EUROTECH

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Eurotech

Eurotech is a multinational company that designs, develops and supplies Edge Computers and Internet of Things (IoT) solutions – complete with services, software and hardware – to system integrators and enterprises. By adopting Eurotech solutions, customers have access to IoT building blocks and software platforms, to Edge Gateway to enable asset monitoring and to High Performance Edge Computers (HPEC) conceived also for Artificial Intelligence (AI) applications. To offer increasingly complete solutions, Eurotech has activated partnerships with leading companies in their field of action, thus creating a global ecosystem that allows it to create “best in class” solutions for the Industrial Internet of Things. Learn more about Eurotech at www.eurotech.com.

Advanet

Advanet, a member of Eurotech Group, develops and manufactures a broad range of industrial equipment to support social infrastructure, such as medical devices,semiconductor manufacturing and transportation equipment, which are embedded as their core product. The reliability that is strongly required for such equipment can only be realized because of Advanet’s integrated system, from proposal through the development, production and the ongoing support capabilities. The advantage of Advanet is that it combines the philosophy of manufacturing, which has been forged in the Japanese market, and the global market competitiveness acquired as a member of the Eurotech Group, in a unique value proposition.

Edge computing for business continuity: the case of Internet Traffic Surge

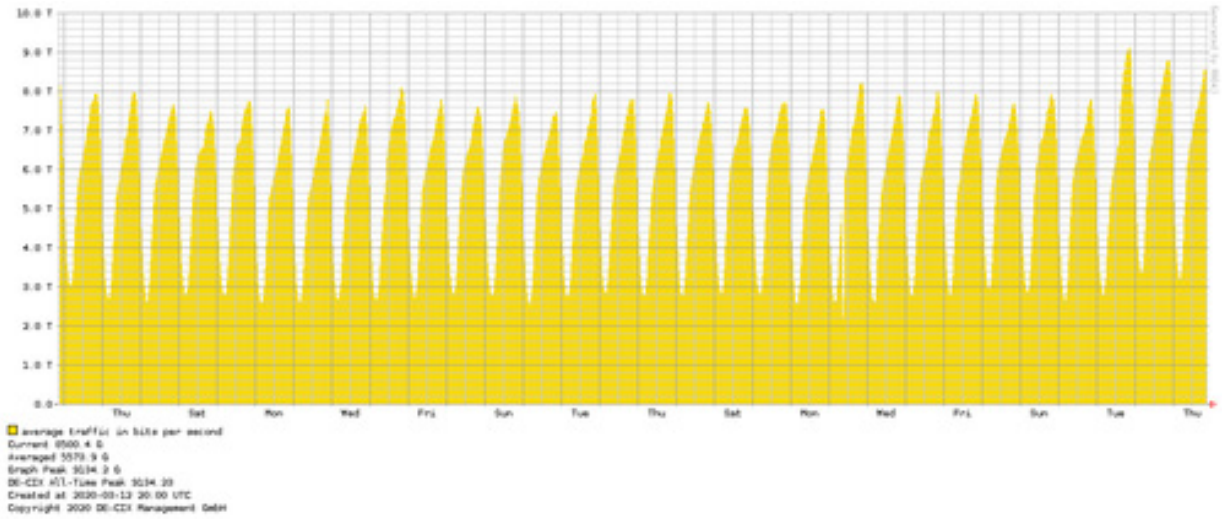
Due to the COVID-19 pandemic, almost the entire world population is working from home and many cities are in lockdown. Over-The-Top (OTT) streaming services, as well as all the other Internet services, are experiencing unprecedentedly high level of traffic.

The amount of data generated by users was already a matter of interest for many players in the market, not only in telecommunications:

"The amount of data generated annually is projected to increase from 40 zettabytes this year (2019) to 175 zettabytes in 2022. To put that in perspective, one zettabyte is a trillion gigabytes, making 175 zettabytes the equivalent of about 5.4 billion years of YouTube videos"
(source: Asha Keddy, Intel's Vice President of Next Generation and Standards)

but now it seems that these numbers could be reached faster than expected. Teleconferencing services, like Zoom, are experiencing 700% increase of traffic and streaming services like Netflix, Amazon Video, YouTube and Disney+ are seeing similar levels of growth.

