Rising tide of Internet growth and Shifting paradigm of connectivity
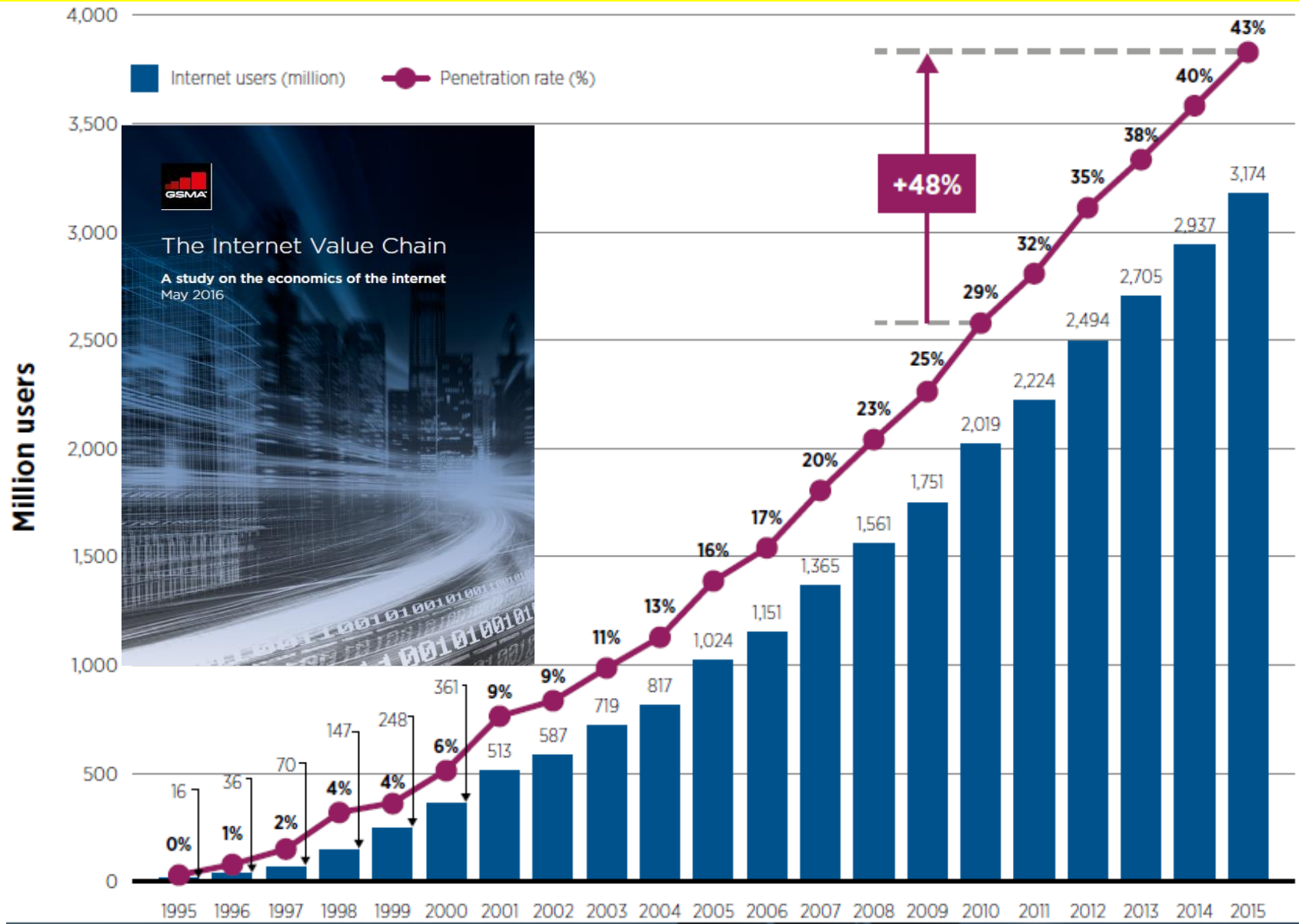
ESCAP 2nd Working Group Meeting on AP-IS
Guangzhou, People's Republic of China
August 29-30, 2016

