Netskrt

Finding Certainty in Uncertain Times

The last few years are without parallel in British rail. A global pandemic, economic shutdown, rail traffic plummeting to levels not seen since the reign of Queen Victoria, and (yet again) a regulatory restructuring of the passenger rail ecosystem.

To say that these are uncertain times understates the magnitude of what has transpired. Fortunately, there are a few aspects of rail travel that have increased in certainty: passengers want internet connectivity and streaming video is the number one use for that connectivity.

The fact that internet connectivity is viewed by passengers as a necessary (and, ideally, free) service has been understood by UK rail operators for quite some time. The delivery of this service, however, has been imperfect at best. The most recent **national rail passenger survey**, conducted in early 2020 by Transport Focus, showed internet connectivity ranking dead last in terms of passenger satisfaction, well behind the cleanliness of toilet

facilities and the availability of helpful staff. Strictly speaking, this is not the fault of train operators; they have had to rely on intermittent and limited-capacity cellular connections and, more importantly, streaming video threatens to swamp whatever capacity they make available.

The increasing dominance of streaming video (aka, internet video, OTT video) has been in the making for years but has been cemented by Covid-19. Prior to the onset of Covid-19, we were already well on our way towards the complete elimination of 'linear TV' (e.g. cable and satellite), in which someone else figures out what you want to watch and when you want to watch it, and moving toward streaming, in which the consumer makes those decisions. Given Covid's stay-at-home strictures, consumption of streaming video has only accelerated. Passengers, having become accustomed to a streaming video banquet at home, obviously expect the same while travelling.

But this transition to streaming portends a radical challenge for rail operators. Whereas train-to-internet capacity has always

been constrained, streaming requires as much as 100 times the capacity of web browsing and email. Widespread deployment of 5G infrastructure at best only slightly ameliorates this problem, it doesn't make it go away. Clearly, rail operators need a new and innovative approach to this dilemma.

Some rail operators have tried 'walled-garden' video-on-demand (VOD), in which a library of content is licenced by the operator and made available to passengers via onboard servers. But passengers have spoken pretty clearly on this matter – they already subscribe to a variety of content sources and only want the rail operators to enable access to them. They really don't need the rail operators to guess what they might want to watch.

An Old Approach is New Again

Since its inception, the internet has always wrestled with the problem of delivering a satisfying consumer experience in the face of capacity limitations. The solution has been content delivery networks (CDNs), which store frequently requested

content closer to the end-user. CDNs are what allow us to watch streaming content from, say, BBC iPlayer at home in high-definition with minimal delay and zero re-buffering. The challenge for rail operators is how to replicate that experience on rapidly moving rolling stock.

Ideally, CDNs would be extended to the train but, unfortunately, existing CDN technology does not allow that. Fortunately, Netskrt Systems offers a solution.

Netskrt eCDN: Giving Passengers What They Really Want

To address this, Netskrt Systems has developed the edge content delivery network (eCDN) to enable

streaming video, everywhere. This advanced technology augments existing CDNs, enabling them to reach unserved or poorly served locations. It combines edge caching with cloud-based analytics and dynamic network adaptation. The edge software is positioned at the 'absolute' edge, allowing users to leverage their existing internet video subscriptions in a manner indistinguishable from what they enjoy at home.

As the needs of the passengers have evolved, smooth and flawless internet connectivity has become an indispensable part of the rail travel experience. The Netskrt eCDN

