

Big Data for Better or Worse:
*Transforming Stakeholders & Development;
Influenced by ICT Governance/Policy*

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Big data—a growing torrent

\$600 to buy a disk drive that can store all of the world's music

5 billion mobile phones in use in 2010

30 billion pieces of content shared on Facebook every month

40% projected growth in global data generated per year vs. **5%** growth in global IT spending

235 terabytes data collected by the US Library of Congress by April 2011

15 out of 17 sectors in the United States have more data stored per company than the US Library of Congress

1000 Bytes = 1 **Kilbyte**

1000 Kilobytes = **1 Megabyte**

1000 Megabytes = **1 Gigabyte**

1000 Gigabytes = **1 Terabyte**

1000 Terabytes = **1 Petabyte**

1000 Petabytes = **1 Exabyte**

1000 Exabytes = **1 Zettabyte**

1000 Zettabyte = **1 Zottabyte**

1000 Zottabyte = **1 Brontobyte**

(that is a 1 followed by **27 zeroes**)

What's next.....

Global Digital Data

2000 - 3 Exabytes

2005 – 150 Exabytes

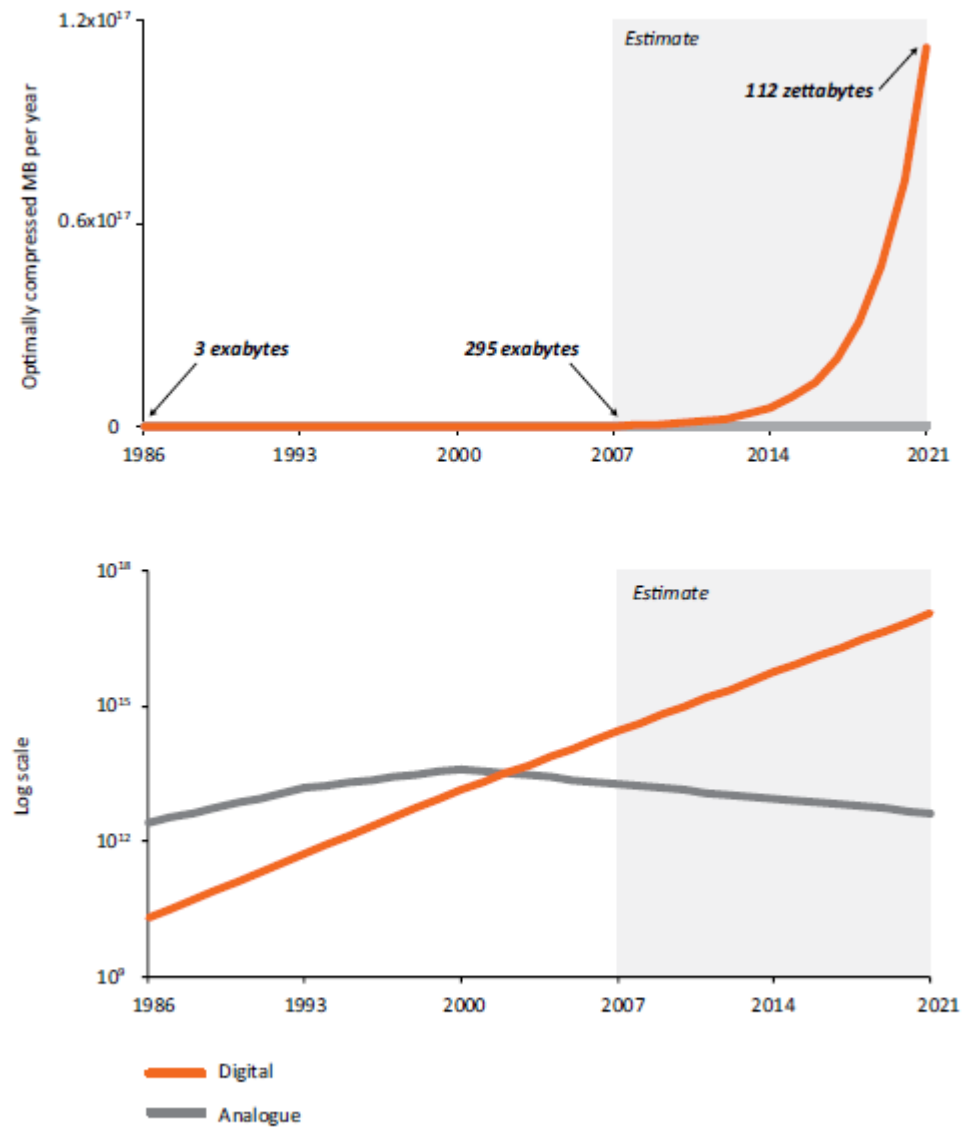
2010 – 1200 Exabytes

2011 – 1.8 Zettabytes (today's estimate)

