

Challenging The Internet of Things

Josh Birk

salesforce

Joshua Birk

Developer Evangelist
Salesforce.com

@joshbirk
joshua.birk@salesforce.com

Let's talk about a fridge...





1. Appliance is delivered
2. User syncs with account (mobile app, wifi enabled screen)
3. Appliance runs diagnostic
4. Faulty behavior is reported to service provider
5. User is notified and a service appointment is created



1. Appliance is delivered
2. User syncs with account (mobile app, wifi enabled screen)
3. **Mobile App runs diagnostic**
4. Faulty behavior is reported to service provider
5. User is notified and a service appointment is created

LG is already using exactly that...

LG Smart Diagnosis

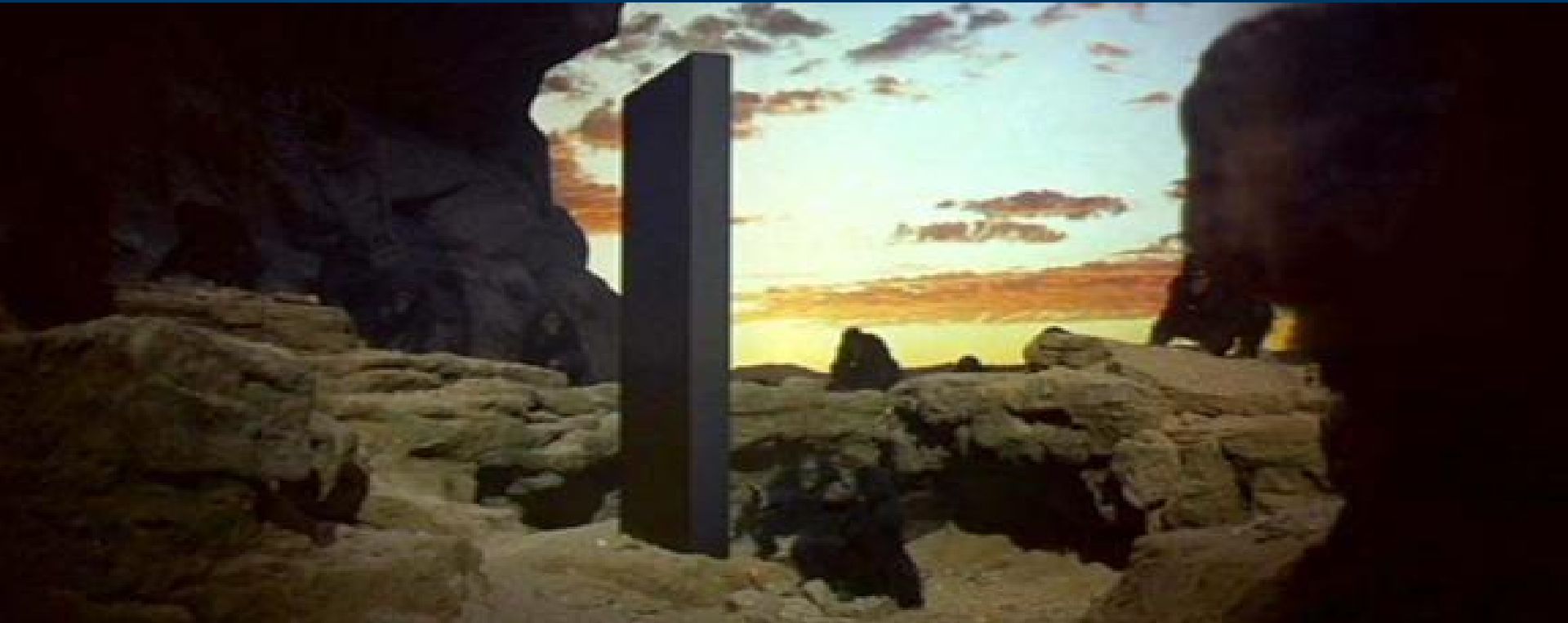
I love when new technology makes life easier. For a few years now, there's been talk about being able to access things like your dishwasher or clothes washing machine from your smartphone. Put a load of clothes in the wash in the morning and start it from your phone so it's done when you get home from work. While that's a nice idea, the cost of the hardware is expensive, and the practical tradeoff isn't there.



