Open Source Trends – A Personal View

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Ask questions or rate the Speaker

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www.sli.do/openslava

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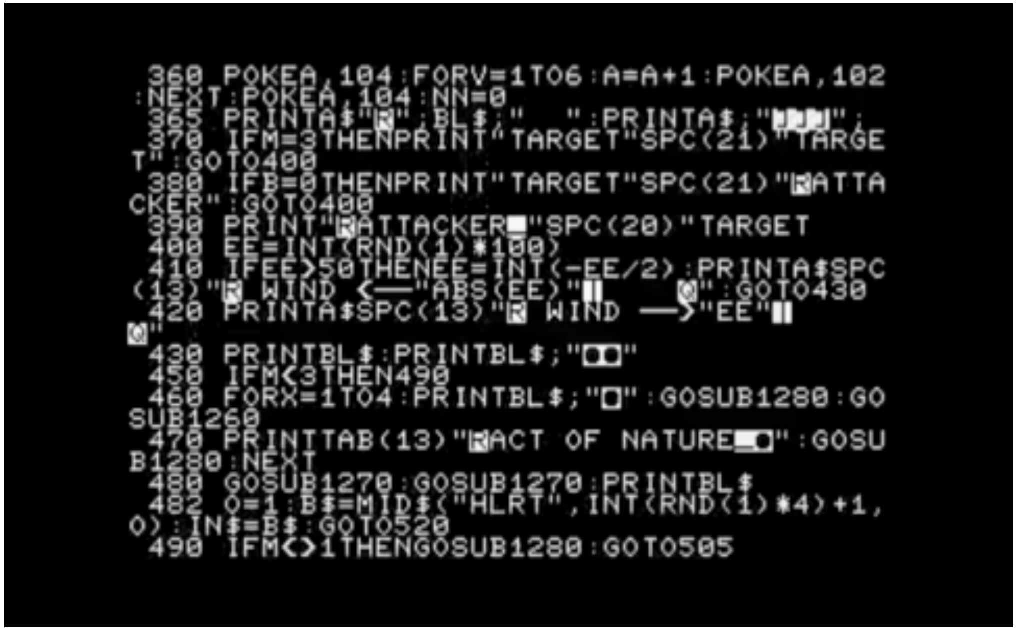
The Dark Ages?

- Before 1980’s heterogeneous environments encouraged code dissemination
- Personal computing grew through code sharing
  - ZX80, Spectrum, BBC Model A/B, Commodore, …
  - Licences?



The 1980s

- Richard Stallman launches GNU Project in 1983
  - Free Software Foundation in 1986
  - GPL 1989
- Rise of the internet and heterogeneous systems
  - Helped by academic adoption
  - Helped by many versions of Unix
- C and C++ adoption grows
  - gcc begins
- Early thread packages, emacs/micro-emacs, …

Linux

- 1987 saw Minix adoption in academic circles
  - Not open source originally
  - Trend was to have something at home similar to work
    - Also for cheaper student equipment
- 1991 saw first Linux release
  - Open source!
  - Taken to heart by academic and research communities
    - Huge contributor community
- Linux replaced Unix at the backend

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FreeBSD

- Open source BSD distribution
- Released in 1993
- Large adoption
- Large contributor community
- Basis of Mac OS X!
- Macs rising on the desktop instead of Windows

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Enterprise open source round 1

- 1990's saw the rise of CORBA
- Limited by proprietary ORBs
  - Orbix, Hardpack, Visibroker
- Open source helps
  - OmniORB, ORBacus, TAO, JacORB
- Open source contributes to enterprise standards
  - Much more experience based input
- Still not happening with many standards efforts

The World Wide Web

- CERN httpd released as open source 1991
- Huge adoption and kicked off e-commerce, global use of internet
  - Amazon, Google, Twitter, Facebook, …
- List of ALL websites in 1993 captured on one page!
- Other benefits came later … REST, Web Services/SOAP