2020 estimate - 35 zettabytes (IDC estimate)

Storage capacity growing

Figure 1: Growth in global storage capacity, 1986 to 2021

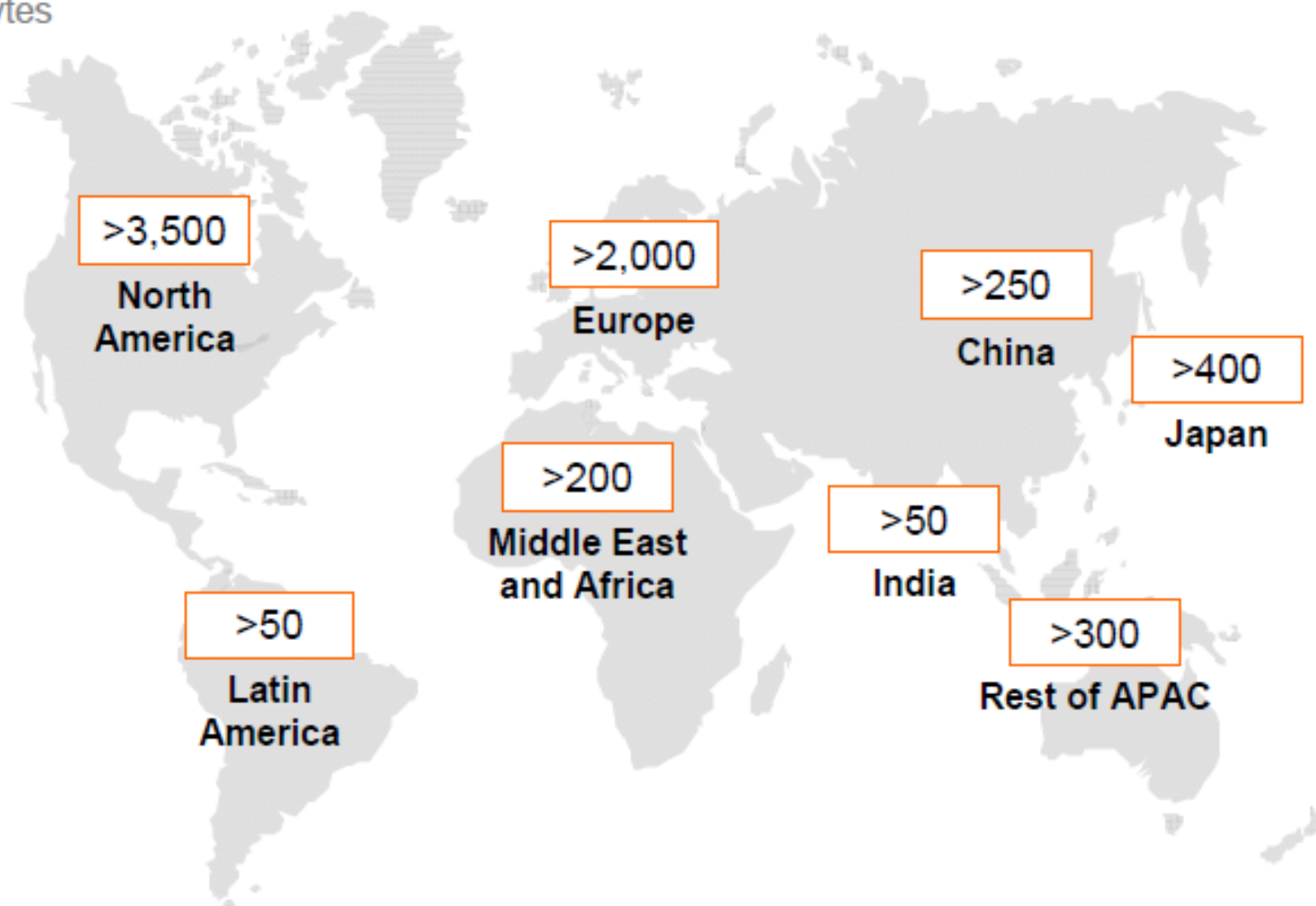


Source: Hilbert and López, Policy Exchange analysis

Amount of new data stored varies across geography

New data stored¹ by geography, 2010

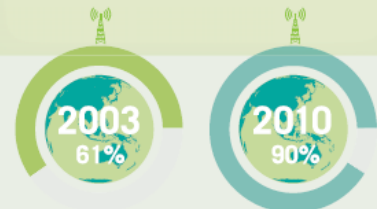
Petabytes



¹ New data stored defined as the amount of available storage used in a given year; see appendix for more on the definition and assumptions.