However, LG has a service on their new appliances called **Smart Diagnosis**. Smart Diagnosis can save time by being able to diagnose minor problems on your appliances from your smartphone. Simply download the LG Smart Diagnosis App (it

Brief History of IoT Demos

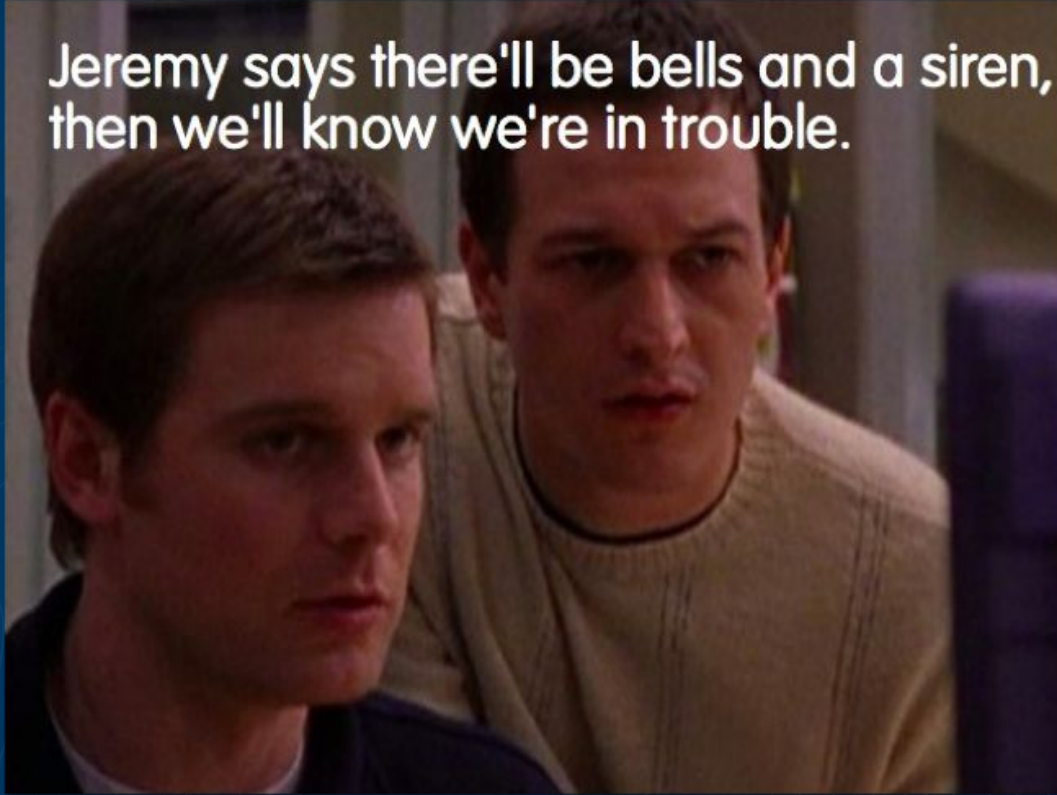
salesforce



table

1998:

Jeremy says there'll be bells and a siren,
then we'll know we're in trouble.



1999:

