DIGITAL CINEMA SOLUTION

KenCast

INTRODUCTION

More than a decade ago, the first digital movie projectors were installed in a handful of pioneering theaters. At the time, movie prints were shipped to theaters in sets of multiple reels. The process was cumbersome, error-prone, and at an average cost of $2,000 per print, broad-release films cost studios millions of dollars in manufacturing expense alone. By shipping movies on 300GB removable – and reusable – hard drives, studios saved billions of dollars.

Aided by the creation of technical standards and driven by the joint commitment of studios and exhibitors, the motion picture industry's conversion to all-digital is one of technology's greatest success stories. Despite costs of up to $100,000 per screen, virtually all of the world's 160,000 screens are digital today. But that isn't the end of the story...

In 2012, the heads of leading U.S. studios and exhibitors created the Digital Cinema Distribution Coalition (DCDC). They realized that even more cost and errors could be driven out of the process by replacing the shipment (and return) of bulky hard drives with satellite multi-casting. They selected KenCast as their technology partner, and after five years, have installed satellite dishes and KenCast CinemaPro® receivers in more than 2,500 U.S. theaters. And that figure continues to grow.
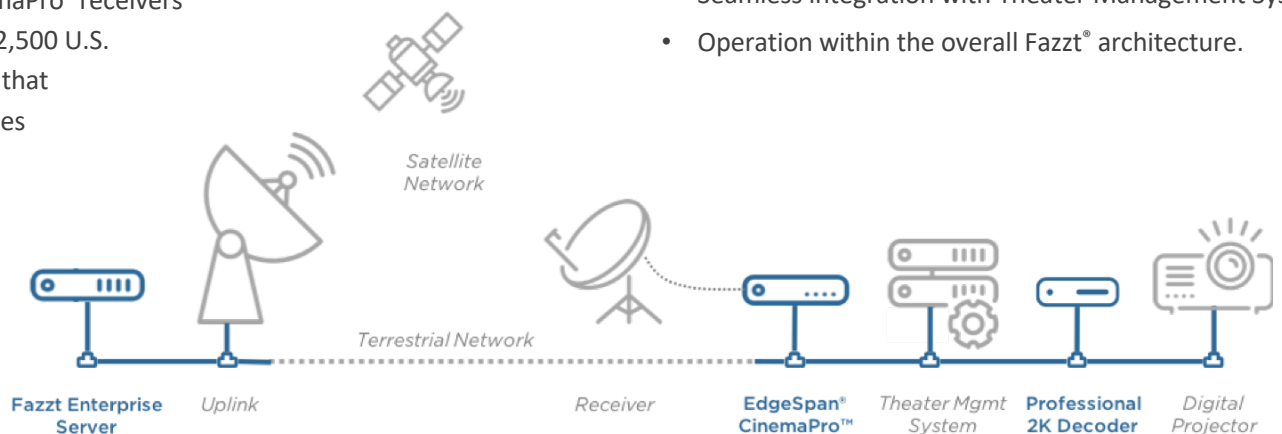
BENEFITS

- ⊘ Satellite/terrestrial DCP delivery system built to the industry's most exacting specifications. Plug-and-play simplicity and seamless integration with theater management systems.

- ⊘ Significant savings vs. physical shipments of hard disks. Also delivers ad insertions and supports live event streaming (with Professional Decoder).

- ⊘ Fazzt Forward Error Correction® optimizes transmission costs by ensuring that files are received perfectly the first time they are sent.

HOW IT WORKS

In fact, KenCast had already started adapting its EdgeSpan® client appliance for digital cinema well before it entered into talks with DCDC. It was designed to meet specific requirements:

- A stand-alone appliance, pre-loaded with software, with plug-and-play installation.
- Software-driven workflows customized for digital cinema.
- Seamless integration with Theater Management Systems.
- Operation within the overall Fazzt® architecture.

Fazzt Enterprise Server | Uplink | Satellite Network | Terrestrial Network | Receiver | EdgeSpan® CinemaPro™ | Theater Mgmt System | Professional 2K Decoder | Digital Projector

KenCast®

FAZZT DIGITAL DELIVERY

The Fazzt Digital Delivery System has been in the market for more than 20 years, and provides the rest of this solution:

- **End-to-end management** of the delivery path, including the validated receipt of Digital Cinema Packages (DCPs) – files that contain encrypted and encoded digitized motion pictures.

- **Secure delivery** via an additional layer of encryption during transit.

- **Bandwidth management** tools to maximize the utilization of satellite channels.

- **Forward Error Correction** (FEC) to insure the perfect delivery of files the first time they are sent – despite errors that may have occurred during one-way transmissions.

- **Multi-casting** – the ability to send DCPs to a specific set of recipients.

- **High availability** – a redundant and scalable head-end architecture for non-stop operation that is resistant to server outages.

- **Event Cinema support** – the ability to show live events in theaters is one of the fastest growing segments of the cinema business. (This is enabled by simply adding an EdgeSpan Professional Decoder downstream from the CinemaPro.)

KenCast has spent thousands of hours engineering the CinemaPro receiver and the corresponding capabilities of the Fazzt operating system to produce this industrial-grade solution. We continue to work closely with the members of DCDC in the U.S. to incorporate the latest requirements, now including terrestrial connectivity in addition to satellite.

KenCast Digital Cinema is a time-tested, proven solution, with more than 5,000 EdgeSpan CinemaPro units in production in the U.S., Canada, Mexico, Colombia, Argentina, Peru, and many other locations.

DIGITAL CINEMA PRODUCTS

The hub of every Digital Cinema implementation is the **Fazzt Enterprise Server** (FES). Available in single and multi-node configurations, the FES manages the end-to-end process, including sending, scheduling, bandwidth and channel management, and other delivery services. Extra nodes are used for failover and virtually linear scaling.

The **EdgeSpan CinemaPro 1000** is a stand-alone 1μ appliance that runs Fazzt Digital Cinema software on the theater premises. Like the other models, it has four Gigabit Ethernet ports and two optional satellite interfaces. It is rack-mountable and holds up to two internal hard disks.

The **EdgeSpan CinemaPro 2000** provides bays for six hot-swappable hard disks and hardware RAID, plus hot-swappable power supplies and battery backup.

The **EdgeSpan CinemaPro 3000** is our top-of-the-line appliance for the largest implementations. It holds up to eight hot-swappable drives and can be directly managed through a front-panel LCD display.

The **EdgeSpan Professional 2K Decoder** supports live streaming events (Event Cinema) for one projector in conjunction with the EdgeSpan CinemaPro.

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