

Fiber Fidelity

Shaping brilliant user experiences

A new standard for services
in broadband networks

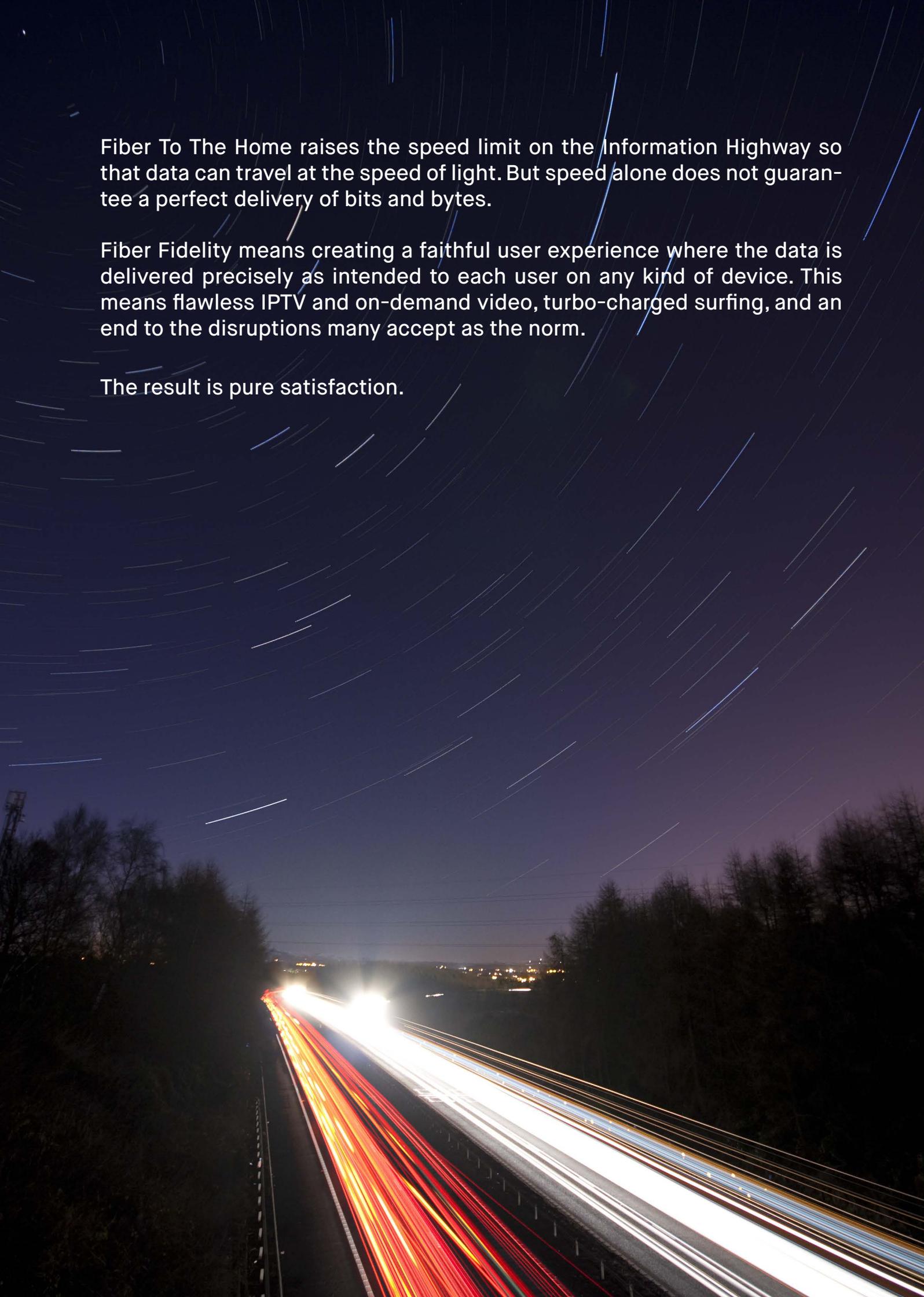


waystream

Fiber To The Home raises the speed limit on the Information Highway so that data can travel at the speed of light. But speed alone does not guarantee a perfect delivery of bits and bytes.

Fiber Fidelity means creating a faithful user experience where the data is delivered precisely as intended to each user on any kind of device. This means flawless IPTV and on-demand video, turbo-charged surfing, and an end to the disruptions many accept as the norm.

The result is pure satisfaction.



From Pure Light To Pure Satisfaction

Imagine the seven-year old girl
chatting with grandparents far away



Imagine the family gathering to watch
the World Cup football match

Imagine the young couple sharing
a movie for the first time



Some experiences leave no room for failure



In FTTH, satisfaction demands flawless performance.
Start shaping brilliant user experiences today.

