



The Mobile Internet Phenomena Report

Webinar February 2019

Who are we: a network intelligence company that uses automation to enable Operators to deliver a high quality experience to their subscribers

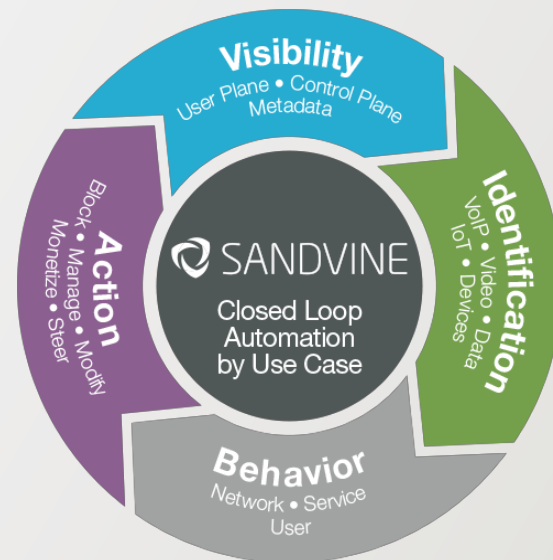
What we do: We automate networks based on unique network analytics and machine learning

How we do it: Active Network Intelligence solutions

- In-line traffic solutions that capture the most granular visibility and identification of all voice, video and data traffic transiting operator networks
- Behavioral, intent-based analytics that compare network, service and subscriber behavior to identify areas of action
- Closed loop policies implemented to achieve closed loop automation and intended quality of experience
- Continuous innovation in automation / machine learning focused on use cases outcomes

Mission: Be recognized as global experts in Network Intelligence through delivery of high value automation software modules to drive superior customer ROI and loyalty

Active Network Intelligence Framework



Sandvine By The Numbers

240M+

revenue

2.5B+

network users

160+

major operators

500+

enterprises

100+

countries

60+

patents

Total Volume
(not peak)

Mobile-only



 **YouTube**
is **35%**
of worldwide
mobile traffic

Global Traffic Share: YouTube leads in every region

GLOBAL APPLICATION TRAFFIC SHARE

1	YOUTUBE	37.04% ↓	10.08% ↑
2	FACEBOOK	8.37% ↓	6.26% ↑
3	SNAPCHAT	8.29% ↓	10.44% ↑
4	INSTAGRAM	5.71% ↓	5.93% ↑
5	WEB BROWSING	4.55% ↓	4.15% ↑
6	WHATSAPP	3.68% ↓	3.5% ↑
7	FACEBOOK VIDEO	2.53% ↓	1.56% ↑
8	NETFLIX	2.44% ↓	0.46% ↑
9	APP STORE	2.12% ↓	0.95% ↑
10	GOOGLE PLAY	1.90% ↓	0.72% ↑

AMER. TOP 3 ↓

- #1 YouTube
- #2 Instagram
- #3 Web Browsing

EURO TOP 3 ↓

- #1 YouTube
- #2 Instagram
- #3 NETFLIX

APAC TOP 3 ↓

- #1 YouTube
- #2 facebook.
- #3 facebook.

AMER. TOP 3 ↑

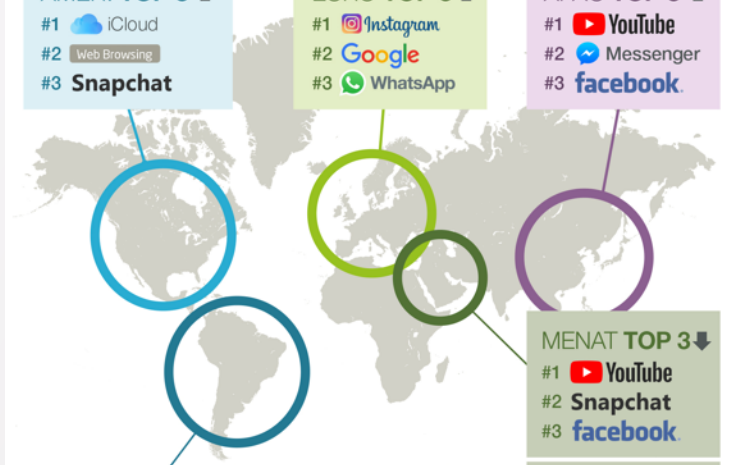
- #1 iCloud
- #2 Web Browsing
- #3 Snapchat

EURO TOP 3 ↑

- #1 Instagram
- #2 Google
- #3 WhatsApp

APAC TOP 3 ↑

- #1 YouTube
- #2 Messenger
- #3 facebook.



LATAM TOP 3 ↓

- #1 YouTube
- #2 Instagram
- #3 facebook.

LATAM TOP 3 ↑

- #1 Google
- #2 WhatsApp
- #3 facebook.

MENAT TOP 3 ↓

- #1 YouTube
- #2 Snapchat
- #3 facebook.

