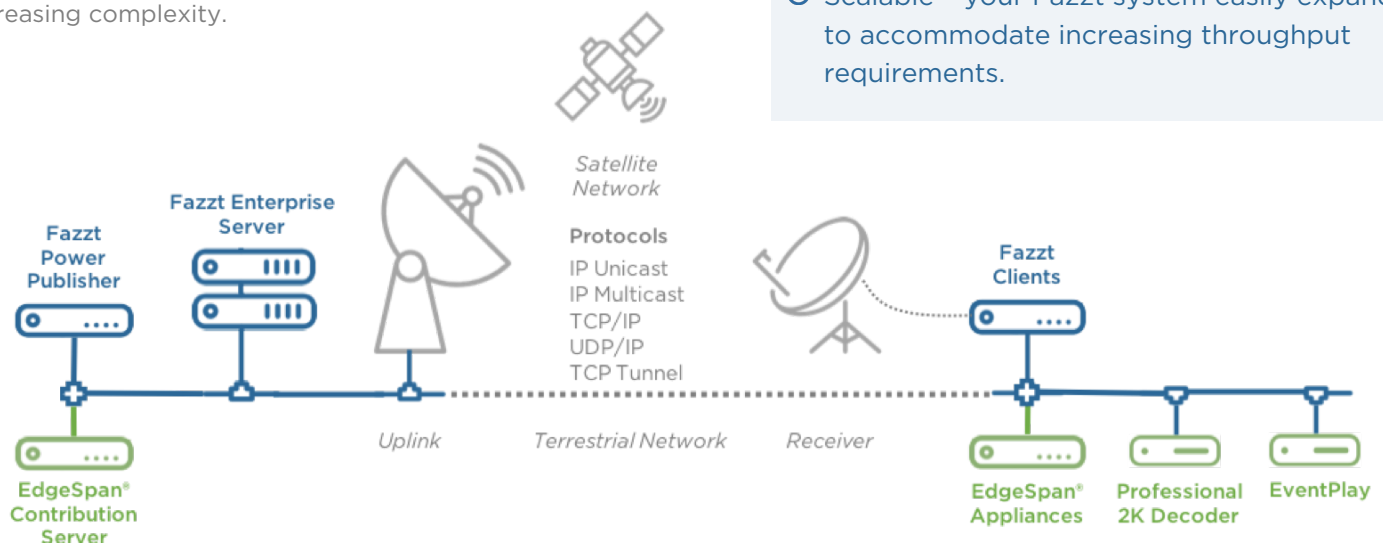# FAZZT® 9 DIGITAL DELIVERY SYSTEM

INTRODUCTION

Fazzt® (pronounced "fast") is a secure, efficient and powerful end-to-end system for moving any type of file or stream between senders and diverse recipients. It has been actively developed and deployed for more than two decades and is used by the US Military, leading motion picture studios, global retailers and other exacting customers, to securely exchange information with tens of thousands of far-flung sites.

Ten years ago, satellite networks were far more cost-effective than terrestrial for broad content distribution. More recently, there has been a shift toward terrestrial networks due to higher bandwidth and lower costs. However, in the next 2-3 years, that trend will reverse as high-throughput LEO and MEO constellations are turned on. Our customers value the ability to manage both satellite and terrestrial networks with a single system, giving them the ability to switch between them and reduce costs without increasing complexity.

BENEFITS

⊘ Reliable – uses multi-patented, lowest-overhead Fazzt Forward Error Correction (Fazzt FEC®) for flawless file and streaming reception, plus validation at the receiving end.

⊘ Flexible – satellite and landline; one- and two-way; IP Multicast and point-to-point; files and streams; stationary and mobile; software, appliance and cloud.

⊘ Secure – uses military-grade encryption and also supports user-specified encryption methods.

⊘ Fast – a single server can deliver many Gbps.

⊘ Scalable – your Fazzt system easily expands to accommodate increasing throughput requirements.

One big difference between satellite and terrestrial (e.g., TCP/IP) networks is error checking. Where TCP/IP performs error checking and retransmission automatically, the unidirectional nature of satellite networks and the need for line-of-sight make them prone to errors or interruptions, and require costly retransmissions.

The technical cornerstone of Fazzt is our Forward Error Correction, which overcomes these limitations. Fazzt FEC® uses proprietary mathematical algorithms that typically add an extra 2% to 5% to the size of a transmission. If *any* set of packets equal to the initial payload size is received, the original can be flawlessly reconstructed.

KenCast®

HIGHLIGHTS

Forward Error Correction
Uses Fazzt FEC® (Forward Error Correction) to efficiently repair data lost in transmission. Works for files as well as live streams.

Integrated management
Built-in web GUI to manage and monitor hardware and software. Network management simplified by SNMP support and alarming.

Military-grade Encryption
Our releases are compliant with Federal Information Processing Standard (FIPS) encryption, and support industry standards like AES-256.

File Packager
Similar to Zip or Tar, lets users conveniently bundle together many small files or break very large files into manageable parts.

Multiprocessing & Redundancy
Can be configured to run on a group of co-located servers, which interact with and provide automatic backup for one another.

Receive-side Validation
In concert with Fazzt FEC, file validation is performed automatically upon receipt.

IPTV Video and Recording
In addition to supporting live streaming, supports dynamic authorization, recording and on-demand streaming.

Dynamic Channels
Multicasts files and/or streams across multiple communications channels. Can filter/tune among incoming channels. Users pause, resume or disable as needed.

Bandwidth Management
Reservation parameters, like priority, let administrator manage channel-sharing via subchannels. Forecasts upcoming bandwidth usage.

Selective Reception
Receive-side can select from a list of upcoming transmissions on an individual file basis (via carousels) or by group.

Queue Management
Controls transmission priority, including override priority for urgent transmissions. Users can also define their own queues.

Tunneling
Multiple publishers can control their own content, authorization, channels, while sharing the content delivery service of a Fazzt Enterprise Server.

Rule-Based Forwarding
Automatically retransmits incoming content matching configured rules based on file-names, channels, categories, etc.

In-Place Software Upgrades
Updates are centrally deployed by a single transmission from the central server to a select group of connected servers and receivers.

BLAZEBAND®

Blazeband provides a powerful mechanism for accelerating content delivery over IP networks. It works on point-to-point links to maximize the bandwidth utilization while maintaining high reliability. The result is that files are transferred several times faster than traditional methods such as FTP or HTTP.

TCP protocols can be inefficient, especially over links with high packet loss. Blazeband uses accelerated UDP (User Datagram Protocol) to overcome TCP's limitations. Because UDP packets are not error-corrected, they flow very quickly. And by adding Fazzt FEC, we overlay our own one-way error correction to ensure fast, flawless delivery.

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