Dumb Homes, Smart People

Creating decentralized systems for the Internet of Things
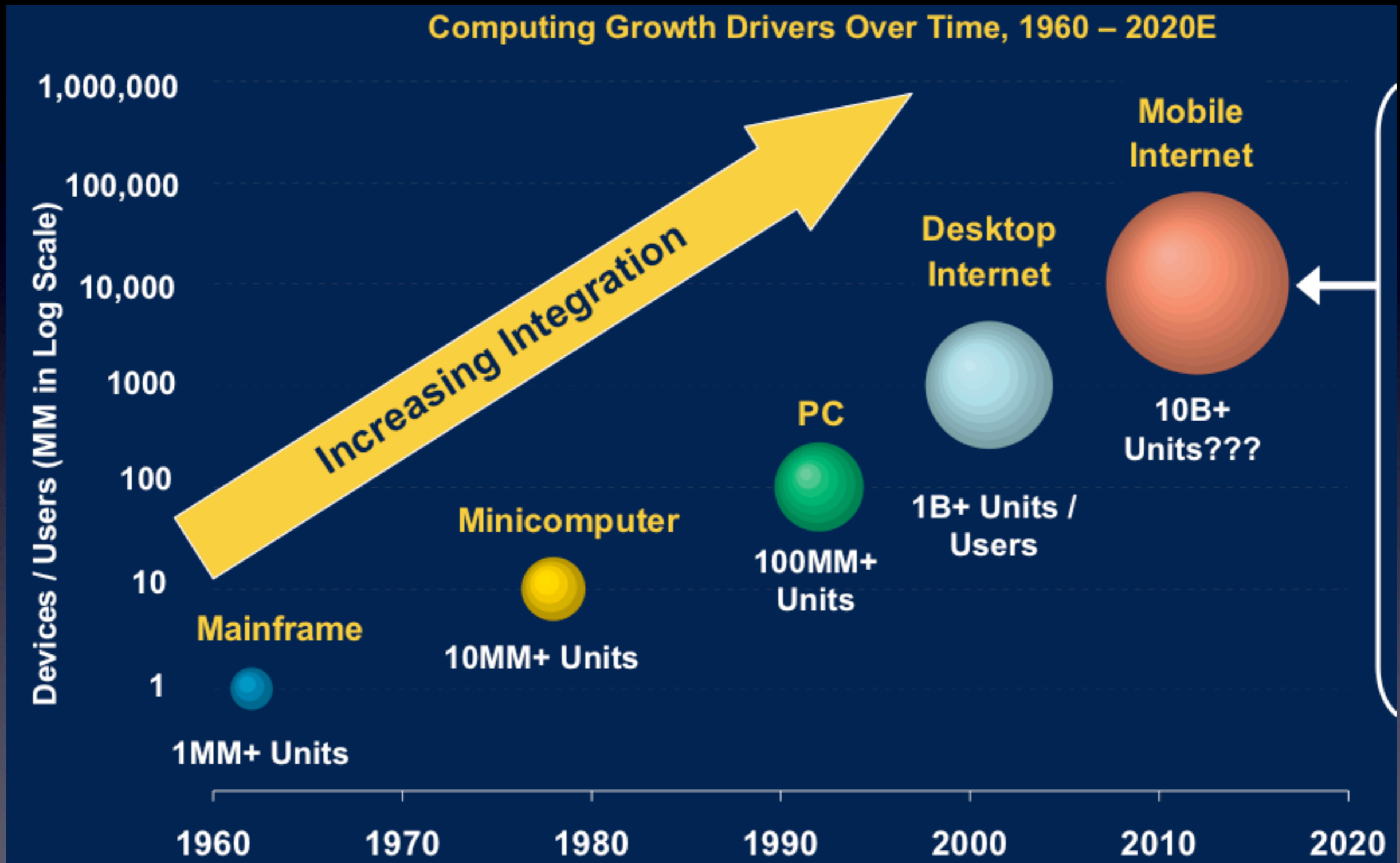
Amir Chaudhry - @amirmc
amc79@cam.ac.uk

Smart Homes Conference
November 2013

UNIVERSITY OF CAMBRIDGE

My Smart home!

- Wake up, daddy's home.
- Welcome home, sir.

