



Cisco Visual Networking Index (VNI) Global Mobile Data Traffic Forecast Update

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Vice President
Global Technology Policy

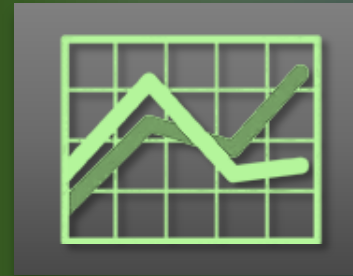
Mobile World Congress
February 2013

Cisco Visual Networking Index (VNI)

Expanding the Scope of Cisco's IP Thought Leadership

Cisco® VNI Forecast research is an ongoing initiative to predict global traffic growth. This study focuses on consumer and business mobile data traffic and its key drivers.

Global Forecast Data



Global Mobile Speed Data



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Data Traffic Drivers

By 2017...



More Mobile Users



More Mobile Connections



Faster Mobile Speeds



More Mobile Video



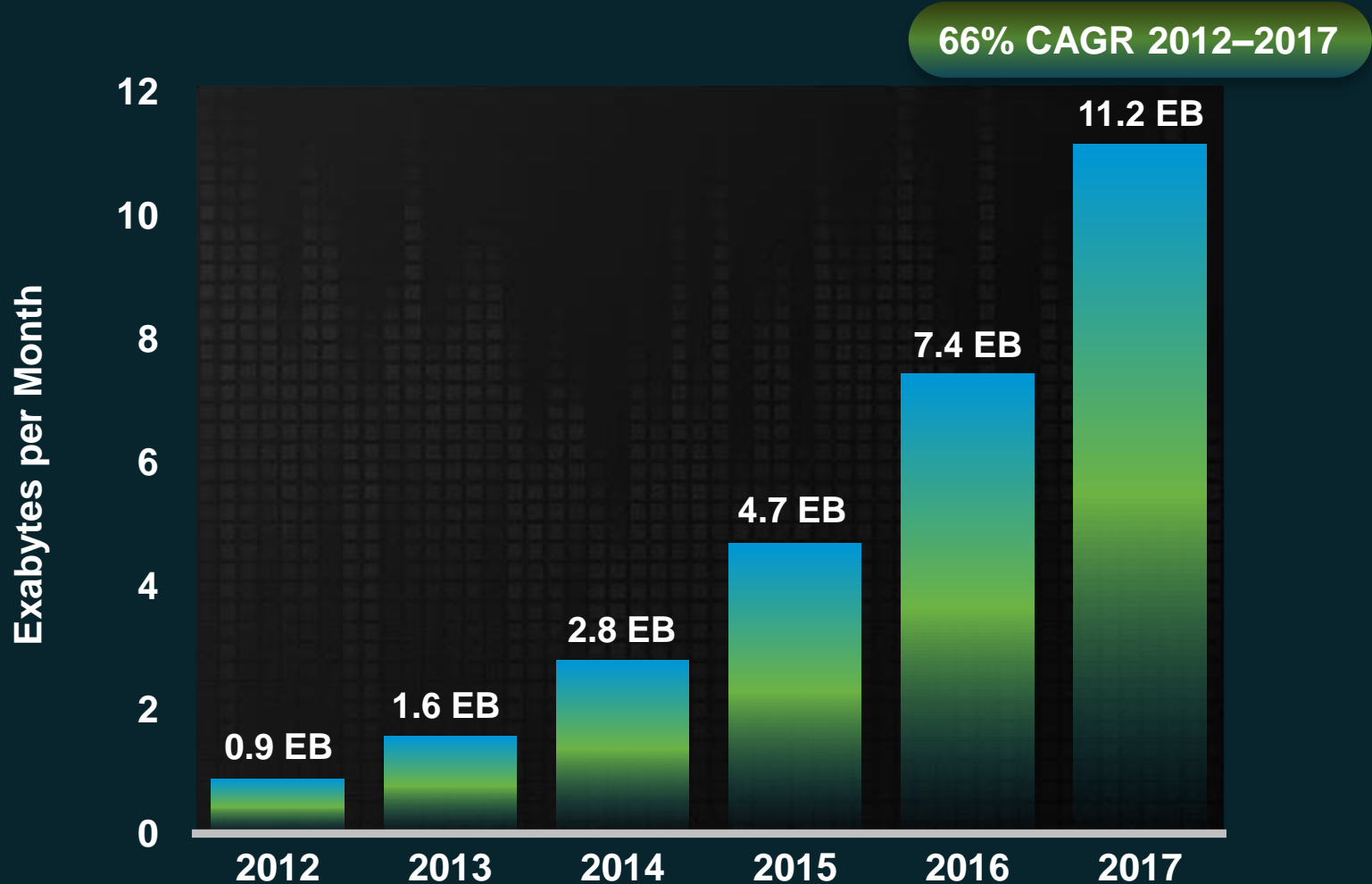
Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Overview



