EnGenius AVXpress

Intelligent Traffic Prioritization Technology
for Optimal AV Application Performance

The Necessity of Advanced AV Solutions in the Digital Age

In the modern digital era, high-quality audio and video communication are vital for remote work, learning, and entertainment. However, AV applications often suffer from delays and bandwidth congestion, leading to a degraded user experience. EnGenius' AVXpress is essential for any organization looking to boost network reliability and prioritize bandwidth for critical applications.

Enhancing AV Performance with AVXpress Technology

Designed for EnGenius Access Points, AVXpress boosts AV-related applications by smartly managing and prioritizing network traffic. It ensures seamless operation of services like voice and video calls, streaming, and gaming across both wired and wireless networks during peak times. With application-aware traffic shaping and a one-click prioritization function, AVXpress consistently enhances network performance in high-traffic scenarios.

Flexible and Integrated Access with AVXpress

Additionally, AVXpress is available on both the EnGenius Cloud and FitXpress platforms, offering flexible access and smooth integration for all users. This feature is invaluable for enhancing digital experiences in both professional and leisure contexts, leading to increased satisfaction and operational efficiency.

Key Benefits of AVXpress

Stabilized and Efficient Network Operations

AVXpress minimizes congestion and stabilizes performance, enhancing reliability and ensuring smoother operations across all connected devices and AV-related applications.

Optimized Audio and Video Application Experience

AVXpress allocates essential resources to AV applications, significantly enhancing user experiences in voice, video conferencing, streaming, and gaming without lags.

Consistent Network Performance Across Wired & Wireless Networks

It guarantees that application traffic from wireless clients retains its "Express" priority as it moves through the network, from EnGenius Access Points to EnGenius Switches, ensuring uniform performance across all network segments.

One-Click Setup for Instant Network Optimization

AVXpress features a simple, one-click prioritization interface, streamlining network optimization and enabling easy adjustments for immediate enhancement.

How AVXpress Solves Your AV Communication Challenges in Seconds

Today's digital environments demand uninterrupted service for critical applications like voice, video conferencing, online gaming, and multimedia streaming. Common obstacles include:

Challenge

Wi-Fi and LAN Congestion:
High connectivity and data activities lead to network slowdowns, impacting essential services.

VLAN Limitation:
In environments with diverse applications, VLANs often struggle to ensure priority for critical, time-sensitive traffic such as video calls.

Solution

AVXpress uses advanced **application-aware traffic management** to optimize data flow across Wi-Fi and LAN networks while enhancing VLAN performance with **dynamic traffic shaping**. By prioritizing network traffic based on application needs, it ensures that critical, time-sensitive traffic, like video calls, operates efficiently, even in complex environments and under high connectivity loads.

Challenge

Challenges in Identifying Traffic Types:
Effective prioritization is hindered by the inconsistent application of Wired Priority and operating system constraints that can overwrite or ignore these settings.

Solution

AVXpress leverages **Layer 7 awareness** and **deep packet inspection** to accurately identify and classify network traffic, enhancing prioritization for a smoother network experience. It dynamically assigns priorities in real time, mapping specific traffic types to their corresponding applications, effectively managing traffic types and resolving inconsistencies, ensuring reliable traffic prioritization.

Challenge

Complex Configuration Interfaces:
Existing solutions often feature intricate and non-intuitive configuration settings, creating significant barriers, especially for users without advanced technical knowledge.

Solution

AVXpress simplifies network setup with a **one-click mechanism** that instantly prioritizes high-demand AV applications such as voice communication, video conferencing, streaming, and gaming. Our interface streamlines application prioritization, making it effortless even for users without technical expertise.

# Exploring More About the Core Technologies Behind AVXpress

Intelligent Application-Aware Traffic Optimization

Application Identification and Classification:

AVXpress utilizes Layer 7 awareness and deep packet inspection to accurately identify and classify network traffic. This precise identification enhances traffic prioritization, ensuring a smoother and more reliable network experience.