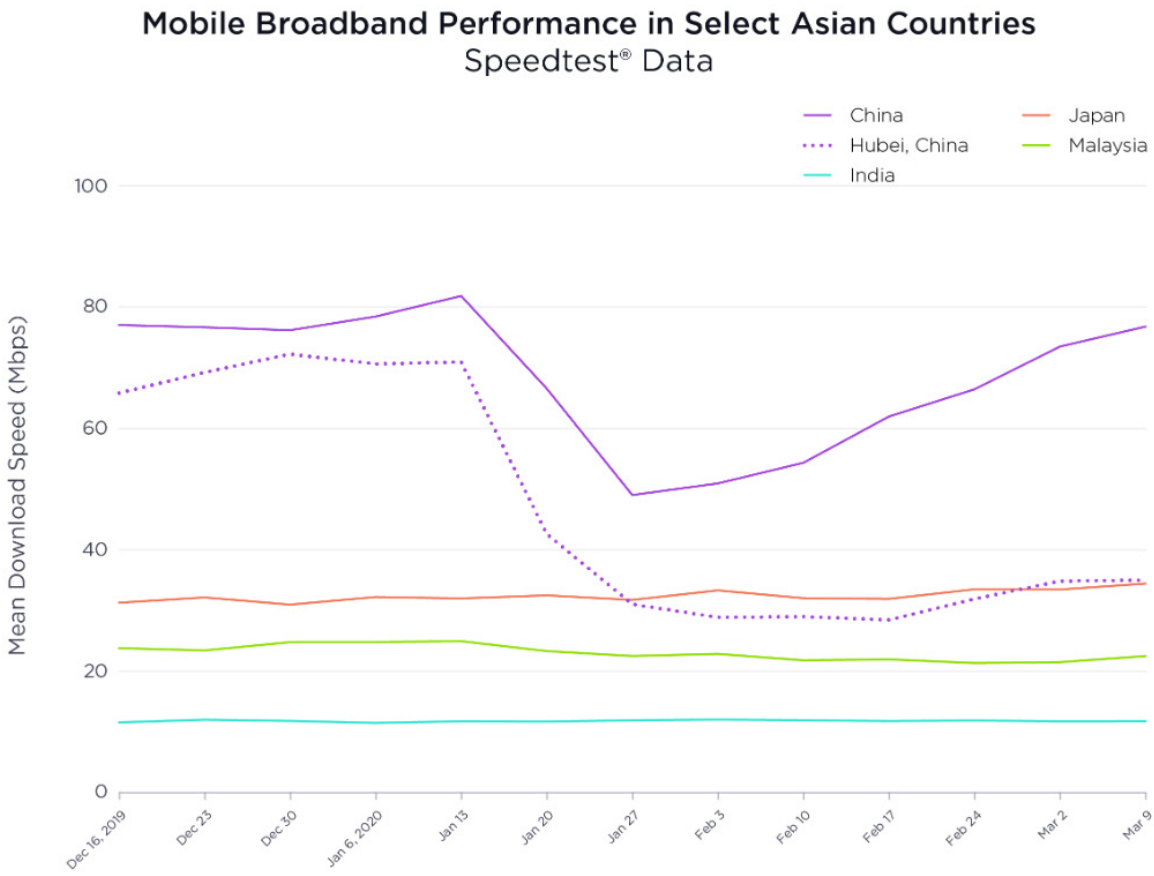
All this generated traffic is becoming a concern for the Internet Service Providers (ISP) and some of the world's biggest Internet interconnection hubs are reporting record traffic numbers. For example, DE-CIX in Frankfurt, one of the world's busiest Internet interconnection, few weeks ago reported a new all-time traffic peak of more than 9.1 Tbits/s.



DE-CIX reported record traffic figures (source: DE-CIX)

"Whether it's for exchanging information, streaming films, playing online games, or the exceptional situation people are currently experiencing with the COVID-19 virus, Internet usage is playing an ever-greater role,"
(source: Thomas King, DE-CIX's CTO)

This sudden and dramatic surge of Internet usage has also had the effect of reducing the speed of the global network:



Download speeds took a hit in many Asian countries.

Image: Ookla

In such a delicate moment for millions of workers, who are obliged to work from home, and companies, which have to ensure business continuity, the European Commission decided to take action to prevent a network congestion, asking streaming operators and services to

"take preventive and mitigating measures and encouraged users to apply settings that reduce data consumption, including the use of Wi-Fi or lower resolution for content."
(source: https://ec.europa.eu/commission/presscorner/detail/en/MEX_20_489)

This pandemic is showing not only how fragile and interconnected our economy is, but also how paramount Internet has become. How edge computing could help in ensuring business continuity during dramatic emergencies?