Global Mobile Data Traffic Growth / Top-Line

Global Mobile Data Traffic will Increase 13X from 2012 to 2017

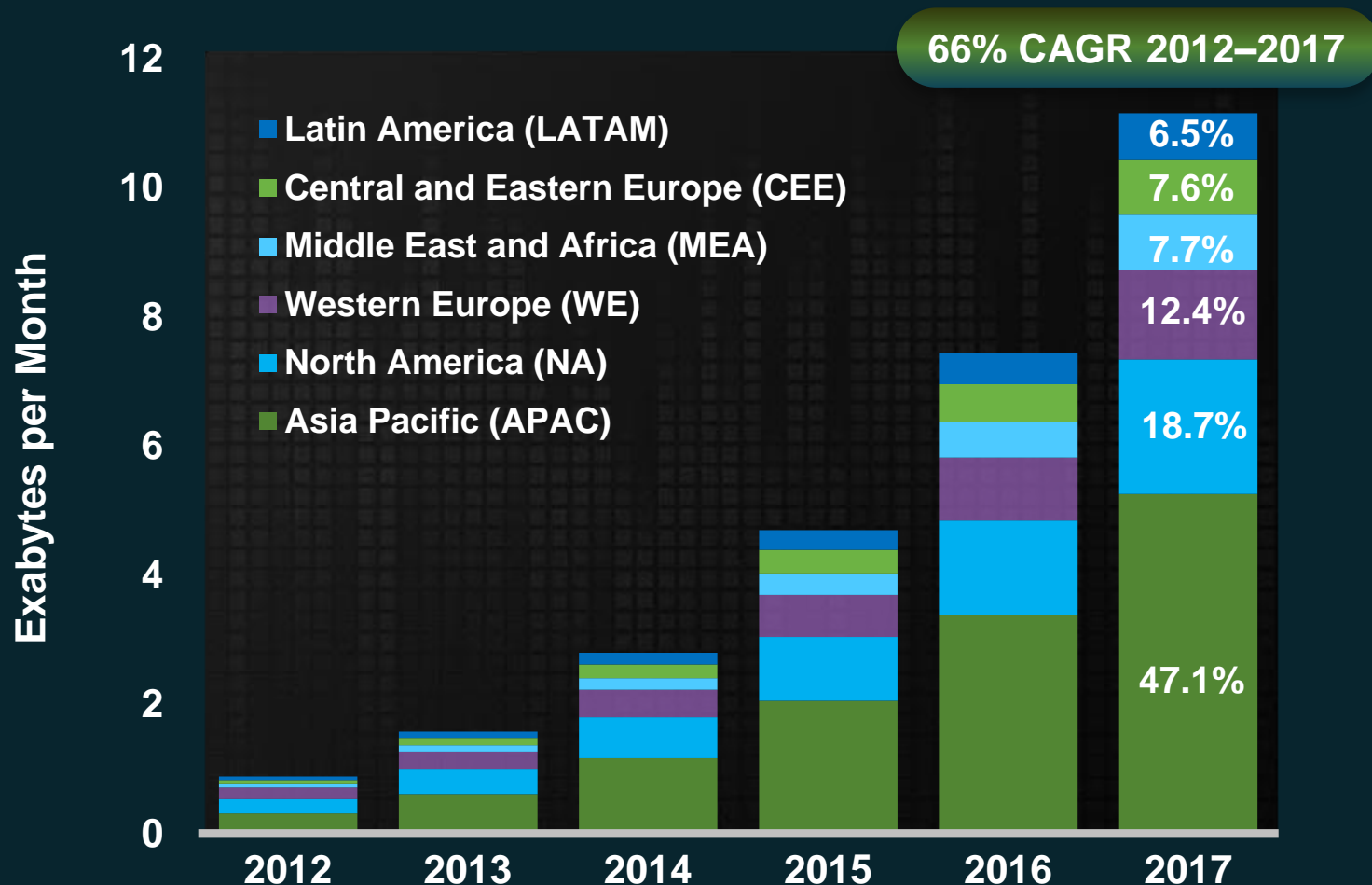


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Data Traffic Growth / Regions

MEA has the Highest Growth Rate (77%) from 2012–2017

APAC will Generate 47% of all Mobile Data Traffic by 2017



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Top Trends



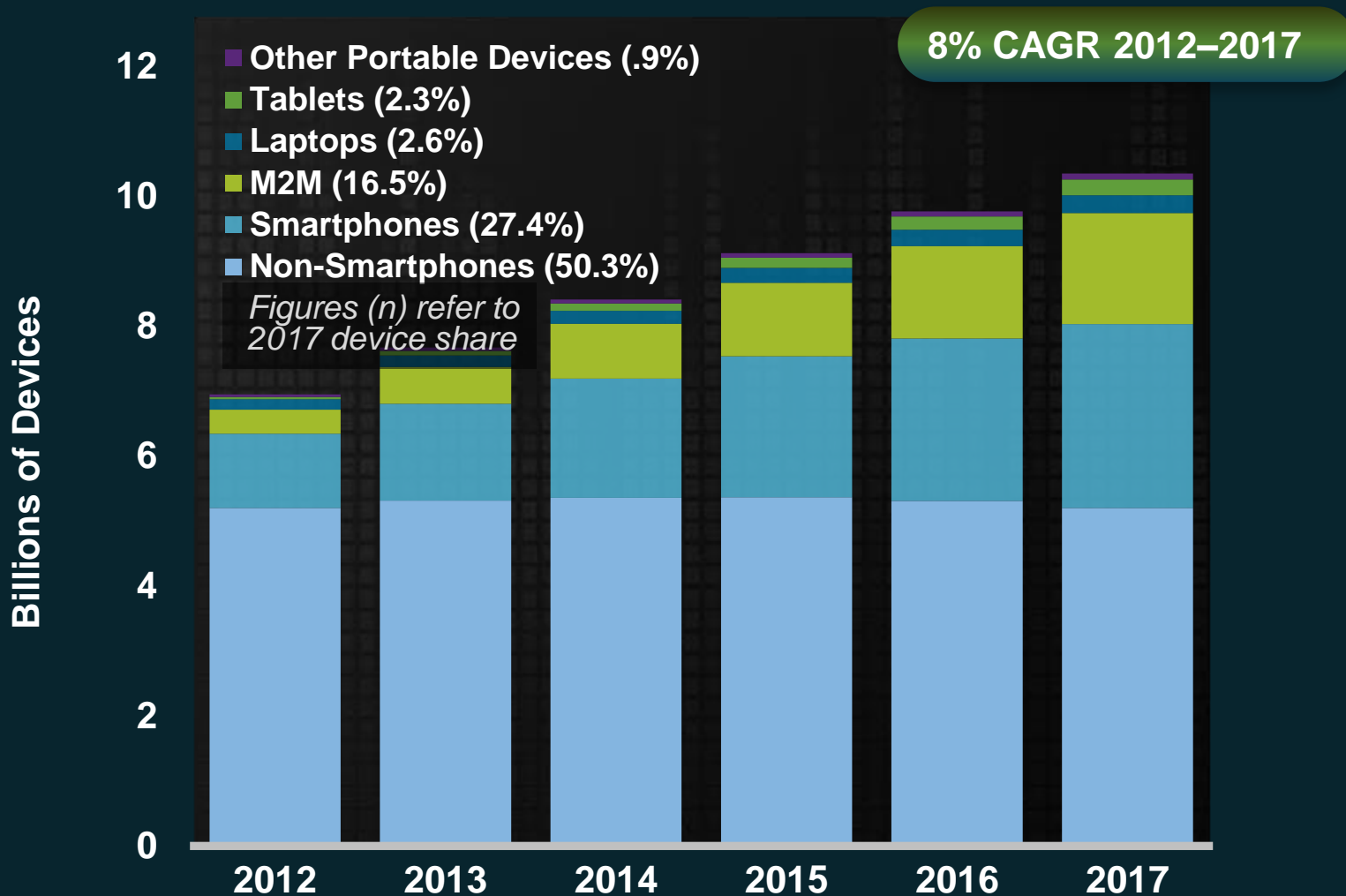
VNI Mobile Forecast Update, 2012–2017

Top 5 Mobile Networking Trends

- 1 **Device Diversification**
- 2 **Impact of 4G Connections on Traffic**
- 3 **The Impact of Tiered Pricing—Shake-Up at the Top**
- 4 **Traffic Offload from Mobile Networks to Fixed Networks**
- 5 **Mobile Video and Cloud**