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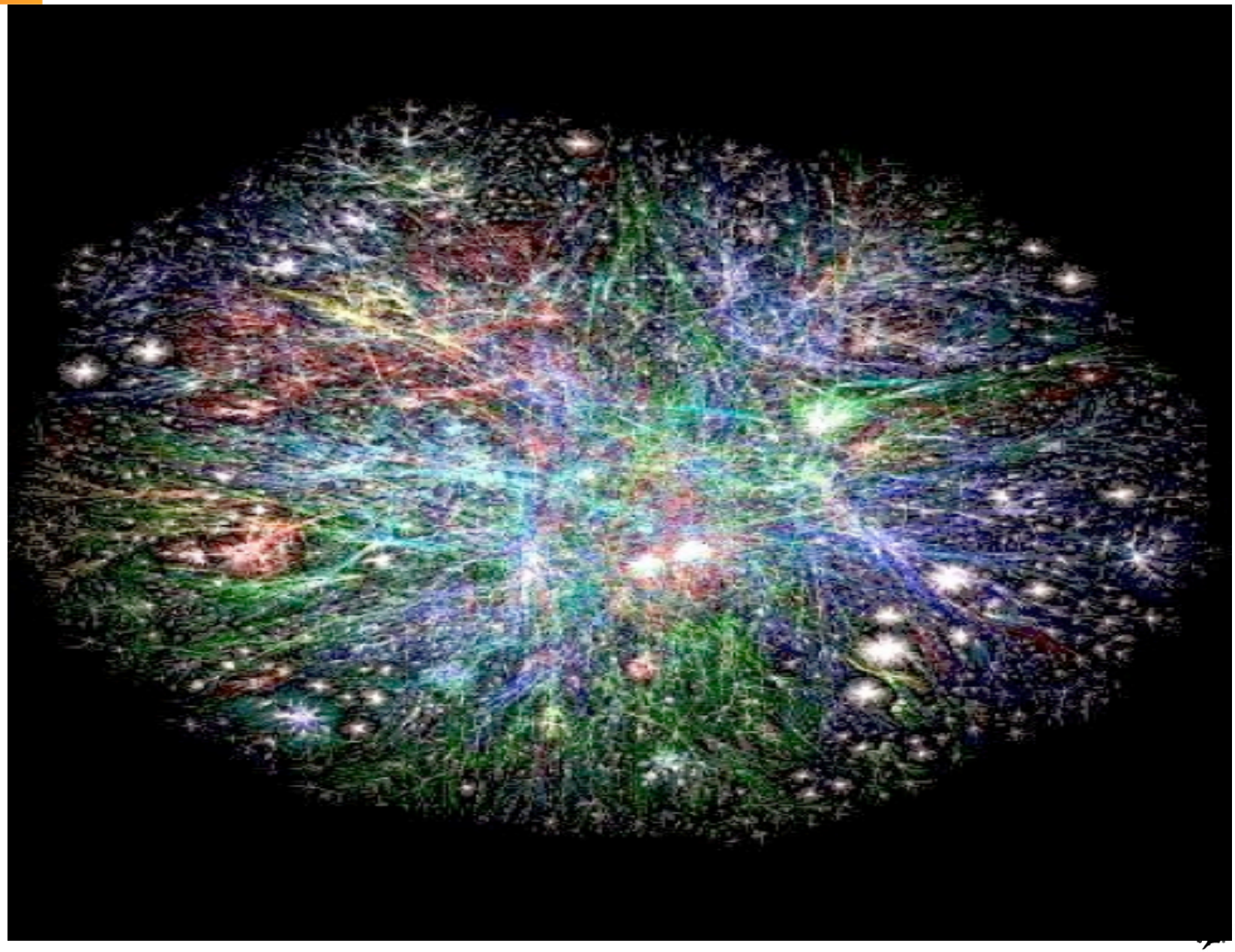
3D Map of WWW

http://www.vlib.us/web/worldwideweb3d.html



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Open source comes of age

- The Cathedral and the Bazaar in 1997
- Motivator for Netscape Communicator as free s/w
  - Basis of Firefox and Thunderbird
- Term “open source” coined in 1998
- 1999 Sun released StarOffice under GPL
  - Basis of OpenOffice

Java

- Java (Oak) released in 1996
  - Not open source, but source was available
  - Code available to Blackdown Java project
- GCJ in 2005
- Apache Harmony announced in 2005
- OpenJDK released in 2007
- Minecraft!
  - Huge adoption (now Microsoft!); social
  - Netty too!