salesforce

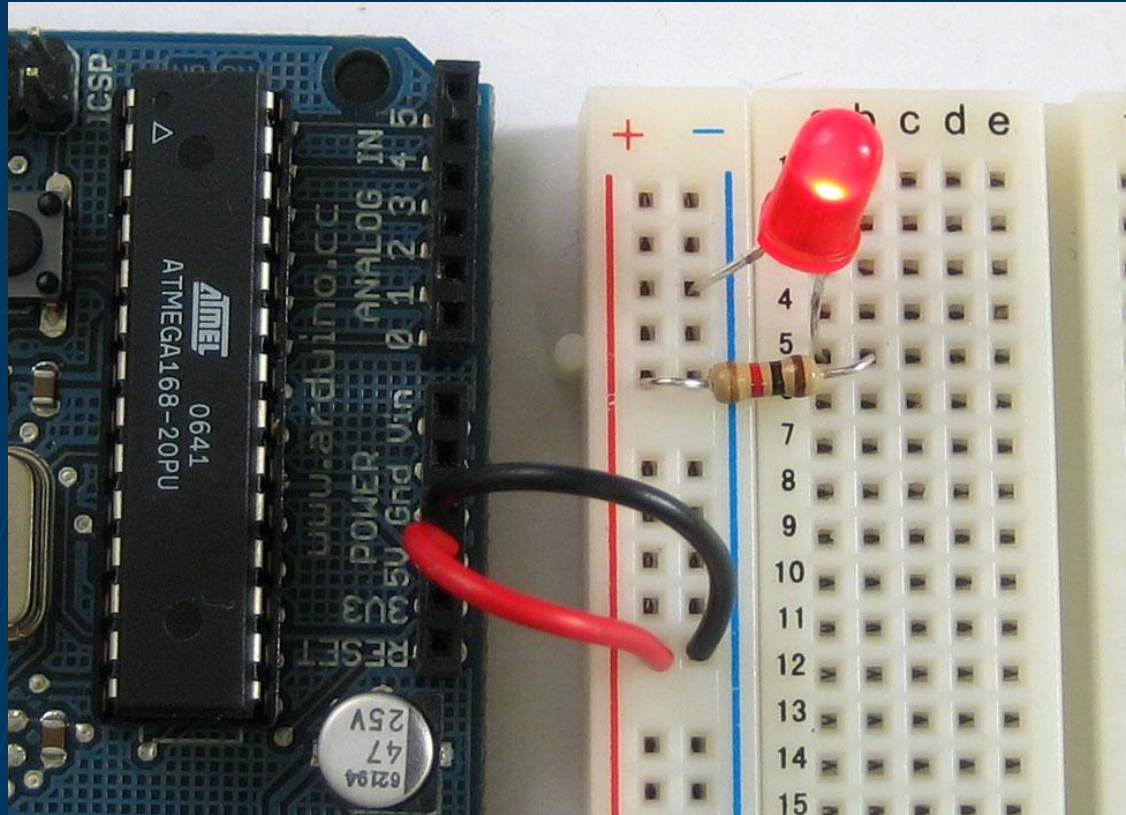
British entrepreneur Kevin Ashton coined the term [Internet of Things] in 1999 while working at Auto-ID Labs

2013: Makey Makey Keyboard (Yes, Really)



2013: Arduino Powered LED Light

salesforce



2014: Actual Case Notification

salesforce



<https://blog.internetcreations.com/2014/10/control-world-using-salesforce1-platform-iot/>

2015: My Most Complicated Demo

- Truly leverage the Internet
- Multiple points of integration, One Use Case
- Showcase how IoT can satellite our lives
- Demonstrate a combination of traditional and consumer IoT devices

2015: My Most Complicated Demo

salesforce

Overcomplicated to the
point of believability

2016: My Even More Complicated Demo

salesforce



2016: My Even More Complicated Demo

salesforce

<https://youtu.be/pJu7X0wOHSQ?t=124>

2016: My Even More Complicated Demo

salesforce

So what was that?

2015: My Most Complicated Demo



2016: My Even More Complicated Demo

1. Alexa controls the lights back home

- Amazon Echo
- Heroku / Lambda based Skill
- LIFX Bulbs

2016: My Even More Complicated Demo

2. Raspberry Pi running a node.js app detects image change

- Resemble.js
- node.js wrapped fswebcam + aging webcam

2016: My Even More Complicated Demo

salesforce

3. Preliminary Chatter post on Salesforce

- Salesforce REST API
- Salesforce1 Notification

2016: My Even More Complicated Demo

salesforce

4. Image sent for object processing to update case

- CamFind API
- Cloudsight library (node)
- Salesforce REST API
- Pushover notification

2016: My Even More Complicated Demo

5. Control Case via Echo

- Salesforce REST API
- Heroku / Lambda Skill
- Chrome Extension +
Salesforce Streaming API

2016: My Even More Complicated Demo

salesforce

6. Kill the zombie

- Raspberry Pi w/ Streaming Client
- Dream Cheeky USB Missile Launcher
- node.js Dream Cheeky Driver
- Apex callout to LIFX bulb
- Luck (we got one shot)

2016: My Even More Complicated Demo

salesforce

What could possibly go wrong?