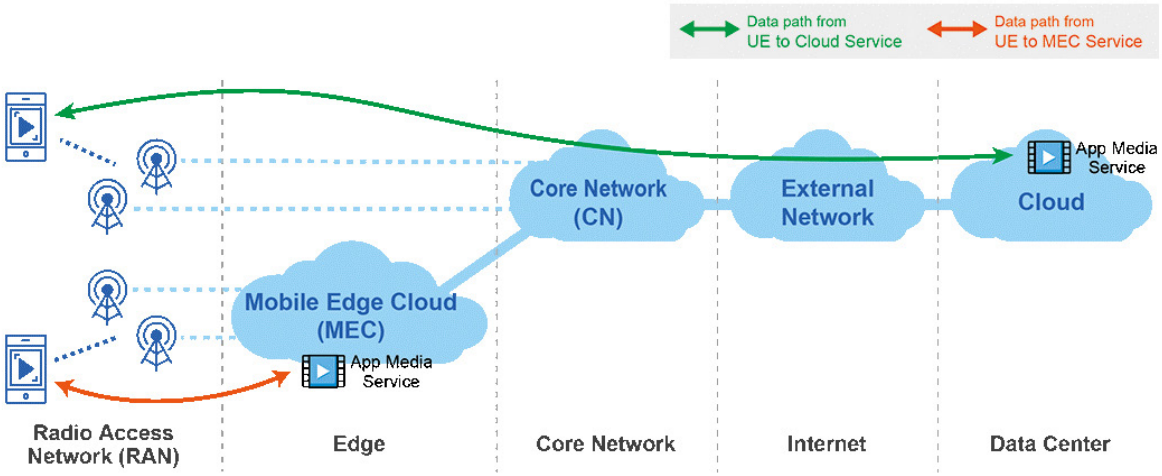
Offload Traffic from Core Network to the edge

According to the 2018 State of Online Video report by Limelight Networks

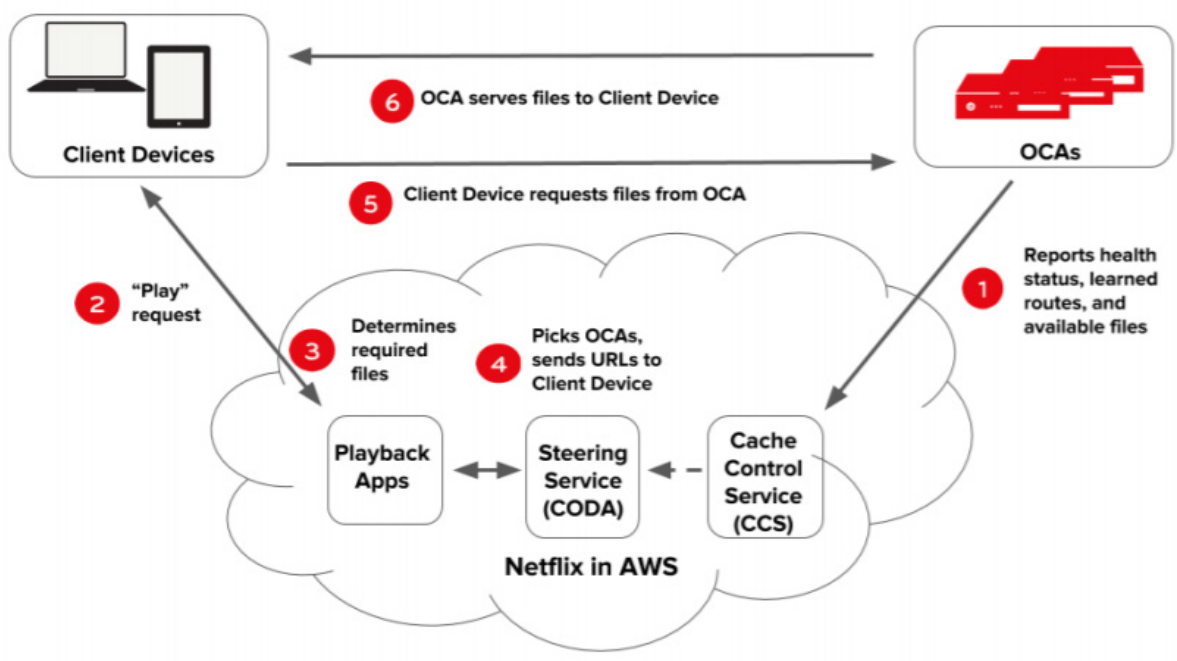
"video rebuffering remains the most frustrating aspect of online viewing for 43 percent of global consumers. The report also shows that 29 percent of viewers will stop watching a video the first time it re-buffers, with an additional 37 percent dropping off after the second time".
(source: https://www.limelight.com/resources/white-paper/state-of-online-video-2018/)

Edge computing can help media companies to increase their capabilities and to ensure quality video and streaming performance. A data center at the edge, or a Mobile Edge Computing (MEC) can:

- Reduce latency
- Offload heavy traffic from the core network
- Optimize delivery of regional content
- Run essential services at the Edge such as Network Function Virtualization (NFV), Caching, AI, Non-Network applications



A real example of edge computing to offload Internet traffic is Netflix with its initiative called Open Connect, where they partner with ISP to serve local traffic using local appliances:

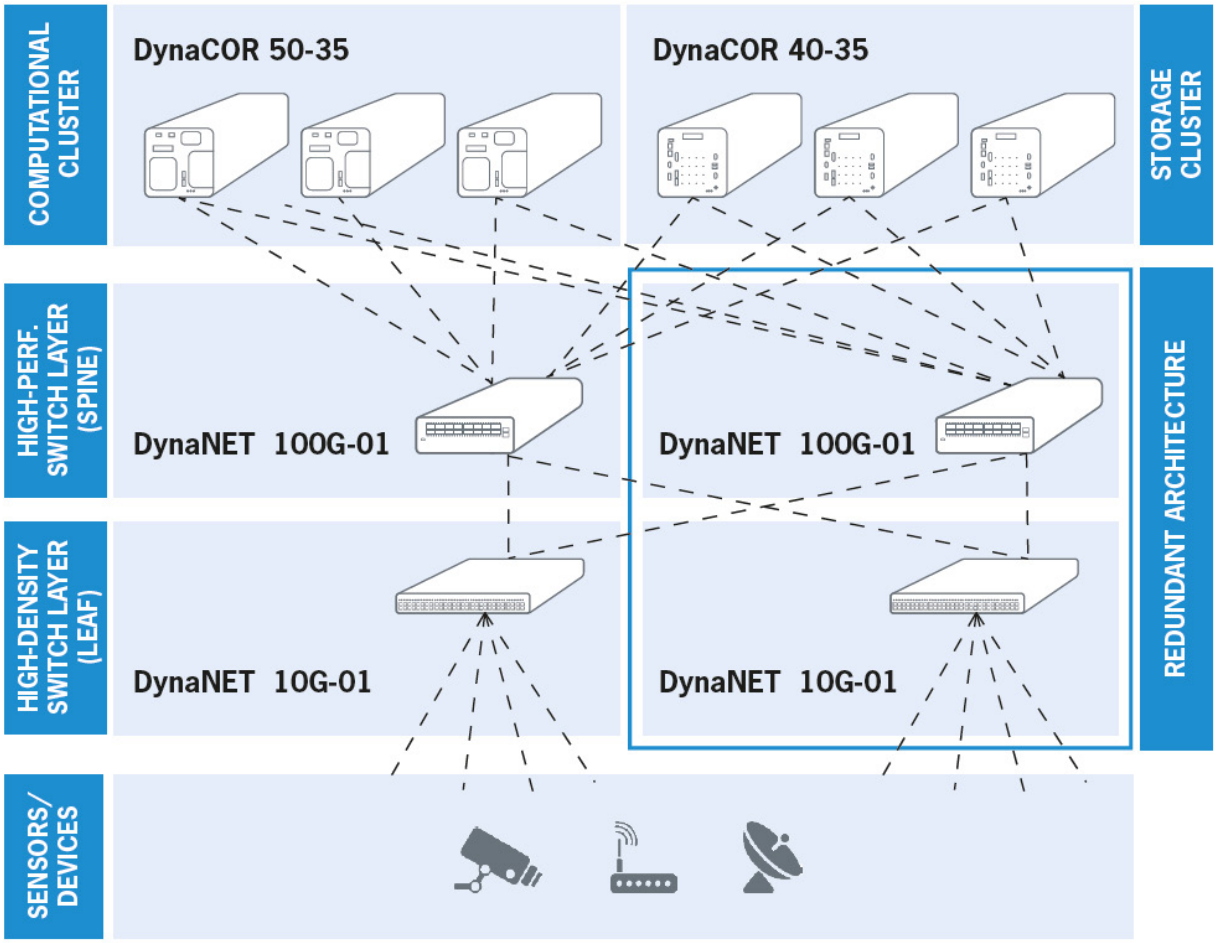


Eurotech and Advanet expertise in edge computing

Eurotech and Advanet bring supercomputing performances to the Edge with their HPEC (High Performance Embedded Computing) boards and systems for a faster data access and management.

Bringing HPC from data center to field deployable applications means reducing space, weight and power absorption, increasing resistance, robustness and reliability while maintaining the same advanced computational performance and energy efficiency.

Eurotech and Advanet HPEC boards and systems have a rugged and fanless design: they are ideal for embedded applications in difficult environmental conditions such as 5G edge nodes, or Autonomous Driving.



For such applications Eurotech and Advanet provide:

- The DynaNET family: High Performance Ethernet Switches for a reliable networking infrastructure for rugged and HPEC applications
- The DynaCOR family: HPEC systems that feature an innovative water-cooling system to ensure reliable performance in embedded applications, even under critical conditions. They are the ideal solution wherever computational activity needs to take place closer to the data gathering points.