Global Mobile Device Growth by Type

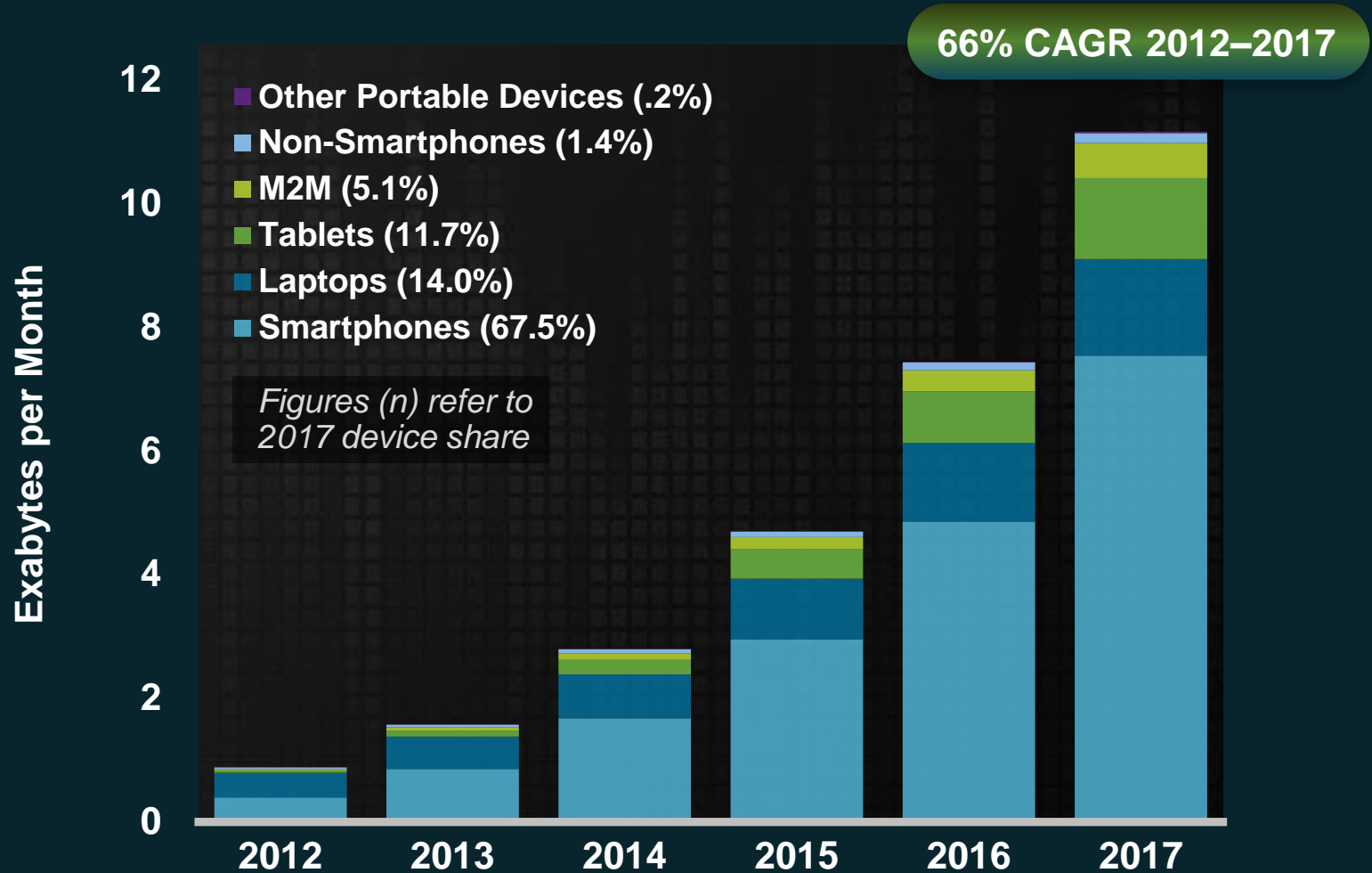
By 2017, Smartphones Will Gain 11 Points to Reach 27% Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Data Traffic Growth by Device

In 2013, Smartphone Traffic Surpass Mobile Laptop Traffic



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Average Traffic Per Mobile Device Type

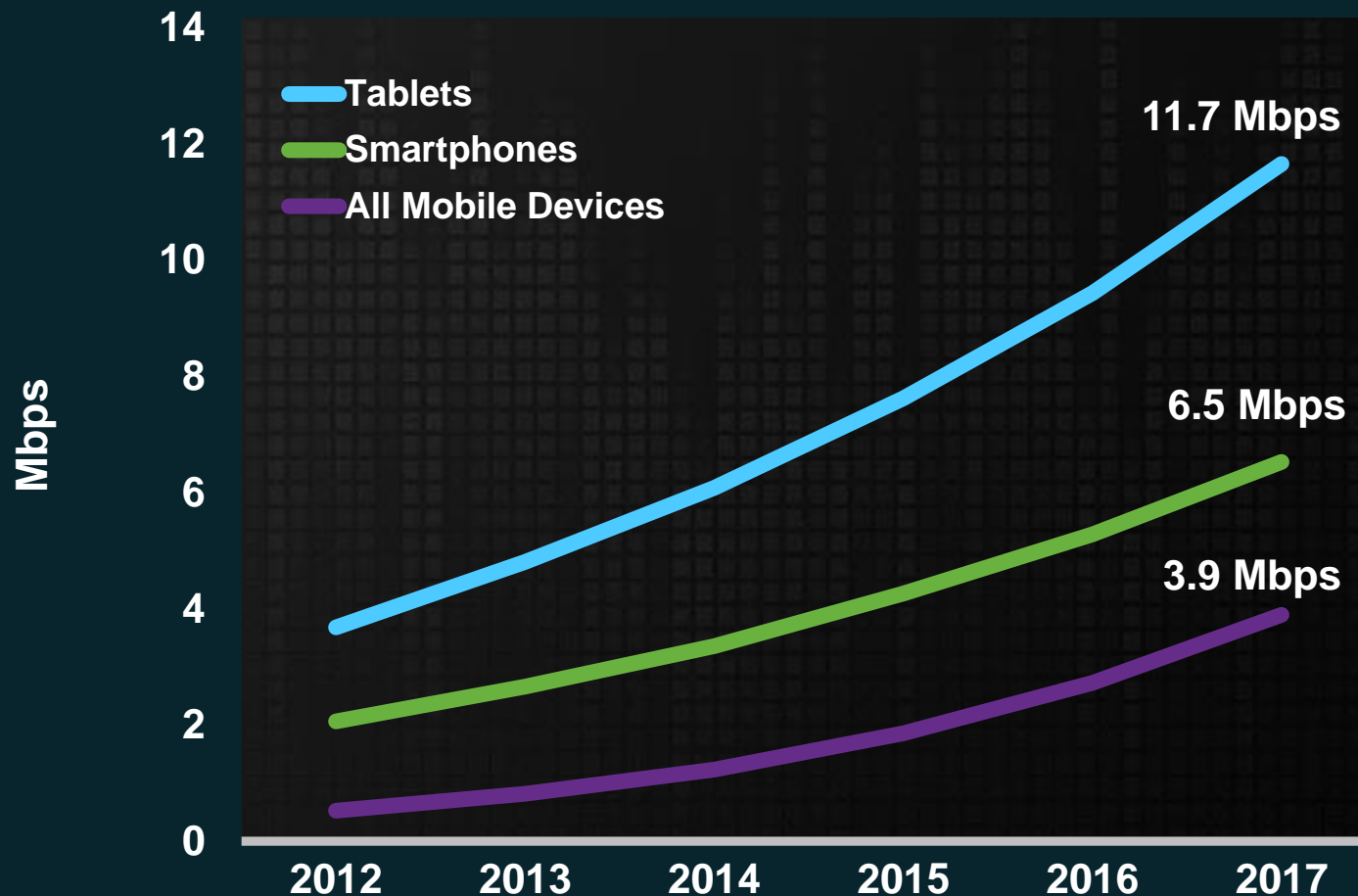
		2012	2017
		MBs per Month	MBs per Month
Non-Smartphone		6.8	31
M2M		64	330
Smartphone		342	2,660
4G Smartphone		1,302	5,114
Tablet		820	5,387
Laptop		2,503	5,731