SOURCE: IDC storage reports; McKinsey Global Institute analysis

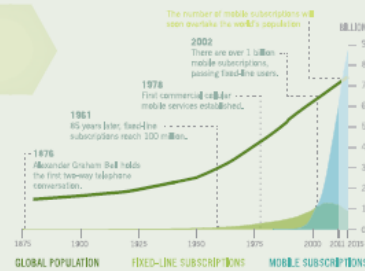
THE PACE AT WHICH MOBILE PHONES SPREAD GLOBALLY IS UNMATCHED IN THE HISTORY OF TECHNOLOGY



PERCENT OF THE WORLD'S POPULATION WITH MOBILE CELL SIGNAL*

THE DEVELOPING WORLD IS NOW
MORE MOBILE THAN THE DEVELOPED WORLD

MOST PHONES ARE OWNED BY PEOPLE
LIVING IN LOW-INCOME REGIONS



OVER
6 BILLION
MOBILE SUBSCRIPTIONS
WORLDWIDE

75% of the
WORLD
NOW HAS ACCESS
to a MOBILE PHONE*

Internet Penetration Around The World

An exploration of the growth of Internet penetration over countries around the world.

Penetration (% Population)	World Regions	Growth 2000-2010
10.9 %	Africa	2,357.3 %
21.5 %	Asia	621.8 %
58.4 %	Europe	352.0 %
29.8 %	Middle East	1,825.3 %
77.4 %	North America	146.3 %
34.5 %	Latin America/Caribbean	1,032.8 %
61.3 %	Oceania / Australia	179.0 %
28.7 %	World Total	444.8 %



Countries with the most internet users:

China	420 million
EU	337 million
USA	239 million
Japan	99 million
India	81 million

Countries with the fewest internet users:

Barbados	142,000
Gambia	130,000
Namibia	128,000
Papua New Guinea	125,000
Botswana	120,000

0 125 mil 250 mil 375 mil 500 mil 0 50,000 100,000 150,000 200,000

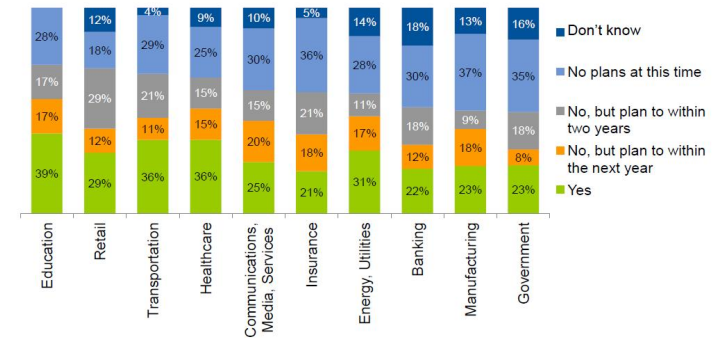
Transforming Government



Transforming Industry

Big Data Investments by Industry

Has your organization already invested in technology specifically designed to address the big data challenge?



Source: Gartner (July 2012)

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Gartner

Transforming Development



Transforming Policy

The Center for Information Technology Policy Presents

BIG DATA

Public Policy and the Exploding Digital Corpus

A One Day Conference
November 30, 2010, 8am–5pm
Friend Center Convocation Room

The body of digital information held by various entities is both staggering and constantly expanding. Each day we hear new reports of newly digitized "dark" archives, enhanced digital tracing techniques, data privacy breaches, and aggregated data sets. At the same time, much historically important information goes unrecorded — at least in any usable or enduring digital form. How do we reconcile the many different constituencies, technologies, uses, and norms into sensible policy? This conference will gather leading experts from a variety of domains to discuss the challenges of "big data" and the attendant policy considerations.