Current reality

Billions of devices

Computing Growth Drivers Over Time, 1960 – 2020E

Internet Trends 2010, Morgan Stanley
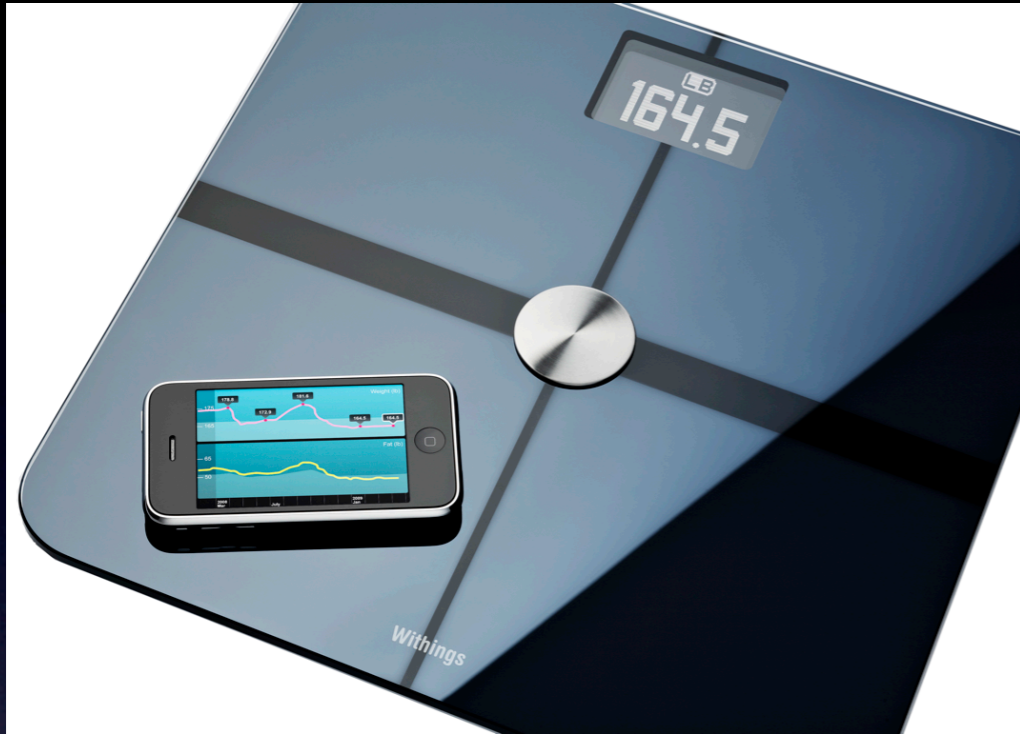
Billions of devices

What will devices be running on?

How will devices find each other?

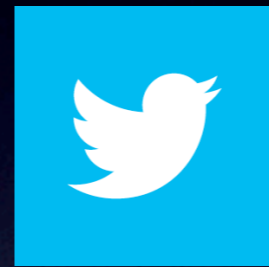How will devices sync and store data?
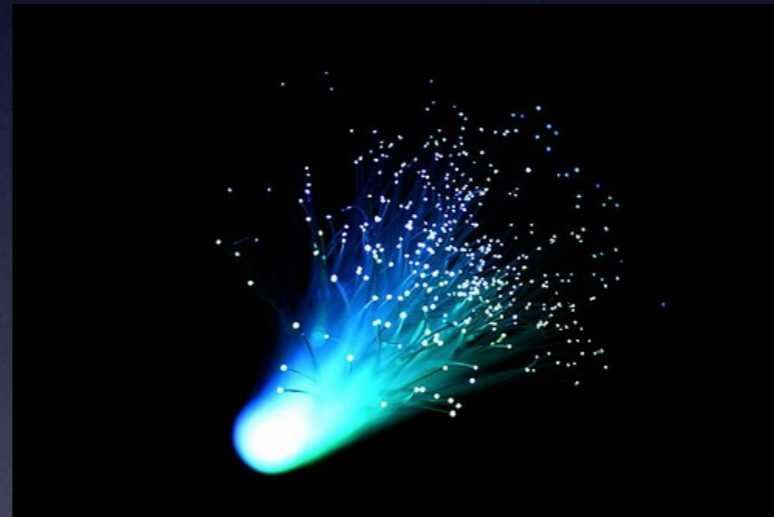
Cloud Computing!

~~Cloud~~ *Feudal* Computing!

~~Cloud~~ *Feudal* Computing!
benefits:

Identity

Connectivity

Storage / Sync

To enable the creation of resilient decentralised systems that incorporate privacy from the ground up so that users retain control of their networks and data

nymote.org

Nymote Toolstack

Mirage OS *(application)*

Signpost *(Identity / Connectivity)*

Irminsule *(Storage / Sync)*

Nymote Toolstack

Mirage Operating System

- Lean, mean, clean-slate OS

- Designed for cloud and embedded devices

- Increased safety and resilience

Nymote Toolstack

Mirage Operating System

- Lean, mean, clean-slate OS

- Designed for cloud and embedded devices

- Increased safety and resilience

Answer to "What will devices be running on?"

Nymote Toolstack

Signpost

- Stable names for devices (e.g phone.amirmc.io)

- Incorporates security and key management

- Coordinates connectivity across devices

Nymote Toolstack

Signpost

- Stable names for devices (e.g phone.amirmc.io)

- Incorporates security and key management

- Coordinates connectivity across devices

Answer to "How will devices find each other?"

Nymote Toolstack

Irminsule

- Distributed Database that never forgets

- Roll back to any point and identify changes

- Push changes easily between devices

Nymote Toolstack

Irminsule

- Distributed Database that never forgets

- Roll back to any point and identify changes

- Push changes easily between devices

Answer to "How will devices sync and store data?"

- Read more at nymote.org

- Releases and demos in Q2 2014

- Contact me for early access! *(amc79@cam.ac.uk)*