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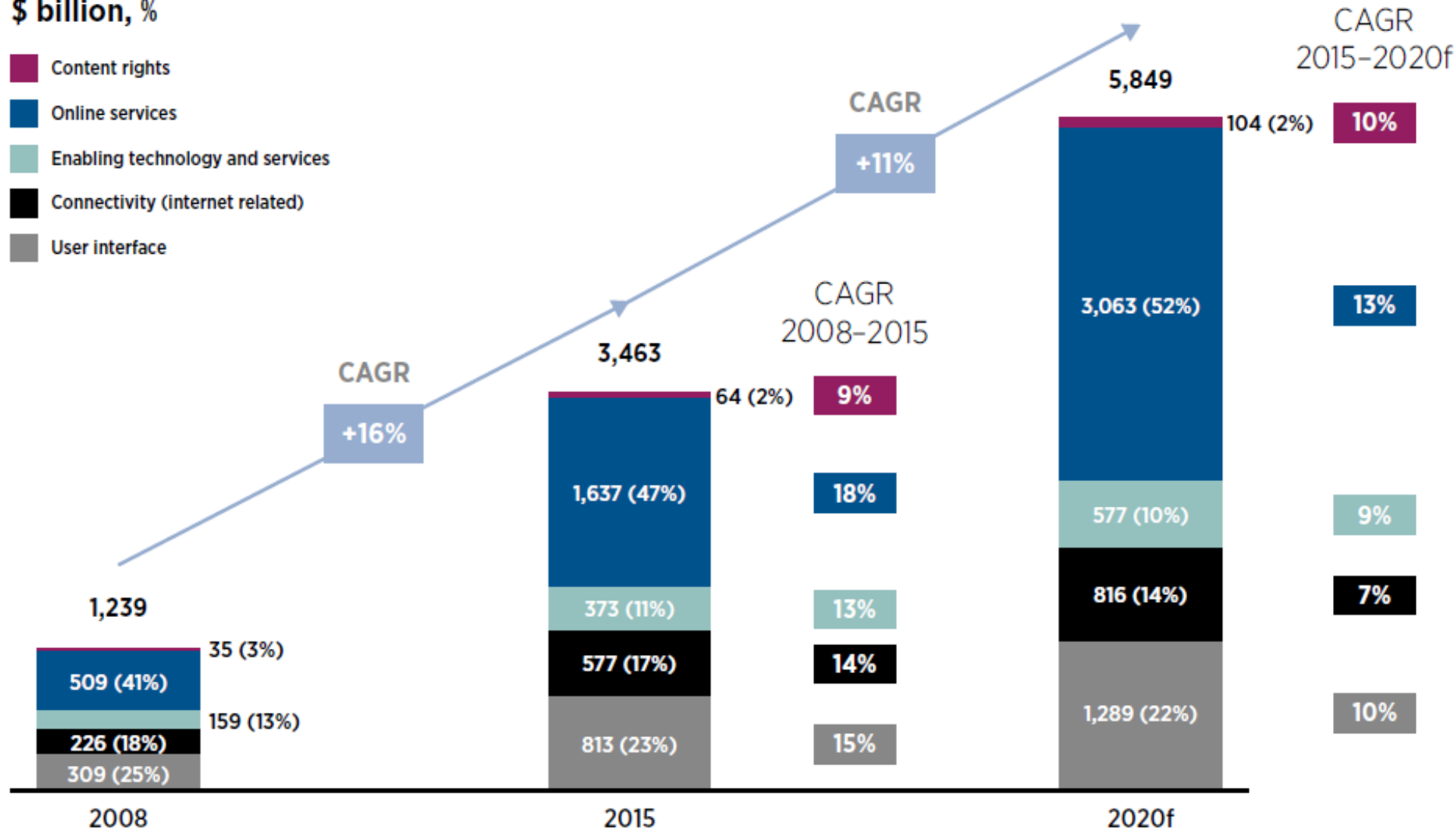# Mobile drives global Internet growth

Source: ITU, GSMA, AT Kearny Analysis (May 2016)

Telcos make only 17% of total revenues from the global internet economy

$ billion, %

- **Content rights** (Content rights)
- **Online services**
- **Enabling technology and services**
- **Connectivity (internet related)**
- **User interface**

2008 — 1,239
- 35 (3%) — Content rights
- 509 (41%) — Online services
- 159 (13%) — Enabling technology and services
- 226 (18%) — Connectivity
- 309 (25%) — User interface

CAGR +16%

2015 — 3,463
- 64 (2%) — Content rights
- 1,637 (47%) — Online services
- 373 (11%) — Enabling technology and services
- 577 (17%) — Connectivity
- 813 (23%) — User interface