For more information, visit:
<http://cftp.princeton.edu/events/big-data/>

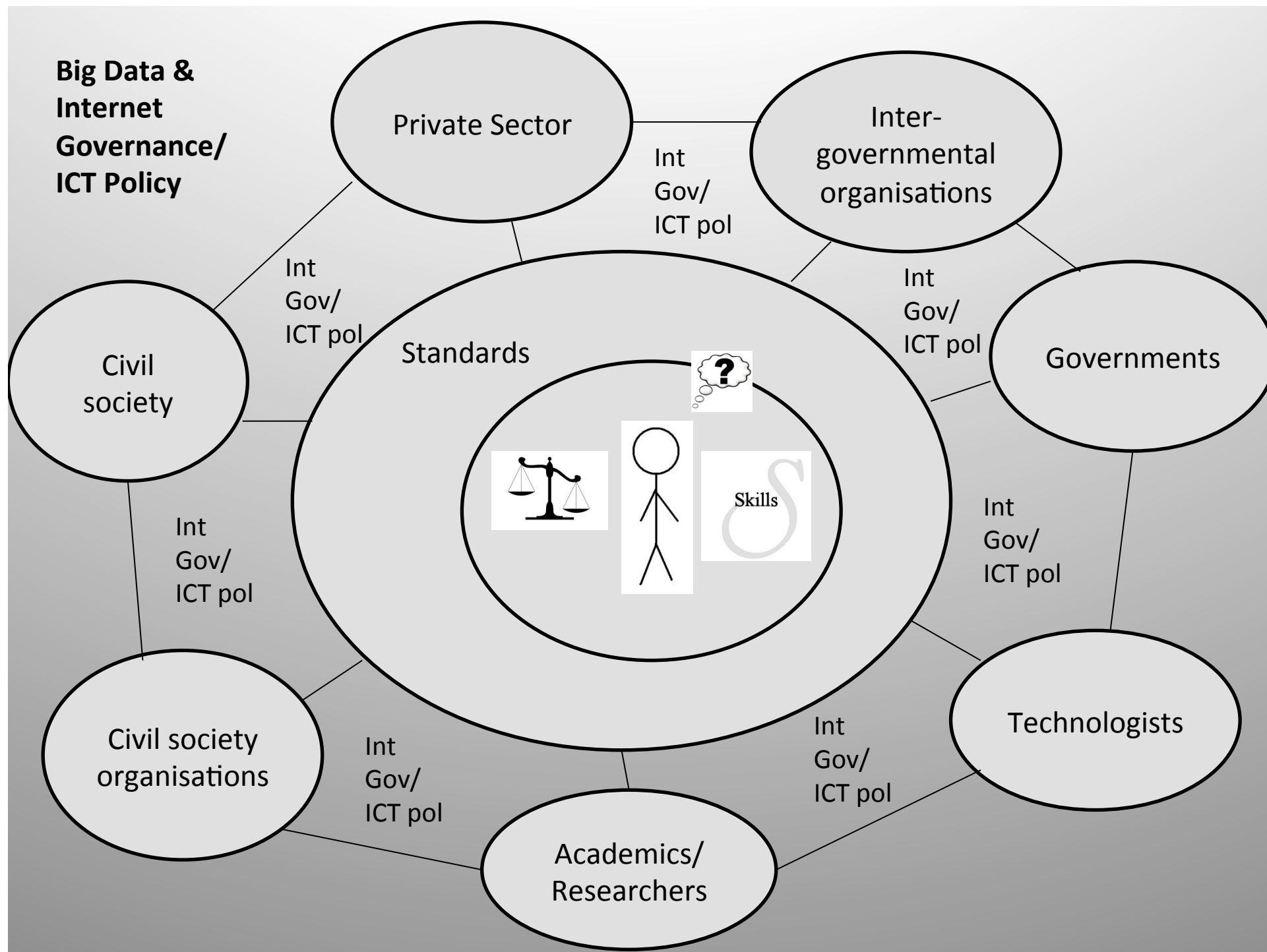
A graphic of a globe with binary code (0s and 1s) overlaid on it, symbolizing digital data and global connectivity.

What About You?



Machines driven by big data is helping us to process our information, but are there consequences?





Some Unknowns

What type of data will be produced?

How will changes in Internet Governance affect big data ?

How will multiple stakeholders work together to use big data for the benefit of mankind?

What decisions will policy makers take?

How will privacy affect the use of big data?

What will be the effect on Developing countries?

What will be the consequences of big data misuse?



... But let's all focus on using big data
for good.

Thank you!

You can also read the briefing paper, upon which this is based

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