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Speeds by Device Type

Tablet Speeds are 3x Higher than Average in 2017

Smartphone Speeds are 1.7x Higher than Average in 2017

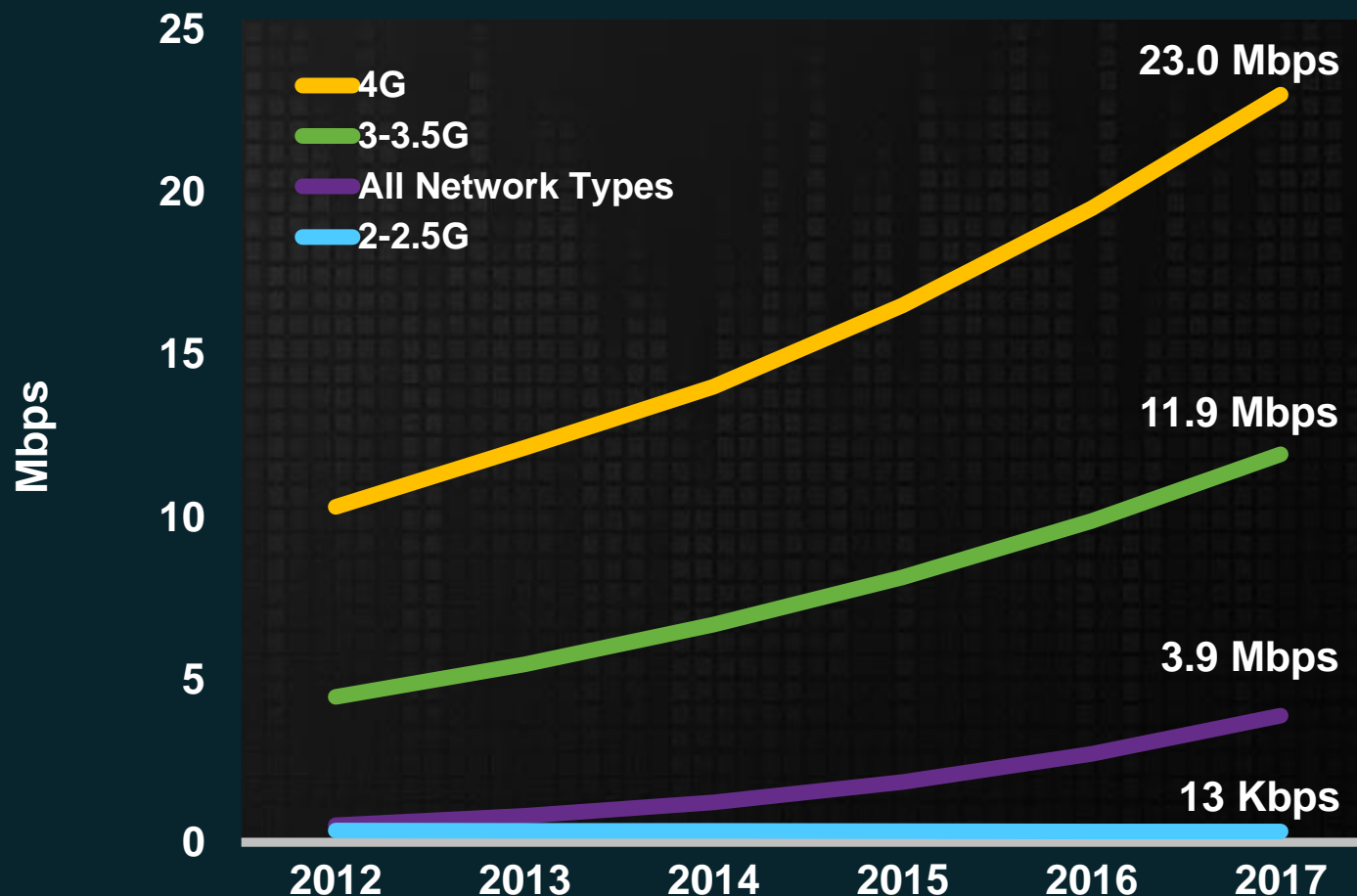


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Speeds by Network Type

4G Speeds will be 6X Higher than Average by 2017

3-3.5G Speeds will be 3X Higher than Average by 2017



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

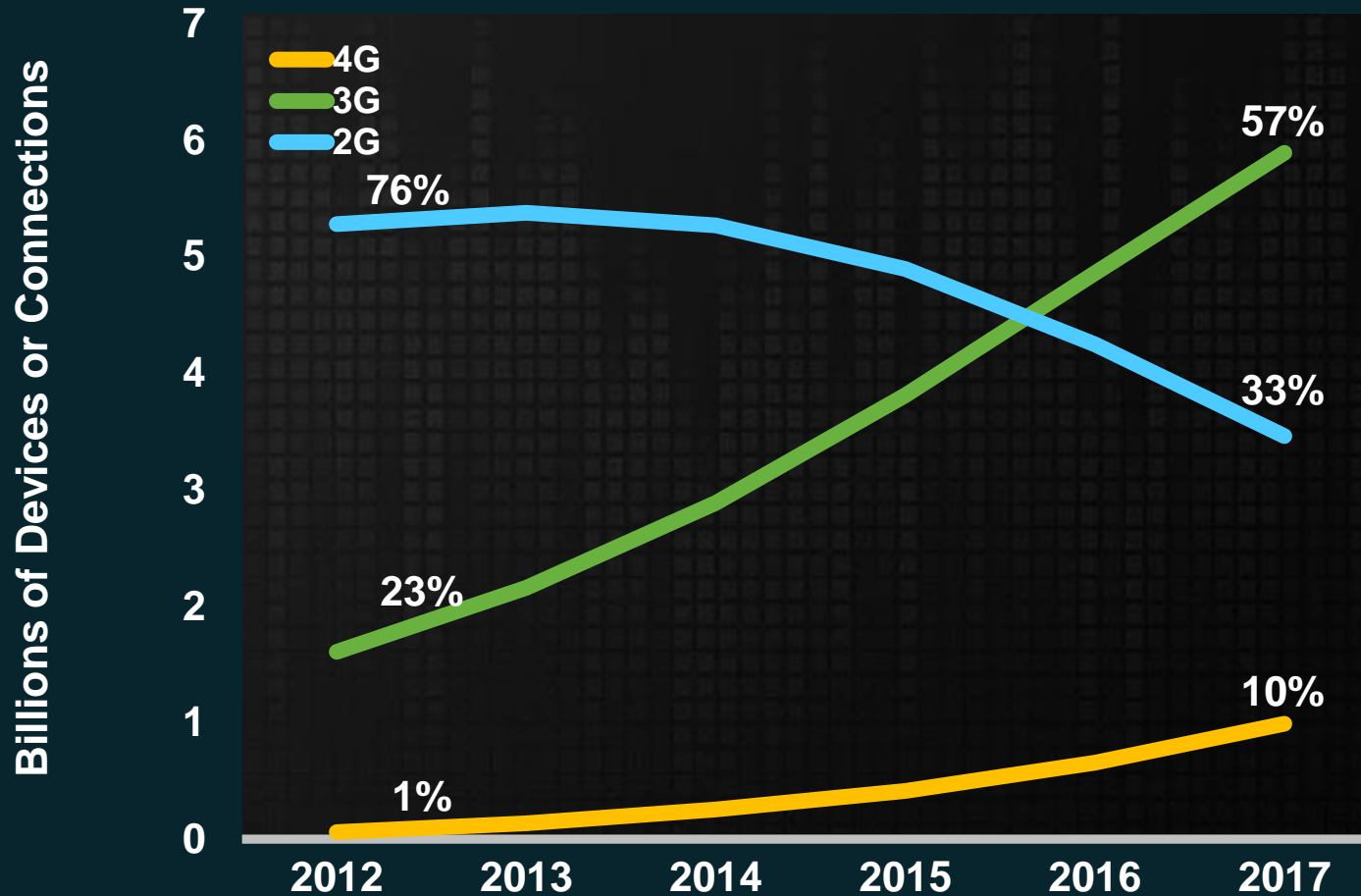