CAGR +11%

CAGR 2008–2015
- 9%
- 18%
- 13%
- 14%
- 15%

2020f — 5,849
- 104 (2%) — Content rights
- 3,063 (52%) — Online services
- 577 (10%) — Enabling technology and services
- 816 (14%) — Connectivity
- 1,289 (22%) — User interface
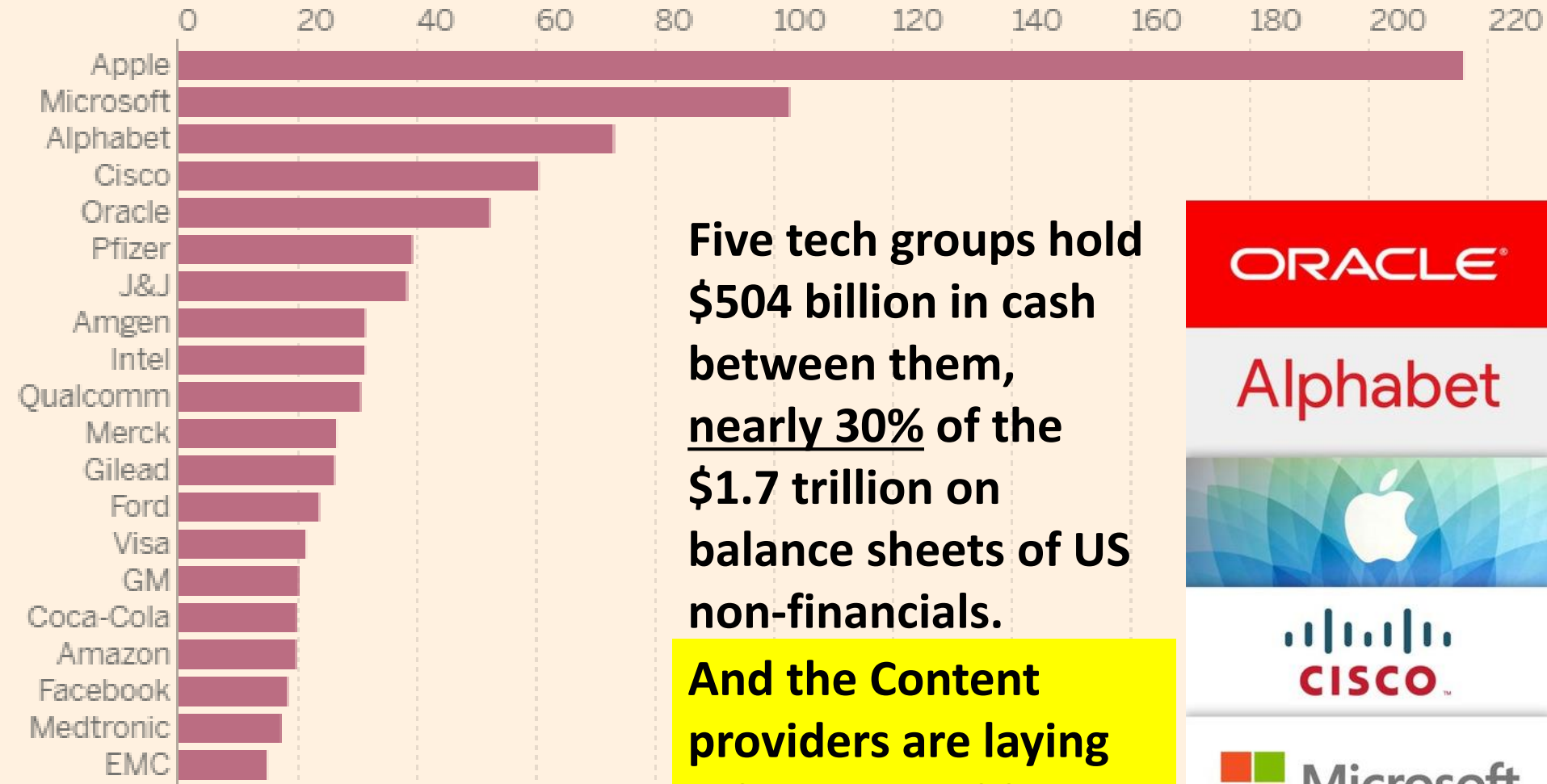
CAGR 2015–2020f
- 10%
- 13%
- 9%
- 7%
- 10%

Source: GSMA, AT Kearny Analysis (May 2016)

Consequence: There is no telco on the top

The top 20 cash-rich US companies
Total cash held ($bn)

Company
Apple
Microsoft
Alphabet
Cisco
Oracle
Pfizer
J&J
Amgen
Intel
Qualcomm
Merck
Gilead
Ford
Visa
GM
Coca-Cola
Amazon
Facebook
Medtronic
EMC

Scale: 0 20 40 60 80 100 120 140 160 180 200 220

Five tech groups hold $504 billion in cash between them, nearly 30% of the $1.7 trillion on balance sheets of US non-financials.