Fiber Fidelity

*Fiber networks do not just transport bits and bytes at amazingly high speed.
They deliver a total user experience.*

Anyplay services

FTTH provides numerous consumer entertainment services, such as broadcast TV, Video on Demand and streaming music services. Internet access over broadband is used for bi-directional communication, searching the web, keeping track of friends on social media, as well as sharing our lives and events. Irreplaceable memories are stored online as cloud backup of our photos and movies. The possibilities are endless.

Anytime availability

To access the network we use more devices than ever before. Smartphones, tablets, laptops, flatscreen TVs and PCs. Smart TVs and Bluray players are equipped with Ethernet ports or even WiFi connectivity, security systems have CCTV devices that let us view our homes over an Internet connection. Game consoles play online and VoIP replaces fixed line telephony for many users. Reliable access is paramount.

Fiber speed is not Fiber Fidelity

At the center of this vortex of information is the fiber network. While the fiber in itself has unlimited capacity to carry all kinds of communication allowing us to share experiences and moments, the network equipment has limitations. The equipment can become a bottleneck where the order of bits and bytes does matter because this order shapes the experience to the human user.

Standard switches do the job the best they can - they forward the packets. Often, they must drop a few data packets which have to be resent. The packet loss turns into freezing pictures, loss of services or slow downloads. Many operators consider that this is unavoidable and accept these limitations - even when it interferes with the user experience.

Best effort is not Fiber Fidelity

At Waystream, we think differently. Frozen pictures on the Internet TV is not acceptable. Slow downloading when multiple users are logged in at the same time is not acceptable. Dropping packets that should have been queued is not acceptable.

Fidelity is about being true to the source, about delivering the same quality at the destination as it was at the source. High fidelity emerged as a quality stamp for audio equipment - music played on HiFi equipment would deliver the same sound quality as when the recording was made. Fiber Fidelity is also about quality. A network built with Fiber Fidelity delivers uncompromised quality on services. Streaming media, TV, Internet and other services operate flawlessly and the user experience is true to the source. The technology does not interfere with the human experience.

Fiber Fidelity ensures that the seven-year old girl's video chat does not get disrupted, that the family's World Cup program does not freeze, and that the romantic movie does not suddenly start to buffer during playback.

A Fiber Fidelity network has satisfied users which gives low churn and strengthens brand confidence for the service providers. A Fiber Fidelity network delivers FTTH services as the originator intended. Fiber Fidelity is a promise that the technology delivers a true user experience.

Introducing the

ASR6000

Layer 3 FTTH switch

For true Fiber Fidelity



How to get Fiber Fidelity

Key features required to shape a brilliant user experience.

Shaping and fair queuing

Shaping traffic means that the switch queues packets when there is not enough room on the link, or in the service. Shaping avoids packet drops and makes a huge difference for delivering stable Internet services.

However, the capability for shaping in itself is not sufficient! When many users and applications are competing for the same bandwidth, more measures are required to achieve Fiber Fidelity.

With fair queueing technology, it is possible to prevent a single traffic flow from monopolizing all of the bandwidth and thereby blocking everyone else. More users can do more at the same time without disruptions to the services.

Our switches support shaping in both directions (ingress and egress) and Weighted Fair Queueing. When these are combined, the switches can make intelligent and complex decisions about priorities and therefore deliver the perfect user experience. Unspoiled. Flawless.

Quality control and SLA measurements

To be aware of a problem, is the first step to correcting it. There is a reason for all the products used to capture and analyze IPTV. IPTV is an fault sensitive service. Whenever there is a problem with IPTV, the user notices it immediately.

Our switches have a built-in probe that captures and verifies MPEG TV quality. In a few seconds, you will see what your users see and be able to fix it before it becomes a major problem. To quickly detect quality issues in the network for TV and other services makes it possible to work proactively and prevent small issues from becoming large problems.

Our switches also improve the ability to react to problems and shorten the time it takes to restore full service functionality.

Flexibility and programmability

There are as many ways to build broadband networks as there are broadband network operators. Using network processors, our switches are not limited by functionality or topology, like many of the plain and simple switches used today.

A network processor allows us to program and expand functionality so that it fits with the topology and the tools used by a network. Our switches can provision services themselves, or together with service routers. Our switches can classify traffic and determine quality of services by themselves, or together with central provisioning systems. Our switches can inspect traffic and determine quality by themselves, or together with other tools.

The power of a network processor gives our products and your network the ultimate toolbox to create and deliver true Fiber Fidelity.

Our switches give you the ability to do more to keep your users satisfied, to go that extra mile that will make a difference. To make the user experience brilliant.



Introducing the

MetroStar 4000

Layer 2+ FTTH switch

For true Fiber Fidelity

How to get Fiber Fidelity

From more than a decade of working with FTTH, Waystream knows that the user experience depends on the network ability to classify, prioritize and treat traffic individually. With over a million ports deployed, we know that what matters most is the equipment you build the network with, rather than how it is built. We know that you need tools to detect and fix problems before they affect the users. We know that you need features to promote the user experience.