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Enterprise open source round 2

- JBoss
- MySQL
- Spring
- Transactions
  - Narayana, Bitronix
- Messaging
  - HornetQ, ActiveMQ, …
- Hibernate
- Security

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Mobile, cloud and language explosion

- Android
  - Linux
  - Java (-ish)
- EC2
  - Linux
- OpenStack, OpenShift, …
- More new languages in the last 10 years than previous 30
  - Ruby, Clojure, Ceylon, Scala, Erlang, Lisp, …

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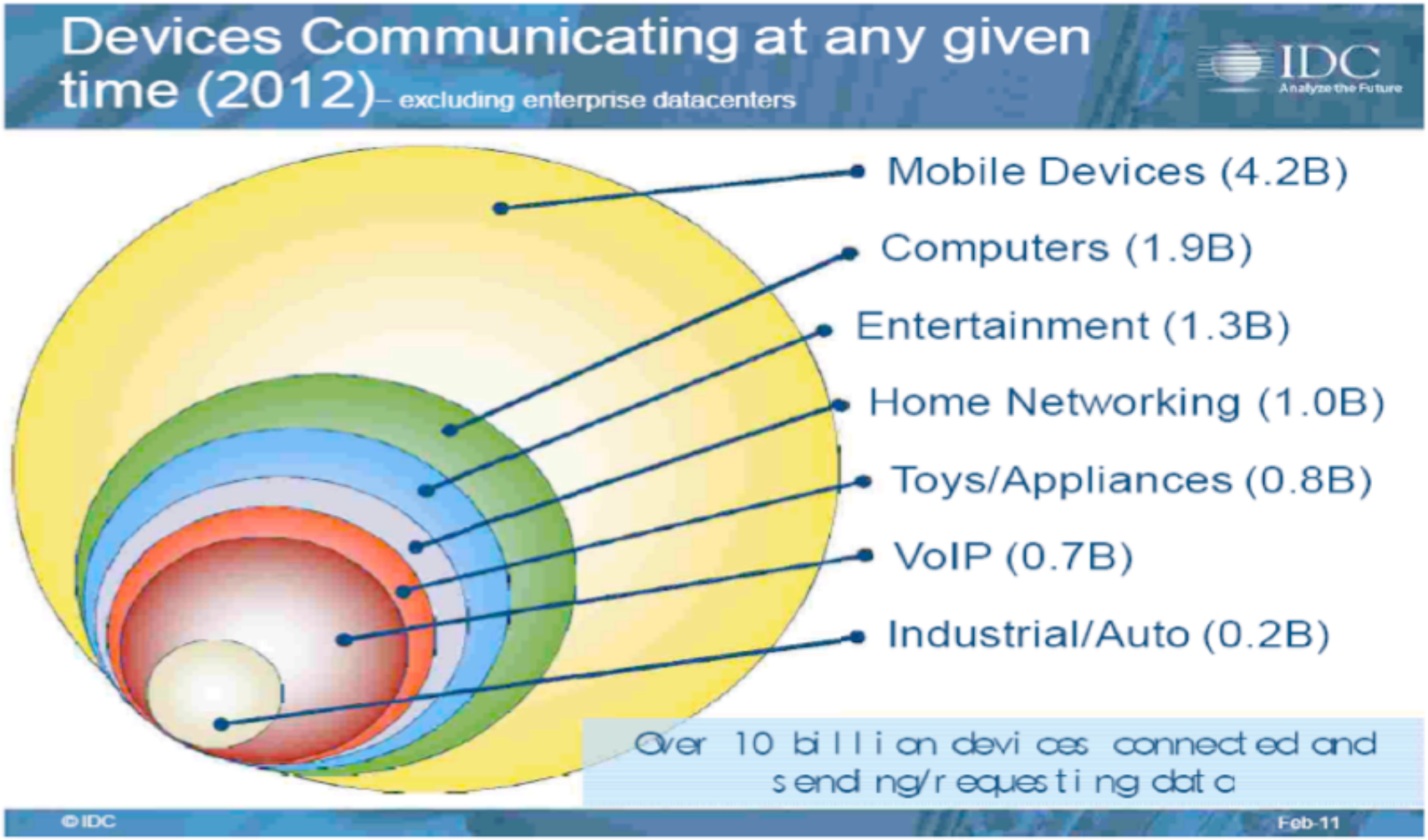
10 Billion machines vs 6.9 Billion Humans



