w 1mo 3mo 6mo 1y

120

90

60

30

00:00:00 00:00:00 00:00:00 00:00:00

Memory

57%

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