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Global Connections by Network Type

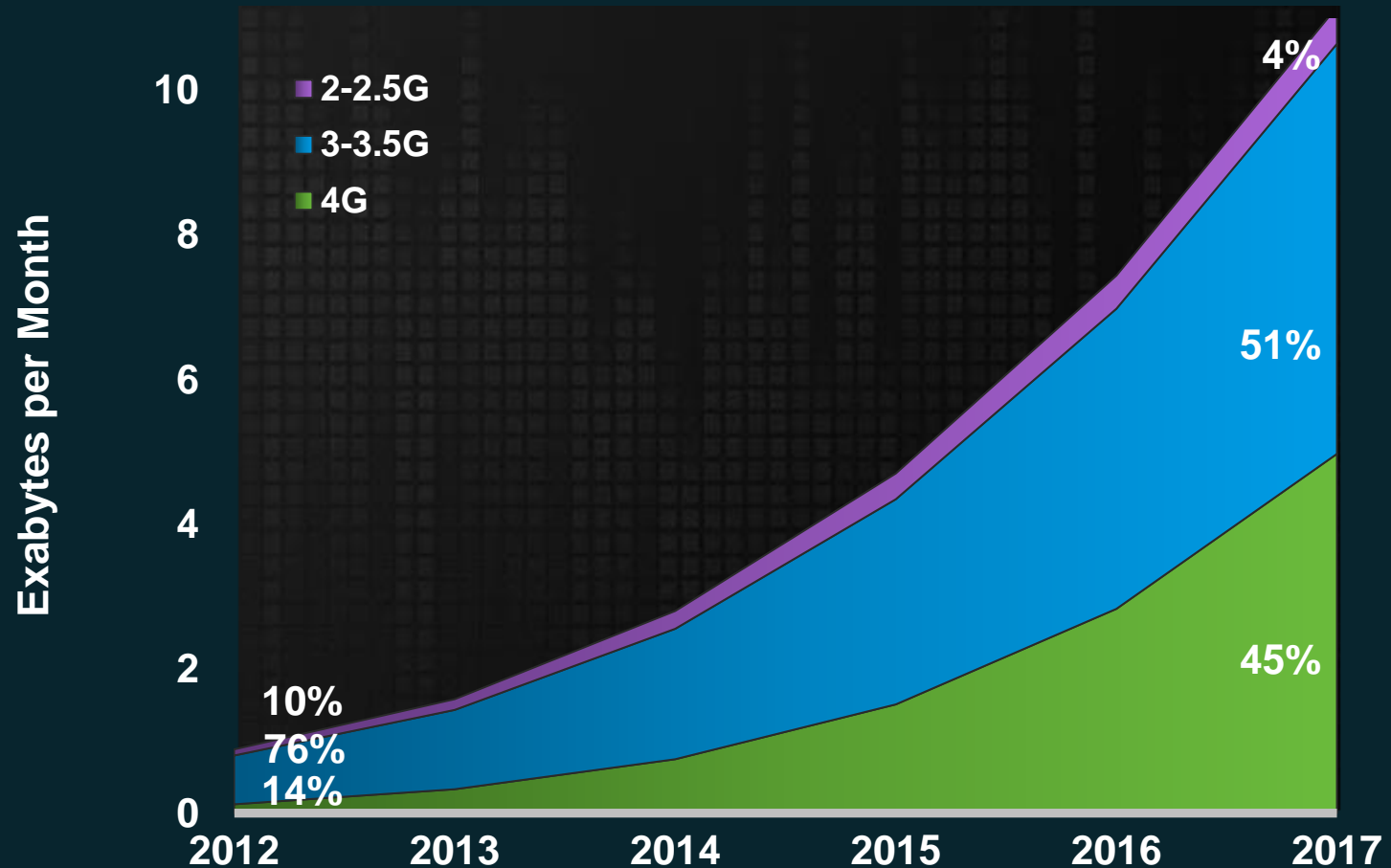
2G, 3G, and 4G Technology Connection Share



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Data Traffic Growth: 4G

4G Will Be 10% of Connections and 45% of Traffic in 2017



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Globally, in 2012, a 4G connection generated 2.1 GB/mo, **19X higher** than the 110 MB/mo for non-4G connections.