And over 7 Billion Sensors are connected to those machines

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Big Data/NoSQL/RDBMS/Data Grids

Cassandra

DataStax

10gen

PostgreSQL

MySQL

HBASE

basho

mongoDB

riak

ORACLE

mongoDB

CouchDB
relax

Neo4j

ModeShape

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Infinispan

GLUSTER

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Open Source and Education

- Open source removes artificial barriers for teachers and students
  - No licence fees
  - Students can duplicate teaching environments
- Communities around the world collaborate
  - Schools and universities
- Developers can help educate the next generation

DEVOXX™ 4KIDS

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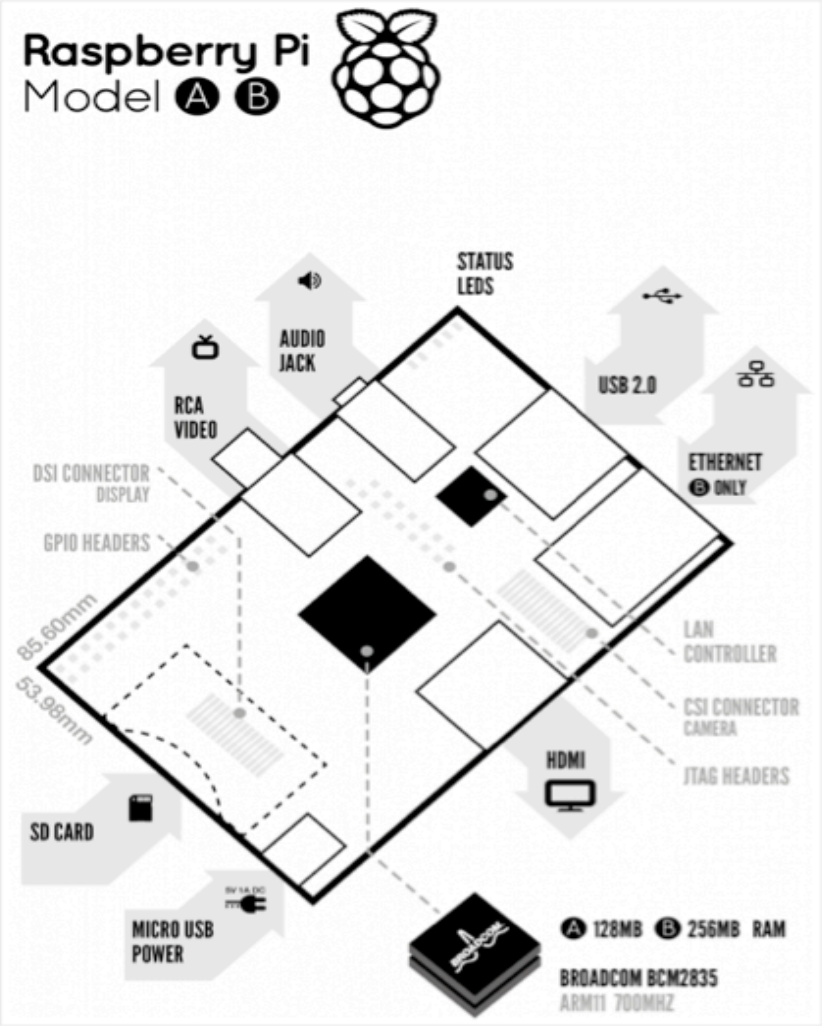

