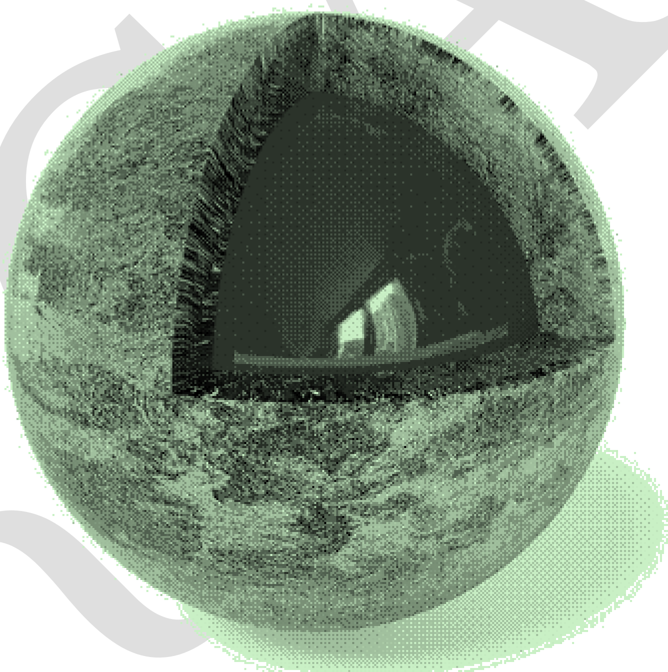
Mobile Edge Computing 2016

Market report



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About this report

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About {Core Analysis}

Patrick Lopez
Founder & CEO
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Patrick Lopez has nearly 20 years of international progressive experience in product and technology introduction in the United States, Canada, Switzerland, Ireland and France.

Founder and CEO of {Core Analysis}, he provides advisory services to technology vendors, board of directors, carriers and venture capital firms on OTT video. As an analyst, he presents at influential industry forums and conferences and publish an acclaimed blog, industry articles and reports. In 2016, he is chairman / speaker at 5G World Summit, NFV World Congress, and SDN / NFV Summit ....

Recent achievements:

- {Core Analysis} was exclusive advisor to Opera Software in its acquisition of Skyfire for $155 millions.
- Presented at NAB (National Association of Broadcasters) on PayTV vs OTT strategies and business models.
- Presented at United Nations' ITU Telecom on convergence of broadband and broadcast.

Patrick has collaborated to various industry reports including Deutsche Bank, JP Morgan, Morgan Stanley Credit Suisse First Boston, IDC, Frost & Sullivan, Yankee group, Ovum, Informa... and has written several articles in collaboration with The Wall Street Journal, TMCNet, Wireless Week, RCR Wireless News, CNN and CNBC Europe.

Patrick holds a MBA in Corporate Management and Bachelor Degree in Marketing Strategy.

Executive Summary

2016 sees a sea change in the fabric of the mobile value chain. Google is reporting that mobile search revenue now exceed desktop, whereas 47% of Facebook members are now exclusively on mobile, which generates 78% of the company's revenue. It has taken time, but most OTT services that were initially geared towards "the internet" are rapidly transitioning towards "mobile".

The impact is still to be felt across the value chain.

OTT providers have fundamentally different view of services and value different things than mobile network operators. While mobile networks have been built on the premises of coverage, reliability and ubiquitous access to metered network-based services, OTT rely on free, freemium, ad-sponsored or subscription based services where fast access and speed are paramount. Increase in latency impacts page load, search time and can cost OTTs billions in revenue.

The reconciliation of these views and the emergence of a new coherent business model will be painful but necessary and will lead to new network architectures.

Traditional mobile networks were originally designed to deliver content and services that were hosted on the network itself. The first mobile data applications (WAP, multimedia messaging…) were deployed in the core network, as a means to be both as close as possible to the user but also centralized to avoid replication and synchronization issues.

3G and 4G Networks still bear the design associated with this antiquated distribution model. As technology and user behaviours have evolved, a large majority of content and services accessed on cellular networks today originate outside the mobile network. Although content is now stored and accessed from clouds, caches CDNs and the internet, a mobile user still has to go through the internet, the core network, the backhaul and the radio network to get to it. Each of these steps sees a substantial decrease in throughput capacity, from 100Gbps to 20 Mbps or less. Additionally, each hop adds latency to the process. This is why networks continue to invest in increasing throughput and capacity. Streaming a large video or downloading a large file from a cloud or the internet is a little bit like trying to suck ice cream with a 3-foot bending straw.

Throughput and capacity seem to be certainly tremendously growing with the promises of 5G networks, but latency remains an issue. Reducing latency requires reducing distance between the consumer and where content and services are served. CDNs and commercial specialized caches (Google, Netflix…) have been helping reduce latency in fixed networks, by caching content as close as possible to where it is consumed with the propagation and synchronization of content across Points of Presence (PoPs). Mobile networks' equivalent of PoPs are the eNodeB, RNC or cell aggregation points. These network elements, part of the Radio Access Network (RAN) are highly proprietary purpose-built platforms to route and manage mobile radio traffic. Topologically, they are the closest elements mobile users interact with when they are accessing mobile content. Positioning content and services there, right at the edge of the network would certainly substantially reduce latency.

For the first time, there is an opportunity for network operators to offer OTTs what they will value most: ultra-low latency, which will translate into a premium user experience and increased revenue. This will come at a cost, as physical and virtual real estate at the edge of the network will be scarce. Net neutrality will not work at the scale of an eNodeB, as commercial law will dictate the few applications and services providers that will be able to pre-position their content.

Mobile Edge Computing provides the ability to deploy commercial-off-the-shelf (COTS) IT systems right at the edge of the cellular network, enabling ultra-low latency, geo-targeted delivery of innovative content and services. More importantly, MEC is designed to create a unique competitive advantage for network operators derived from their best assets, the network and the customers' behaviour. This report reviews the opportunity and timeframe associated with the emergence of this nascent technology and its potential impact on mobile networks and the mobile value chain.