



ToughStream™ Solution Frequently Asked Questions

What is ToughStream?

Digital Fountain's ToughStream solution is designed specifically for IPTV operators who want to improve the quality of experience for their IPTV service. ToughStream essentially 'fixes' the visual and audio artifacts caused by disruptions in the delivery stream and "guarantees" a perfect viewing experience for the customer.

What makes ToughStream so good?

ToughStream leverages Digital Fountain's DF Raptor™ FEC codec, an award-winning technology recognized and deployed throughout the world for best practices in digital media delivery. DF Raptor enables real-time, perfect streaming with the least amount of bandwidth overhead, lowest computational requirements, and highest packet loss protection. DF Raptor has been recognized by numerous international standards bodies, including DVP-IP, ETSI, IETF, ATIS and ITU-T, as a component for their standards in IPTV delivery.

Is ToughStream deployed today?

Yes. ToughStream has been deployed by IPTV operations across the world including the United States, Asia and Europe.

Can ToughStream improve the quality of experience for IPTV customers?

Yes. ToughStream fixes the root cause of IPTV quality of experience problems – packet loss. Packet loss is common in ALL IPTV networks, and causes disruptions in the video stream that lead to pixilation, jittering, and other viewing experience problems.

Can ToughStream help reduce customer complaints?

Yes. By improving the quality of experience, ToughStream reduces customer complaints. Some IPTV service providers that have deployed ToughStream have reported more than a 50% reduction in customer service calls to their call center.

Can ToughStream help reduce churn?

Yes. Since churn is primarily caused by customers that are dissatisfied with their service, ToughStream has an extremely positive impact on reducing churn by improving the customer's viewing experience.

Can ToughStream improve High-Definition (HD) IPTV services?

Yes. Due to its inherent technology, HD is even more susceptible to disruptions in the video stream. More importantly, HD consumers are more sensitive to a poor viewing experience of a premium 'superior quality' service such as HD, and therefore far less tolerant to viewing problems. ToughStream works for both Standard Definition and High Definition IPTV services.

Can ToughStream help qualify more customers into the IPTV service?

Yes. The primary reason for disqualifying customers from an IPTV service is an unacceptable level of quality due to a higher rate of disruptions to the video stream. ToughStream fixes those disruptions, allowing more customers to be qualified in to the service.

If my network team tells me my error rate is low, do I still need ToughStream?

Yes. A more important measure of the requirement for ToughStream is the number of complaints regarding quality of experience. Though the overall average error rate may be low, it is more important to note when the errors are actually occurring, since the majority of errors will appear during prime time programming, which is highly disruptive to the customer.

Does ToughStream require large amounts of extra equipment that add complexity to the network?

No. ToughStream is an extremely efficient application layer solution that only requires a small number of servers to be placed in the headend and software to be installed in the set top box.

Does ToughStream require RTP?

No. RTP is not required, but is supported.

How long does it take to implement ToughStream?

Since ToughStream does not require changes to your network it can be deployed extremely quickly. The only development required is the installation of the ToughStream receiver on the set top box.

For more information about Digital Fountain® ToughStream visit www.digitalfountain.com/iptv