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

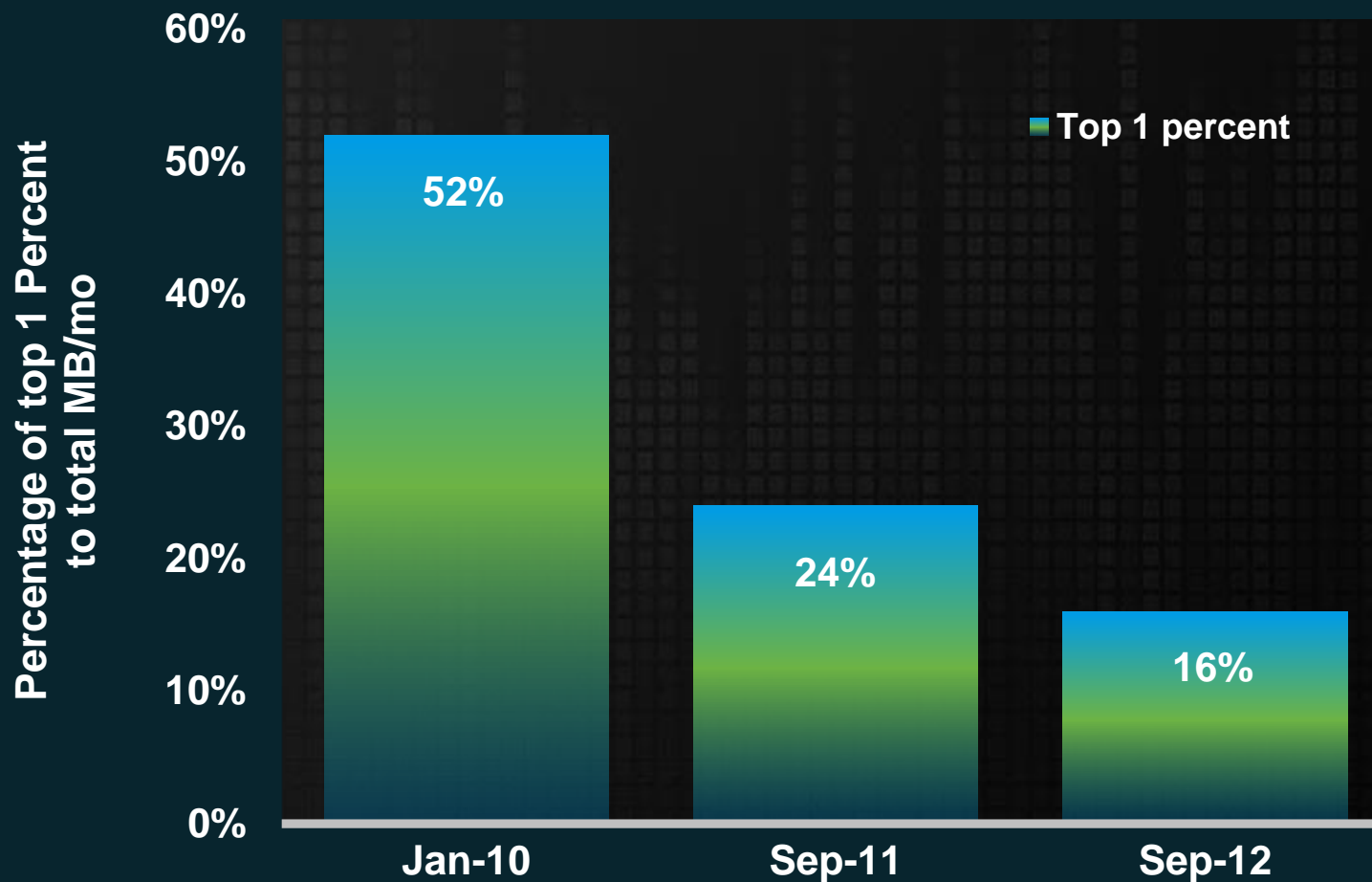
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Top Mobile User Profiles: 2010–2012

