ULTRA**HD**
FORUM ITALIA
Beyond Definition

HDFI • **2021 ANNUAL CONFERENCE**

15° Years Anniversary

Rome, 4 November 2021

Media industry major challenges

Content Delivery Networks (CDNs), the backbone behind media streaming delivery, need innovative solutions to overcome **Quality of Experience** and **Resources Optimization** challenges and support the transition to video online streaming
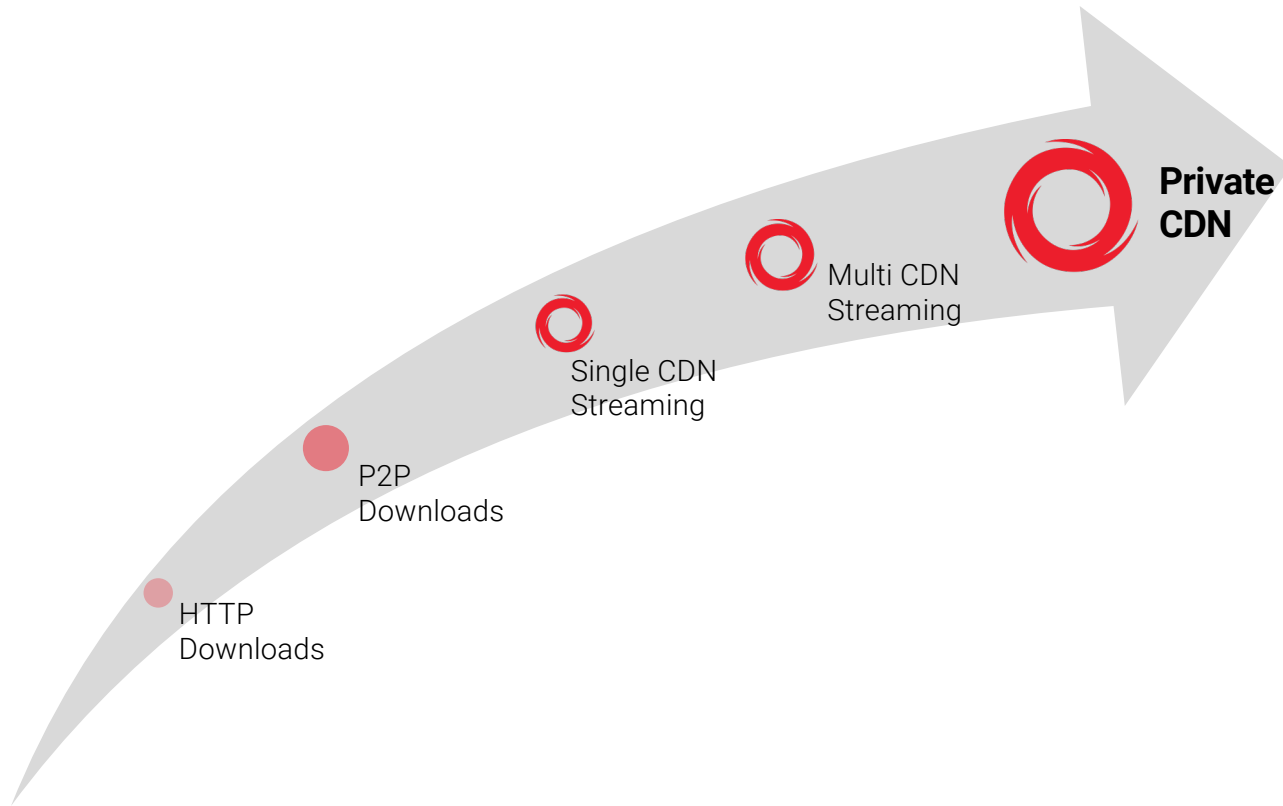

Quality of Experience

Resources Optimization

Present CDNs **cannot** deliver the **QoE that users demand**

4K demands 16 Mbps while Netflix average stream is 3.34 Mbps

The world will not be able to sustain the growth in **energy consumption**

Japan data centres will consume its entire electricity supply by 2030 if growth trend continues

