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New Research Reveals Enea's Video Optimization Solution Could Reduce Network-wide Energy Consumption by Over 10%

A new report published by telecom software specialist, Enea, has concluded that a typical mobile network operator could reduce their end-to-end network energy consumption by more than ten percent and make annual savings of up to ten million dollars if they deploy a new traffic management solution that dynamically optimizes video streaming.

Citing figures from the GSMA, the industry organization for mobile network operators, the report highlights growing demand of video, in share of data volume. The radio access network (RAN) currently accounts for 73 percent of energy costs for the average mobile operator, with video content accounting for up to 70 percent of the data volume. As network speed and functionality improves, data and energy consumption will increase further, creating a problem for environmentally conscious operators looking to fulfill their environmental, social, and governance (ESG) objectives without compromising user Quality of Experience (QoE).

According to ABI research, mobile data is seeing a compound annual growth rate of 32 percent. "We see video streaming and gaming as key drivers of this growth," states Fei Liu, Industry analyst, ABI research. "As such it is essential to consider how these flows can be optimized for delivery both in terms of resources used and user experience."

Enea's traffic management solution automatically optimizes video content streaming in real-time so the amount of data being transferred can be reduced without affecting QoE. According to the research, once deployed, the solution could lead to a 20 percent reduction in the amount of data needed to deliver video at the same perceived quality, resulting in average energy savings of more than ten percent across the network. Based on the average wholesale price of electricity, this could save a typical operator ten million dollars annually.

How the solution works
The packet gateway in 4G and user plane function in 5G are critical components when analyzing data flow between devices and the internet, such as data metering. However, these components do not have the necessary capabilities to detect the *category* of content, so cannot differentiate between video streaming and other forms of traffic flow, such as downloading or updating software applications.

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According to the report, the Enea 5G Service Engine can make such distinctions for both 4G and 5G traffic, allowing video streaming flows to be automatically optimized independently of the content provider or end-user. Crucially, the content is never decrypted, so net neutrality is preserved.

Impact on quality of experience
The report offers a typical scenario where content providers automatically match video streaming to the available bandwidth. As network access improves, this often results in ultra-high definition (UHD) video content being streamed to mobile devices with small screens. As the resolution increases, so does the demand on bandwidth and physical resources. One hour of HD video (1080p) will consume four times more data than one hour of DVD quality (480p) streaming, but with no noticeable difference to an end user on a mobile device.

Enea's traffic management solution takes advantage of this fact, optimizing the amount of data needed to transfer video to the end user while constantly monitoring QoE. If a user wishes to access a higher resolution, they can override the settings from their device.

According to the report's findings, by managing the network so that fewer bytes are transferred to individuals for an experience of the same perceived quality, operators will be able to onboard more users and allow their network resources to go further, creating a path for growth in a video-heavy traffic environment. "Operators need to deliver a quality network experience to end-users to be competitive, but they also have to contend with rising costs due to energy prices." says Osvaldo Aldao, VP and Head of Telecom Product Management, Enea. "These costs can't be simply passed on to the end-users. The Enea traffic management solution is the answer to maintaining a great user experience and handling high density traffic like Video; this means the data volume is reduced, and this will directly drive down the energy consumption."

Notes to editor: https://www.enea.com/saving-telecom-energy

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About Enea

Enea is a world-leading specialist in software for telecom and cybersecurity. The company's cloud-native solutions connect, optimize, and secure services for mobile subscribers, enterprises, and the Internet of Things. More than 100 communication service providers and 4.5 billion people rely on Enea technologies every day.

Enea has strengthened its product portfolio and global market position by integrating a number of acquisitions, including Qosmos, Openwave Mobility, Aptilo Networks, and AdaptiveMobile Security.

Enea is headquartered in Stockholm, Sweden, and is listed on Nasdaq Stockholm.

For more information: www.enea.com