Top 1% Consumption Steadily Decreasing Compared to 99%



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

VNI Mobile Forecast Update, 2012–2017

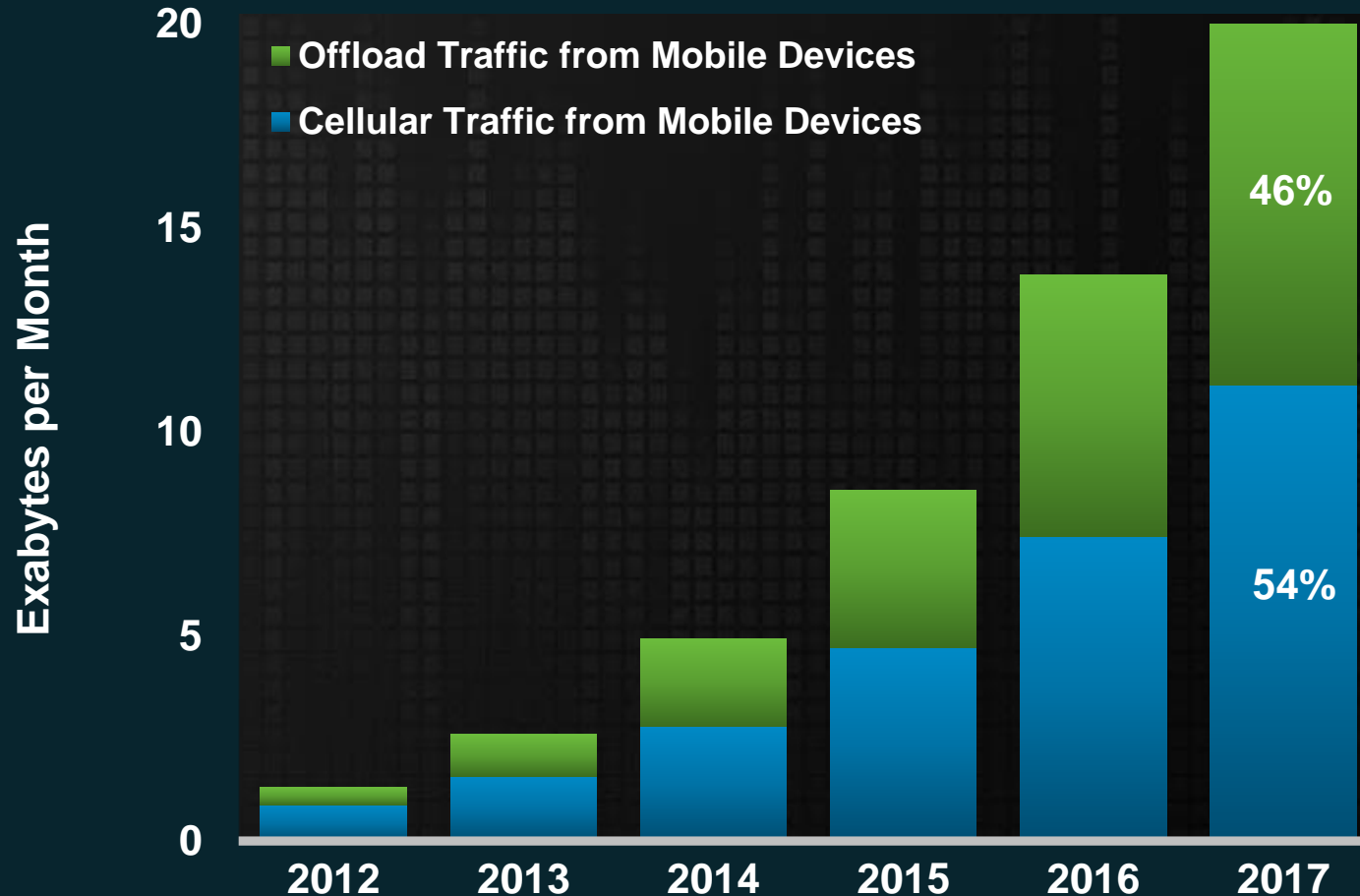
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Global Mobile Data Traffic Offload

46% of Mobile Traffic to be Offloaded in 2017

33% of Mobile Traffic Offloaded in 2012

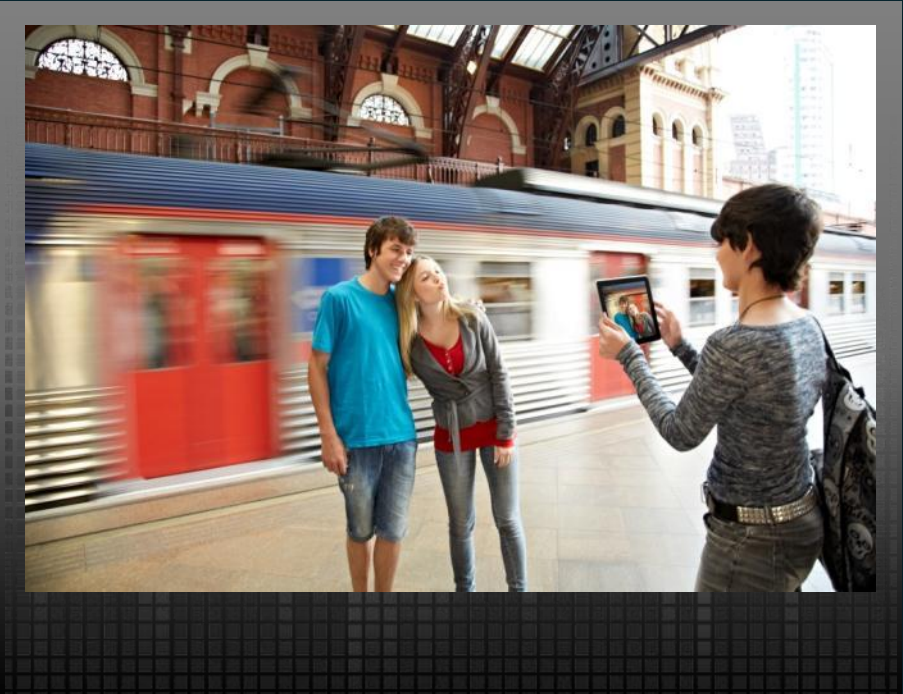


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017



Globally, the amount of traffic offloaded from tablets will be 71% by 2017.

Globally, the amount of traffic offloaded from smartphones will be 46% by 2017.



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

VNI Mobile Forecast Update, 2012–2017

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By 2017, two-thirds of the world's mobile data traffic will be video.

