Tata Communications Deterministic Edge Transmission

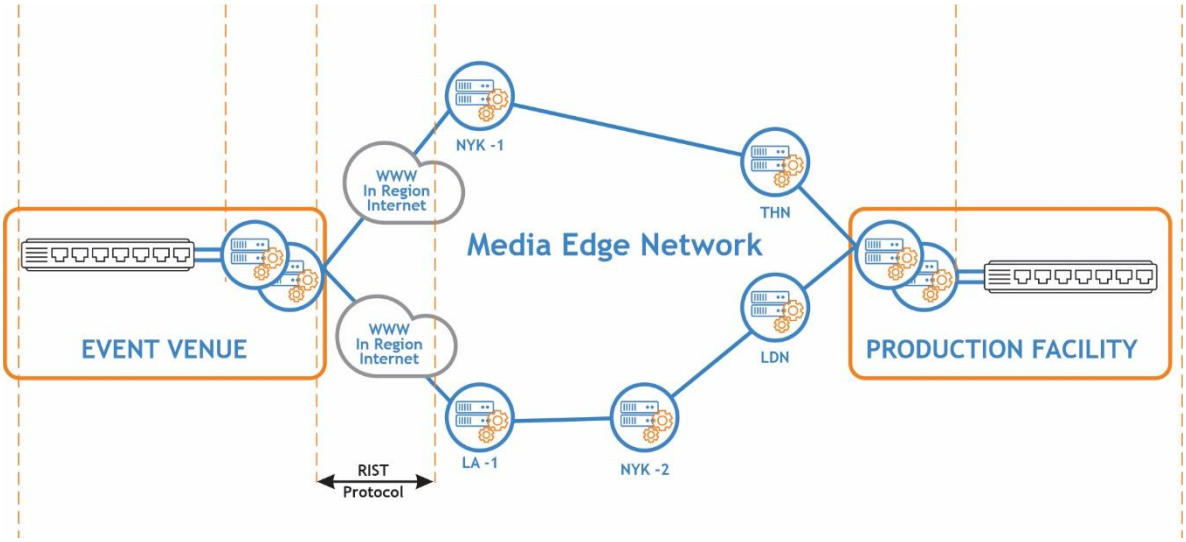
Media Edge Deterministic Transmission Platform Over Public Internet

As video workflows become increasingly distributed, the ability to distribute reliable, high-quality video and different types of networks has become ever so important. Tata Communications' global Media & Entertainment business operates one of the world's largest media networks, combining our expertise as a global tier-1 connectivity provider with our end-to-end media ecosystem to enable a comprehensive range of solutions for broadcasters, content owners, sports, and video streaming companies. Over the last three years Tata Communications has taken distribution to the next level with deterministic transmission of video feeds at scale over the public internet.

The Media Edge Deterministic Transmission Platform over Public Internet enables software defined deterministic transmission of LIVE low latency video feeds through internet at scale to support cloud and remote production. The same platform can be used for distribution of produced TV feeds to rights holding broadcasters, replacing legacy satellite and fibre solutions. This precision engineered IP platform uses a vast internet AS network and peering agreements to enable transmission of video feeds through the public internet with high quality and low latency. Tata Communications has built a vast array of Edge GPU/CPU nodes at strategic points in its network around the world that add intelligence and software defined capabilities to the deterministic IP network fabric.

Product highlights:

- Deterministic transmission over public AS networks – control routing for customers' video feeds over the internet
- True resilience even over public internet – with demonstrated diversity on the video paths
- 2022-7 seamless protection for the video overlay feeds
- Software defined orchestration and flexibility – a web portal where inputs can be matched to destinations, rights holding media companies with a simple drag and drop feature
- Packet loss recovery through advanced low latency retransmission protocols including SRT, RIST, etc.
- End-to-end security with AES 128/256-bit encryption
- Video and audio feed timing recovery
- Seamless integration with adjacent cloud workflows like transcoding, live editing, and production
- Network health monitoring between endpoints (packet loss, latency, jitter)
- Lower cost of operations than conventional hyperscalers and public cloud solutions



Product benefits

The platform enables sports federations and broadcasters to use the public internet for lower latency video transmissions and at scale for contribution solutions for gallery based remote/ cloud production. This significantly lowers the cost of the workflows and the latencies achieved are like that of a fibre network. The platform can deliver the video streams in a fully resilient 1+1 manner through public internet with transmission paths under complete control of Tata Communications. The workflow operators can drag and drop input encoded streams to their destinations on an easy-to-use web portal.

Benefits to media companies, sports organisations, and content owners

It helps media companies transmit content at scale, in high quality formats and with lower latency through public internet, namely sports federations, content owners and broadcasters. It allows them to use internet, which is ubiquitous, for their video workflows and eliminates traditional problems associated with this medium - unreliability, high latency, direct routing, lack of control and high cost of public cloud/hyperscalers solutions. This opens up a new array of possibilities for these media companies allowing them to rapidly adopt internet as the default fabric for video transmission.

First use cases

A fast-growing global electric sports organisation wanted to move its onsite OB based production to a remote gallery in the UK but needed to get all the raw cameras from site using a fully public IP based solution as against the conventional approach of using fibre. Tata Communications' Media Edge Deterministic Transmission Platform was the ideal fit. They realised that they could get 85 cameras from 14 race locations back to the remote gallery in the UK reliably and with a latency similar to a fibre solution at a significantly reduced cost. Plus, the platform gave them significant control and flexibility over their workflows with drag and drop features, ability to select peering paths and partners in real time. They could on-demand and in real time send new content to their broadcasting customers, giving them unrivalled flexibility and new monetisation routes. This is one of the first applications of a deterministic edge platform at scale in the world.

Talk to one of our experts today at **MES@tatacommunications.com**