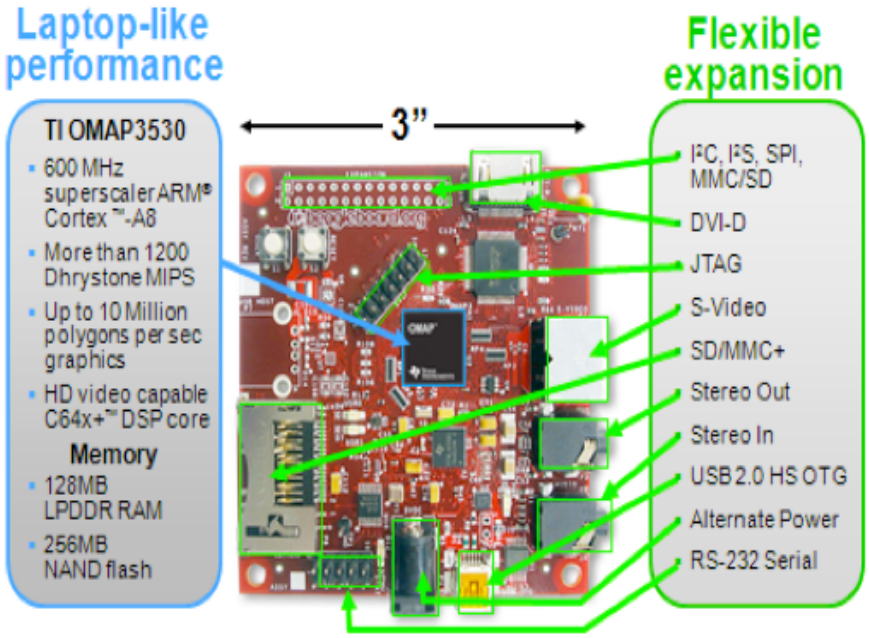

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What next?

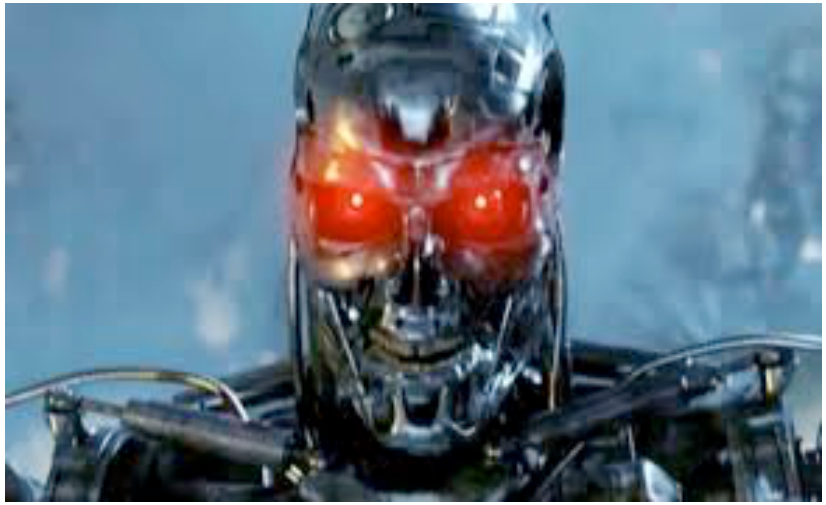
- Cloud (as-a-service) removes the need for OSS?
- Governments mandating OSS, education …
- Ubiquitous computing
  - Wearable devices, health monitors
  - Software defined networking
  - Home devices, automobile industry, robotics, space, …
- Next generation Big Data
  - Spanner
  - CockroachDB

Conclusions

- Open source is mainstream
  - It has been at the heart of significant waves for 20 years
  - Surprising where it's used!
- It is now typical to see open source driving developer efforts
- It brings benefits in terms of collaboration, code quality, immediate feedback on suitability, shared experiences etc.
- www.opensource.com
- Onward!!

No fate but what we make

- “The future, always so clear to me, has become like a black highway at night. We were in uncharted territory now... making up history as we went along.” Sarah Connor, Terminator 2



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