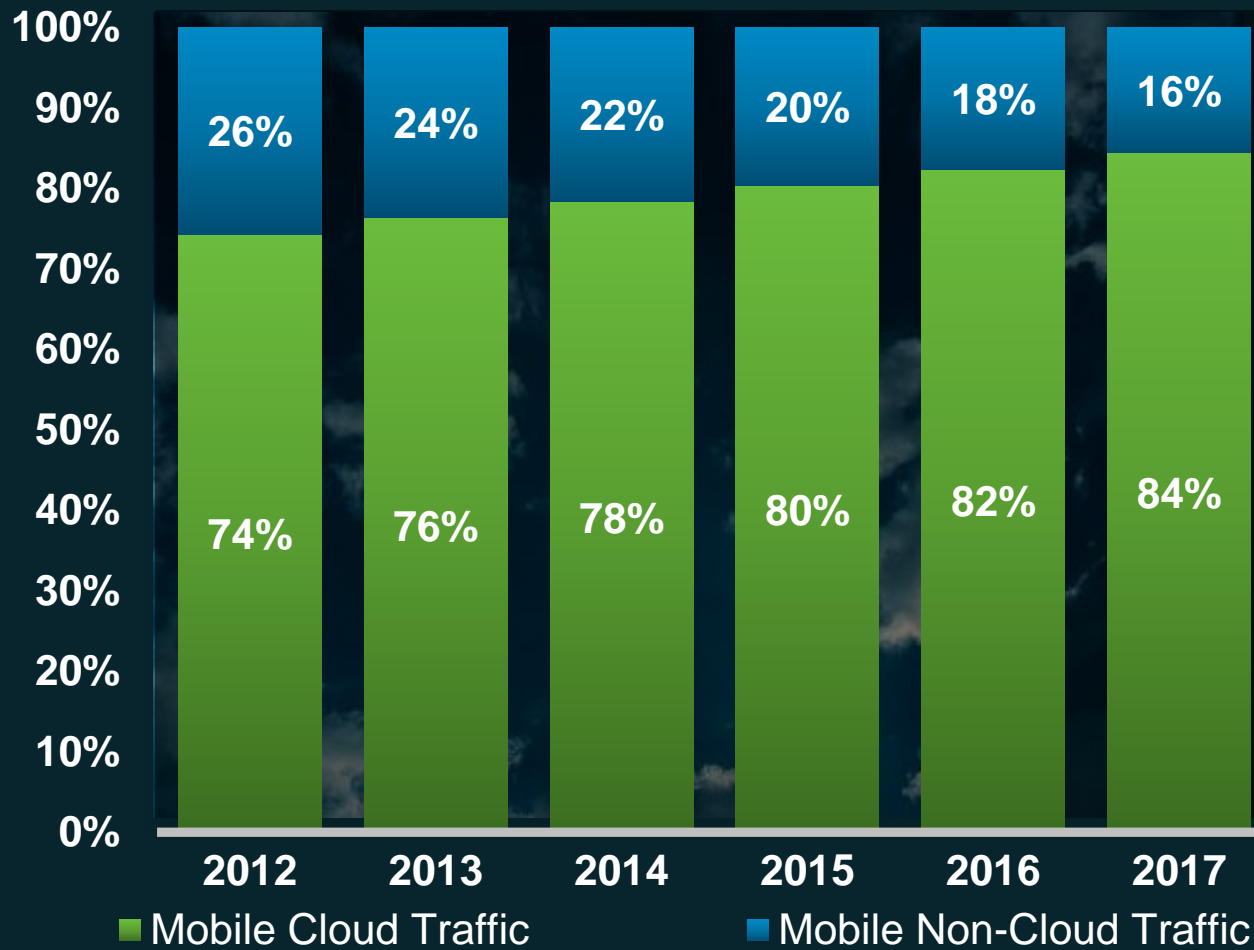


Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Cloud Traffic

Cloud Accounted for 74% of Mobile Data Traffic in 2012

Cloud Will Account for 84% of Mobile Data Traffic by 2017



Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Conclusion



Cisco VNI Global Mobile Forecast, 2012–2017

Key Takeaways / Summary

Global Mobile Data Traffic

VNI By 2017, mobile data traffic will reach **11.2 EBs/month (134 EBs annually)**.
In 2012, mobile data traffic grew **70%** (YoY).

Global Mobile Traffic Offload

VNI In 2012, **33%** of mobile traffic was offloaded; by 2017, **46%** will be offloaded.

Global Mobile Cloud

VNI In 2012, cloud was **74%** of mobile data traffic; will be **84%** by 2017.

Global Mobile Video

VNI By 2017, over **66%** of the world's mobile data traffic will be video.

Global Mobile Network Speeds

VNI Mobile connection speeds **doubled** in 2012; will increase 7-fold by 2017.
By 2017, **4G** will account for **10%** of connections, but **45%** of mobile traffic.

Global Mobile Devices/Connections

VNI By 2017, there will be more than one mobile connection (**10.3B**) for **every member** of the world's population (**7.6B**).

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Cisco VNI Mobile Forecast; 2012–2017

Get more info—see Tools and Resources

Visual Networking Index

- HOME
- SOLUTIONS
- SERVICE PROVIDER
- SERVICE PROVIDER STRATEGY
- IP NGN - IP NEXT-GENERATION NETWORK
- THE CONNECTED LIFE
 - Cloud Index
 - Connected Life User Experience
 - Mobile Transformation
 - Visual Networking Index**

Estimate Mobile Network Traffic

This interactive tool can help you predict the traffic your mobile network could generate from various devices and applications.

Launch Tool



VNI Overview

Networks are an essential part of business, education, government, and home communications. Many residential, business, and mobile IP networking trends are being driven largely by a combination of video, social networking and advanced collaboration applications, termed "visual networking."

The Cisco Visual Networking Index (VNI) is the company's ongoing effort to forecast and analyze the growth and use of IP networks worldwide.

www.cisco.com/go/vni
traffic-inquiries@cisco.com

Thank you.



Drivers



Global Mobile Users

From 4.3 Billion in 2012 to 5.2 Billion by 2017 at 4% CAGR
Global Mobile Users Growing 3.5X Faster Than Global Population

North America

2012: 288 M
2017: 316 M
CAGR 1.9%

Western Europe

2012: 362 M
2017: 380 M
CAGR 1%

Central/Eastern Europe

2012: 319 M
2017: 342 M
CAGR 1.4%

Latin America

2012: 438 M
2017: 494 M
CAGR 2.5%

Middle East & Africa

2012: 661 M
2017: 849 M
CAGR 5.1%

Asia Pacific

2012: 2,216 M
2017: 2,819 M
CAGR 4.9%

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Device and Connections

From 7 Billion in 2012 to 10.3 Billion by 2017 At 8.3% CAGR

North America

2012: 459 M
2017: 841 M
CAGR 12.9%

Western Europe

2012: 601 M
2017: 954 M
CAGR 9.7%

Central/Eastern Europe

2012: 589 M
2017: 785 M
CAGR 5.9%

Latin America

2012: 714 M
2017: 940 M
CAGR 5.7%

Middle East & Africa

2012: 1,117 M
2017: 1,588 M
CAGR 7.3%

Asia Pacific

2012: 3,470 M
2017: 5,240 M
CAGR 8.6%

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Speed Growth

Average Mobile Speed Will Increase 7.4X
From 0.5 kbps in 2012 to 3.9 Mbps by 2017

North America

5.5-Fold growth
2.6 to 14.4 Mbps

Western Europe

4.7-Fold growth
1.5 to 7.0 Mbps

Central/Eastern Europe

8.6-Fold growth
0.6 to 4.8 Mbps

Latin America

11-Fold growth
0.2 to 2.2 Mbps

Middle East & Africa

13-Fold growth
0.2 to 2.9 Mbps

Asia Pacific

9.6-Fold growth
0.3 to 3.0 Mbps

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017

Global Mobile Data Traffic

Mobile Data Traffic Will Increase 13X

From 885 PB/month in 2012 to 11.2 EB/month by 2017

North America

9-Fold growth
222 to 2,085 PB/mo

Western Europe

8-Fold growth
181 to 1,384 PB/mo

Central/Eastern Europe

13-Fold growth
66 to 845 PB/mo

Latin America

13-Fold growth
55 to 723 PB/mo

Middle East & Africa

17-Fold growth
50 to 861 PB/mo

Asia Pacific

17-Fold growth
310 to 5,257 PB/mo

Source: Cisco VNI Global Mobile Data Traffic Forecast, 2012–2017