And the Content providers are laying submarine cables!

ORACLE®

Alphabet

CISCO.

Microsoft

Content providers' ownership of submarine cables

- **Google**
  1. FASTER (part owner)
  2. Junior (sole owner)
  3. Monet (part owner)
  4. Southeast Asia Japan Cable (SJC) (part owner)
  5. Tannat (part owner)
  6. Unity (part owner)
- **Facebook**
  1. Asia Pacific Gateway (APG) (part owner)
  2. MAREA (part owner)
- **Microsoft**
  1. AEConnect (major capacity buyer)
  2. Hibernia Express (major capacity buyer)
  3. New Cross Pacific (NCP) Cable System (part owner)
  4. MAREA (part owner)
- **Amazon**
  1. Hawaiki (major capacity buyer)

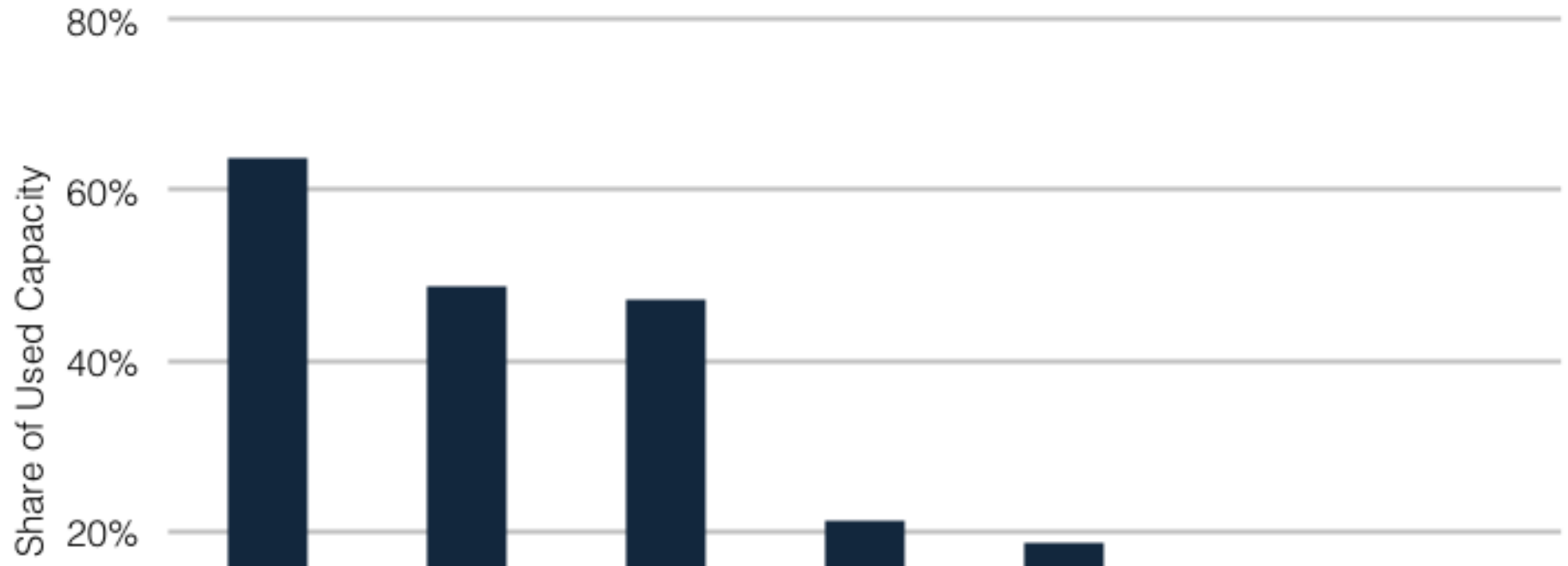# Data centers' synchronization driving private bandwidth demand