has been developed to offer optimal and unfettered content delivery to rail passengers. With a commitment to provide a 'connected future to the passengers, this incredible technology decreases congestion on 5G rollouts and offers unlimited entertainment choices to passengers, thereby delivering on the promise of streaming internet video, EVERYWHERE!
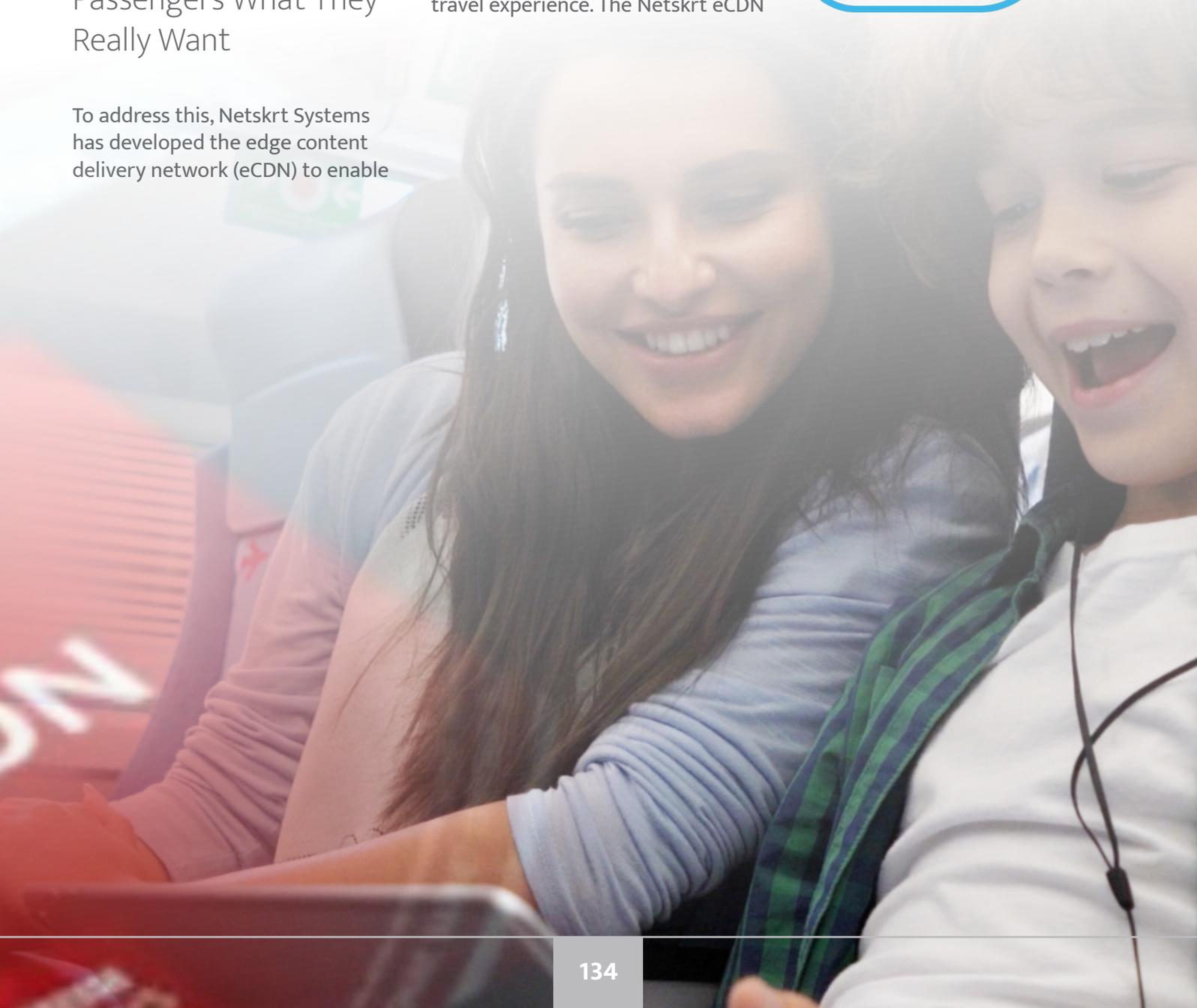
GIVE PASSENGERS WHAT THEY REALLY WANT

A seamless internet connection is an indispensable part of the rail travel experience. The solution to overcome the limitations of internet capacity lies within CDNs that bring content even closer to the end-user. Netskrt is enabling users to enjoy buffer-free HD video streaming, EVERYWHERE, by augmenting existing CDNs to deliver a connected future.

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