We also know, that what is important to one user, be it consumer or business, may be different for another user. For example, access to the Office365 service might take precedence over Facebook. The video call to grandma might be more important than the bit torrent session.

Our access switches are specifically designed for Fiber Fidelity. Each switch is built for technical excellence and with hardware features that make it possible to consistently deliver the pure user experience.

Our switches have the capability to recognize different traffic flows and to then queue, prioritize and distribute bandwidth fairly between them. The switches can assign higher priority to specific types of traffic and let non-essential services wait a little longer.

Our switches are smart enough to detect if something is wrong in the network traffic. They provide the tools to troubleshoot and correct problems before they become a serious issue and affect the user experience.

Our switches are built for FTTH deployment. All connectors are in the front and a small form factor makes them fit into any installation.



MS4000 Gigabit Ethernet L2+ FTTH Switch



ASR6000 Gigabit Ethernet Layer 3 FTTH Switch



MPC480 Edge Router

We are... Waystream

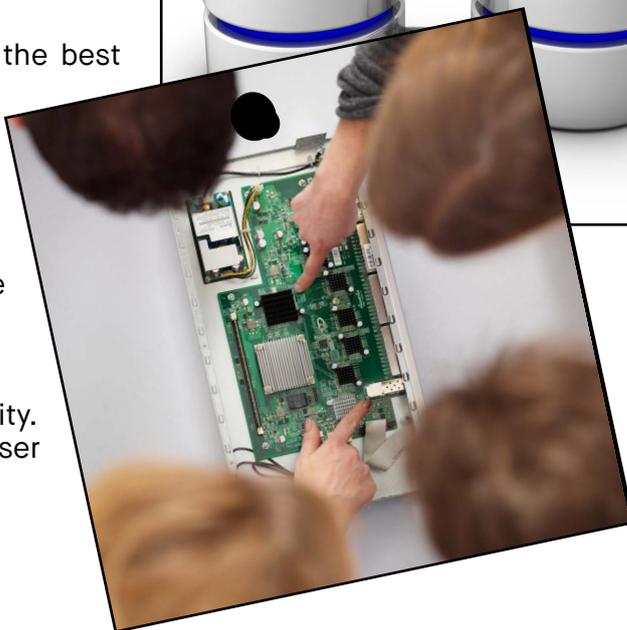
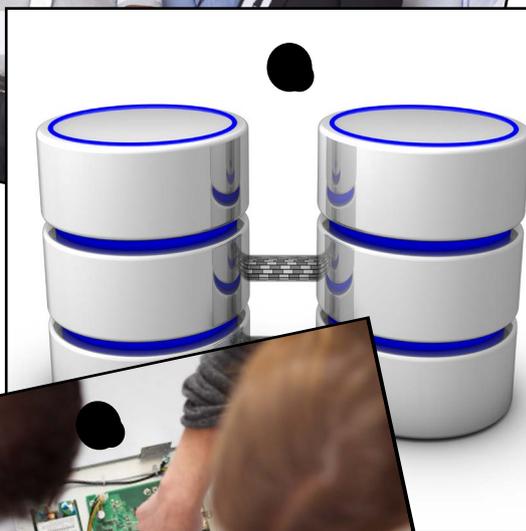
Waystream originates from the PacketFront Group that was founded in 2001. As pioneers in the FTTH industry and promoters of the first True Broadband networks, we are passionate about fiber networking.

For over a decade, we have developed, manufactured and shipped innovative access switches to some of the most successful FTTH networks on the planet. Our products are renowned for their quality and ability to deliver where others fail.

We have shipped over a million access ports and are now producing our third generation of fiber switches. Our FTTH switches are filled with unrivalled features for ensuring true Fiber Fidelity.

Our customers tell us that we provide the best FTTH access products. The proof is the continued deployment of our switches at the heart of successful FTTH networks to ensure that the data bits and bytes are safely delivered and create flawless user experiences. Every user. Every service. Every day. That is true Fiber Fidelity.

Don't settle for less than true Fiber Fidelity. Let Waystream help you shape brilliant user experiences for your customers – today.



To join the increasing number of successful FTTH companies using our access products, contact sales@waystream.com

A man in a dark suit and white shirt is sitting on an orange stool. He is holding a silver network switch in his hands. He is wearing a watch and a ring. The background is a bright, modern office space with large windows. The top of the image has a blue, abstract, glowing pattern.

Our switches make network operations smoother and, most importantly, ensure that the technology does not fail to deliver the user experience.

We call this Fiber Fidelity and it sets a new level of expectation on Fiber To The Home networks.

Johnny Hedlund, CEO Waystream



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