MENAT TOP 3 ↑

- #1 Snapchat
- #2 Google
- #3 YouTube

AMERICAS ↓ TRAFFIC SHARE TOP 10


1	YOUTUBE	15.29% ↓
2	INSTAGRAM	14.47% ↓
3	WEB BROWSING	11.25% ↓
4	FACEBOOK	7.39% ↓
5	FACEBOOK VIDEO	6.48% ↓
6	NETFLIX	5.63% ↓
7	SNAPCHAT	4.68% ↓
8	GOOGLE	4.25% ↓
9	APP STORE	2.59% ↓
10	ICLOUD	2.27% ↓

AMERICAS ↑ TRAFFIC SHARE TOP 10

1	ICLOUD	16.43% ↑
2	WEB BROWSING	12.77% ↑
3	SNAPCHAT	7.09% ↑
4	GOOGLE	7.03% ↑
5	INSTAGRAM	6.63% ↑
6	FACEBOOK	4.87% ↑
7	WHATSAPP	4.25% ↑
8	FACETIME	3.84% ↑
9	YOUTUBE	2.10% ↑
10	APP STORE	2.00% ↑

Key Takeaways:

- iPhone-heavy
- More Web Browsing than other regions
- Netflix higher than global, indicates more unlimited plans

More than **80%** of users still use
Unencrypted HTTP 
at least once a month

LATAM ↓ TRAFFIC SHARE TOP 10

1	YOUTUBE	17.35% ↓
2	INSTAGRAM	14.70% ↓
3	FACEBOOK	12.95% ↓
4	WHATSAPP	11.87% ↓
5	FACEBOOK VIDEO	10.51% ↓
6	WEB BROWSING	8.19% ↓
7	GOOGLE	3.90% ↓
8	GOOGLE PLAY	2.76% ↓
9	NETFLIX	1.90% ↓
10	SPOTIFY	0.80% ↓

LATAM ↑ TRAFFIC SHARE TOP 10

1	GOOGLE	18.07% ↑
2	WHATSAPP	10.83% ↑
3	FACEBOOK	10.77% ↑
4	WEB BROWSING	7.73% ↑
5	INSTAGRAM	6.86% ↑
6	WHATSAPP	4.43% ↑
7	YOUTUBE	3.74% ↑
8	ICLOUD PHOTO STREAM	3.03% ↑
9	ICLOUD	2.71% ↑
10	FACEBOOK MESSENGER	2.62% ↑

Key Takeaways:

- Android-heavy
- Less YouTube and video, indicating low cost quota/pre-paid plans



EUROPE ↓ APPLICATION TRAFFIC SHARE TOP 10

1	YOUTUBE	24.83%	↓
2	INSTAGRAM	8.16%	↓
3	NETFLIX	7.23%	↓
4	WEB BROWSING	6.24%	↓
5	FACEBOOK VIDEO	5.88%	↓
6	FACEBOOK	4.87%	↓
7	HTTP MEDIA STREAM	2.73%	↓
8	QUIC	2.41%	↓
9	SNAPCHAT	2.37%	↓
10	ITUNES STORE	1.94%	↓

EUROPE ↑ APPLICATION TRAFFIC SHARE TOP 10

1	INSTAGRAM	7.04%	↑
2	GOOGLE	6.67%	↑
3	WHATSAPP	5.81%	↑
4	FACEBOOK MESSENGER	4.76%	↑
5	SNAPCHAT	4.73%	↑
6	ICLOUD	4.65%	↑
7	WEB BROWSING	4.57%	↑
8	ICLOUD PHOTO STREAM	4.14%	↑
9	GOOGLE CLOUD STORAGE	4.07%	↑
10	YOUTUBE	3.82%	↑

Key Takeaways:

- Balanced iPhone/Android
- Social sharing food chain evident



MENAT ↓ APPLICATION TRAFFIC SHARE TOP 10

1	YOUTUBE	36.66% ↓
2	SNAPCHAT	10.61% ↓
3	FACEBOOK	7.80% ↓
4	INSTAGRAM	5.83% ↓
5	WHATSAPP	4.67 ↓
6	WEB BROWSING	2.98% ↓
7	NETFLIX	2.71% ↓
8	APP STORE	2.46% ↓
9	PLAYSTATION DOWNLOAD	2.41% ↓
10	TIK TOK	1.56% ↓

MENAT ↑ APPLICATION TRAFFIC SHARE TOP 10

1	SNAPCHAT	11.53% ↑
2	GOOGLE	8.69% ↑
3	YOUTUBE	9.37% ↑
4	INSTAGRAM	6.05% ↑
5	WHATSAPP	4.06% ↑
6	WEB BROWSING	3.53% ↑
7	FACEBOOK	4.42% ↑
8	IPSEC VPN	1.59% ↑
9	APP STORE	1.51% ↑
10	PLAYTATION DOWNLOAD	0.93% ↑