Legend:
- Apple
- Amazon
- Facebook
- Google
- Microsoft
- Planned
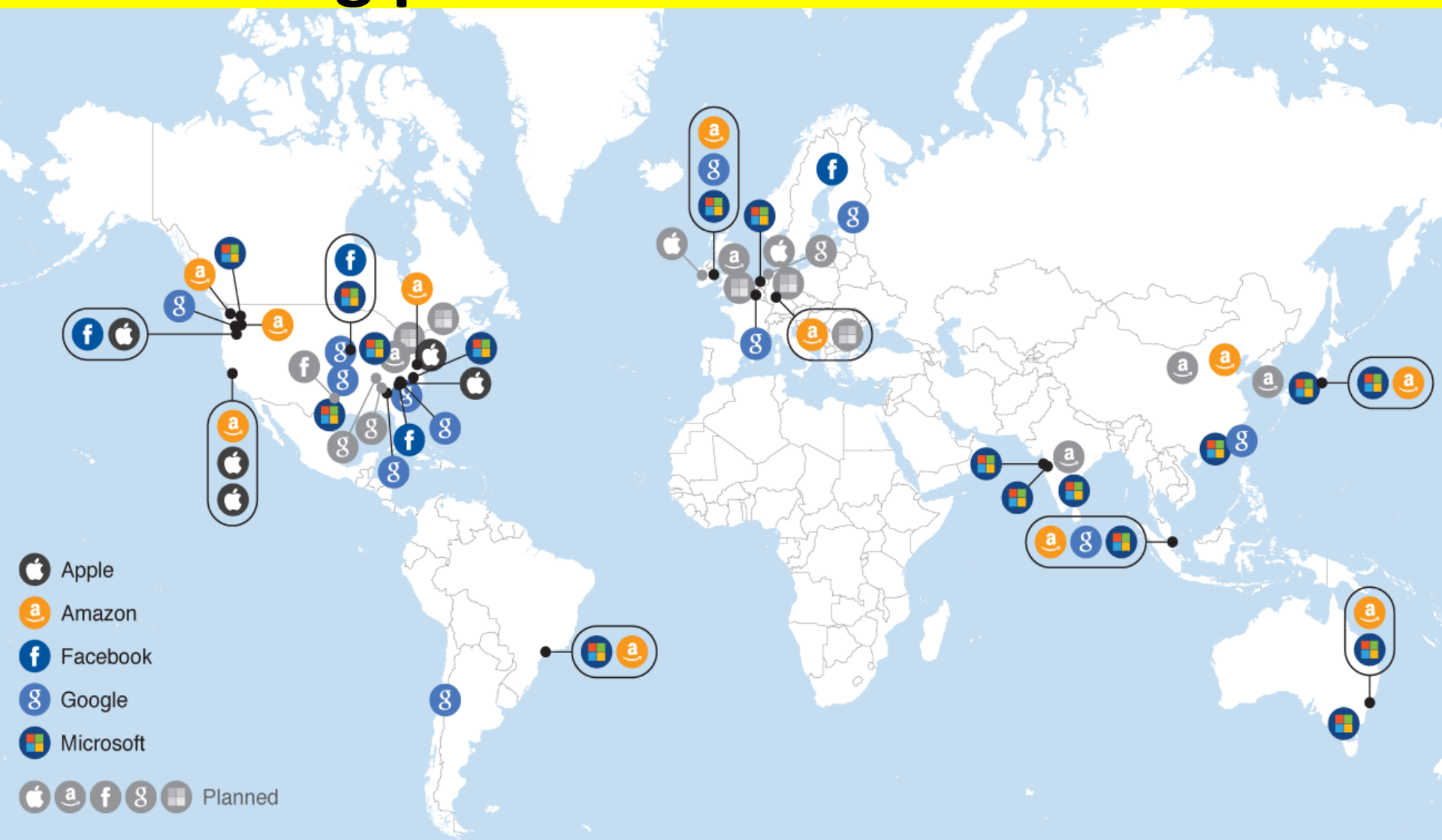
Fact Box: Data Centers

1. World's largest data center is in Langfang, China. It is 6.3 million square feet — nearly the size of the Pentagon.

2. There are >7,500 data centers world-wide with >2,600 in the top 20 global cities alone.

3. With 337 locations, London (UK) has the largest concentration of data centers in any given city across the globe.

4. The largest concentration of data centers in a U.S. city is within the New York-New Jersey metro area (nearly 306 centers).

5. Data center construction will grow 21% per year through 2018.

Private Networks' share of Bandwidth usage by route, 2015