Dynamic Traffic Priority Marking:

The system dynamically assigns priorities in real-time as it identifies various applications, effectively mapping specific traffic types to their corresponding applications. This approach addresses inconsistencies where time-sensitive applications are treated as general traffic due to system defaults. It ensures high-priority traffic is consistently recognized and managed, providing reliable prioritization for critical applications.
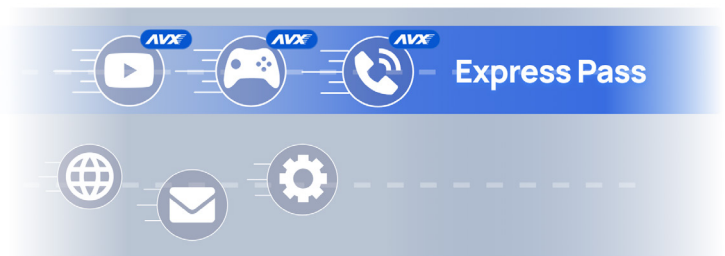
Consistent Data Prioritization Across Wired and Wireless

From Wireless to Wired:

Converts Wireless Priority from wireless devices to equivalent Wired Priority on the wired network, maintaining original priority settings.

From Wired to Wireless:

Maps Wired Priority from the wired network to appropriate Wireless Priority for wireless traffic, ensuring quality of service continues seamlessly across network transitions.

Instant Priority Boost for AV Applications with One Click

AVXpress features a one-click mechanism that instantly prioritizes traffic for key AV applications like voice communication, video conferencing, multimedia streaming, and online gaming. This functionality enables network administrators to quickly elevate these applications to the highest priority level, ensuring they receive the necessary bandwidth and processing power for seamless operation during peak traffic periods.

Performance Test Result
AVXpress and its Improvement on Video Call Latency

This test was to evaluate the effectiveness of AVXpress in reducing latency during video conferencing sessions. The goal was to ensure latency levels remain well below the industry-recommended threshold of 300 milliseconds to avoid any degradation in communication quality.

Without AVXpress

With AVXpress

*Source: EnGenius Test Lab —— Average Latency (ms)

Without AVXpress:

Prior to deploying AVXpress, video conferencing sessions typically experienced latency closer to or exceeding the 300ms threshold, which often led to reduced clarity and lag in communications.

With AVXpress:

With AVXpress activated, the average latency was significantly reduced, consistently staying below 100 milliseconds. This improvement not only exceeds industry standards but also substantially enhances the stability and quality of video conferencing connections.

AVXpress Solutions for Diverse AV Applications

AVXpress effectively resolves a broad range of AV-application challenges, ensuring optimized performance and reliability for video conferencing, remote activities, content creation, and multimedia entertainment.

Optimizing Video Conferencing in Offices

`Virtual Meetings` `Team Collaboration`

- Ensures high-quality, stable video calls during meetings.
- Boosts collaboration and communication efficiency.

Remote Work and Learning

`Cloud Services Access` `Online Classes`

- Ensures high-quality, stable video calls during meetings.
- Boosts collaboration and communication efficiency.

Multimedia Content Creation

`Data Transfer` `Cloud Storage`

- Speeds up large file uploads to platforms and cloud storage.
- Enhances collaboration and workflow efficiency..

Streaming and Gaming

`Video Streaming` `Online Gaming`

- Reduces lag and buffering in streaming and gaming.
- Ensures a seamless entertainment experience.

Compatibility and Accessibility of AVXpress

Supported Access Points

AVXpress is available on all EnGenius Wi-Fi 6 and Wi-Fi 7 Access Points, delivering cutting-edge technology without requiring additional hardware upgrades.

Supported Platforms

Fully supported on the **EnGenius Cloud** and **FitXpress** Managed platforms, accessible through both web portals and mobile applications for versatile management options.
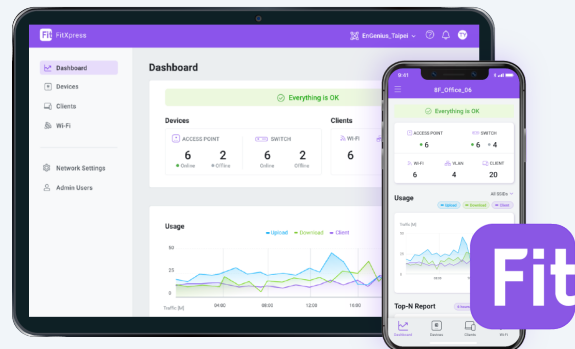
Cost and Licensing

- Full access to AVXpress features without any additional costs.
- No separate licenses required.