2016: My Even More Complicated Demo

What could possibly go wrong?

1. Internet, Internet, Internet
2. Pi's have a notoriously buggy USB hub
3. Camfind is slow, and oddly random
4. Alexa is usually spot on, but...
5. Cats

2016: My Even More Complicated Demo

salesforce

However...

Multiple points of entry (phone, browser, Echo) creates redundancy

2016: My Even More Complicated Demo

salesforce

What the how now?

2016: My Even More Complicated Demo

salesforce

Amazon Echo / Alexa Skill

You host a web service that
can accept and respond to
Echo request

2016: My Even More Complicated Demo

salesforce

LIFX Bulbs

No hub required.

Cloud based API.

2016: My Even More Complicated Demo

salesforce

Raspberry Pi It's really just Linux

2016: My Even More Complicated Demo

salesforce

Electric Imp / mBed / etc
Browser based
USB or Cloud Delivery

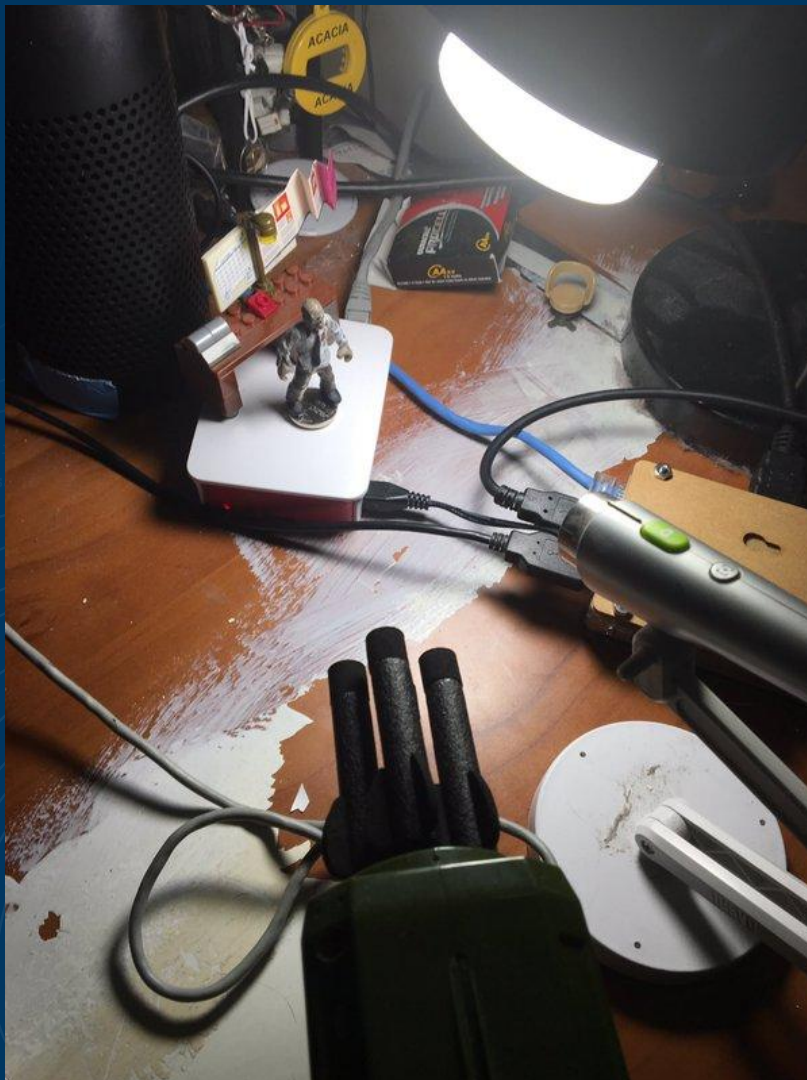


Please

**Remember to
rate this session**

Thank you!

Questions?



salesforce