Key Takeaways:

- iPhone-heavy
- Lots of messaging
- Gaming indicates both unlimited plans as well as fixed mobile substitution offerings (as we will see in 5G)



Snapchat



is
application
worldwide by
overall mobile
bandwidth usage

APAC ↓ APPLICATION TRAFFIC SHARE TOP 10

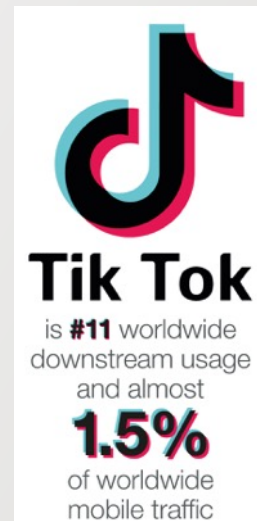
1	YOUTUBE	38.37% ↓
2	FACEBOOK VIDEO	11.30% ↓
3	FACEBOOK	10.55% ↓
4	WEB BROWSING	6.29% ↓
5	INSTAGRAM	4.47% ↓
6	LINE	2.81 ↓
7	QUIC	2.61% ↓
8	GOOGLE PLAY	2.04% ↓
9	TIK TOK	1.24% ↓
10	HTTP MEDIA STREAM	1.15% ↓

APAC ↑ APPLICATION TRAFFIC SHARE TOP 10

1	YOUTUBE	12.84% ↑
2	FACEBOOK MESSENGER	12.30% ↑
3	FACEBOOK	9.27% ↑
4	INSTAGRAM	8.37% ↑
5	LINE VOICE	7.48% ↑
6	GOOGLE	5.74% ↑
7	FACEBOOK VIDEO	4.48% ↑
8	ICLOUD PHOTO STREAM	4.26% ↑
9	LINE	4.01% ↑
10	WEB BROWSING	3.52% ↑

Key Takeaways:

- Android-heavy
- LINE extremely popular
- Facebook Video taking share from YouTube



YY VoIP (APAC): On one network, YY VoIP saw 75% packet loss and a latency of over two seconds during the report cycle. For a voice application, experiencing 75% loss and a high latency would be disastrous.

Benchbee Speed Test (Europe): This is a pretty ironic result for bad QoE. Benchbee is a mobile application designed to test network speed (like Ookla Speedtest). The European network in this case had 18% packet loss and a latency of over 500ms total as an average for the report period. Ookla (on the same network) showed 8ms latency and .08% packet loss.

Mortal Kombat X (Americas): Gaming generally wants low latency and low packet loss, without the need for a lot of bandwidth. On this network, Mortal Kombat experienced a latency of only 50ms, but a packet loss of 26.04%.

What QoE is your network capable of delivering?

Example ScoreCard Application Breakdown

ScoreCard rates the experience that an operator's network is capable of delivering in categories that matter to subscribers.

Improve the subscriber experience and prioritize investments for maximum ROI. Break down analytics by device, location, and subscriber tier with ScoreCard.



Web Surfing

Scores C. Experience is impacted by network quality. Did you know 3% packet loss doubles page load times?



Streaming Video

Scores A. With very high throughput available, this network is ready for HD and even 4K streaming.



Social Media

Scores D. Latency is severely affecting the interactive experience of social messaging applications.



Real Time Gaming

Scores F. Due to the high latency, gaming is not viable. Fixed is better than mobile for real-time gaming.



Upload

Scores B. With continuous good throughput, large email attachments are sent in a snap. Did you know the average smartphone photo is 6 MB?



Download

Scores C. Expectations are higher and simultaneous downloads happen more frequently than uploads.



Voice Applications

Scores B. Great conversation quality. Modern voice applications benefit from a stable, consistent latency.

APAC APPLICATION ENGAGEMENT TOP 10

- 1 DNS 96.98%
- 2 HTTP (TLS) 91.23%
- 3 GOOGLE 89.97%
- 4 FACEBOOK 88.08%
- 5 ICMP 87.64%
- 6 HTTP 86.75%
- 7 INSTAGRAM 85.86%
- 8 YOUTUBE 82.82%
- 9 LINE 80.64%
- 10 DOUBLECLICK 80.31%

Protocols:

DNS
HTTP/TLS
ICMP
HTTP

Apps:



Google Services:



EUROPE APPLICATION ENGAGEMENT TOP 10

- 1 DNS 98.92%
- 2 HTTP (TLS) 87.63%
- 3 GOOGLE 86.63%
- 4 ICMP 82.14%
- 5 HTTP 80.82%
- 6 FACEBOOK 79.31%
- 7 INSTAGRAM 76.88%
- 8 GOOGLE ANALYTICS 70.04%
- 9 DOUBLECLICK 69.63%
- 10 CRASHLYTICS 65.31%



#1 in Europe, APAC, and MENAT



#1 in North America and LATAM

Contact us at phenomena@sandvine.com



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