Evolution of internet video

Private CDN

Multi CDN Streaming

Single CDN Streaming

P2P Downloads

HTTP Downloads

These Silicon Valley giants already know…

NETFLIX

YouTube

facebook

↓

↓

↓

Open Connect

YTCDN

FBCDN

The Solution

MainStreaming's **revolutionary AI-powered HTULL (High Throughput Ultra-Low Latency Streaming** technology enables broadcasters, telco operators, media and gaming companies to offer the best **Quality of Experience** to viewers and a financially sustainable business model for media owners
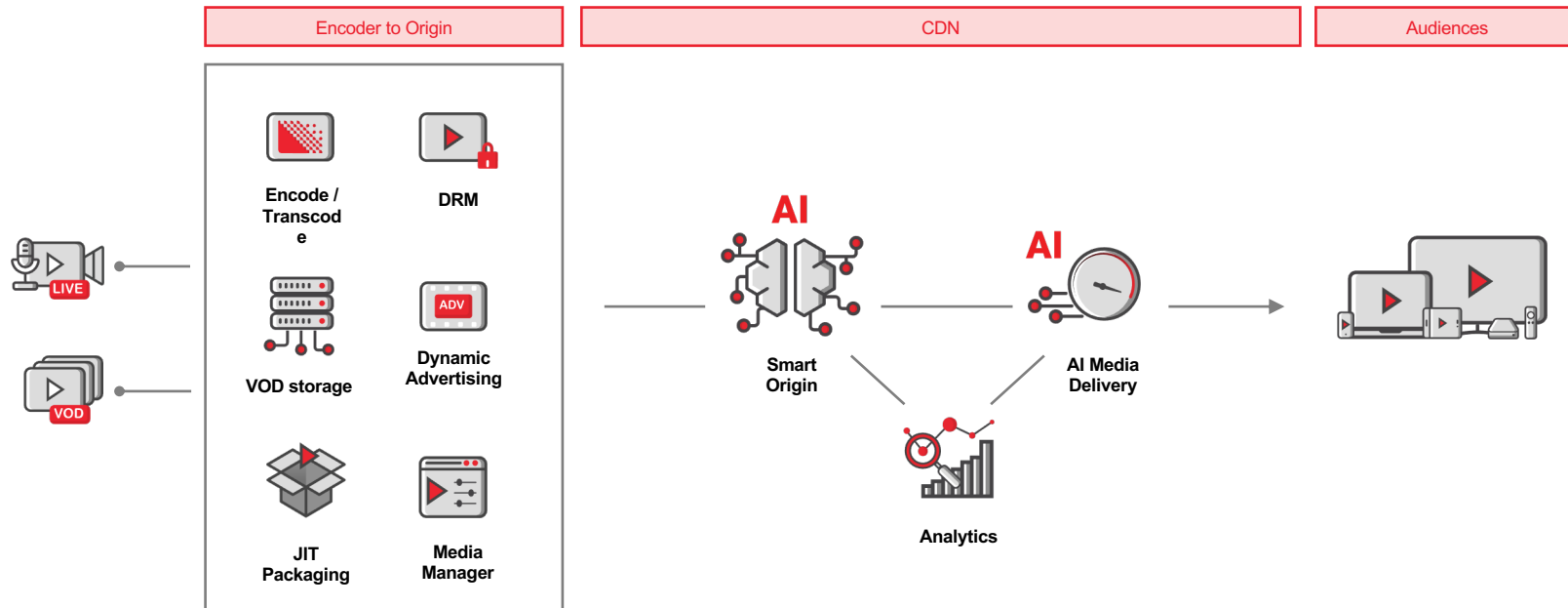
Key Advantages for Broadcasters

This allows them to:

- **Transition their business to online streaming,** maintaining broadcast- like **QoE** and managing **millions of customers and unlimited concurrent** viewers during live events

- Have a **custom** platform, **flexible and scalable** according to the needs of broadcasters enabling a new business model that is financially sustainable

- Give Broadcasters back **full governance** over the entire streaming process

Technology Overview

Encoder to Origin | CDN | Audiences

Encode / Transcode   **DRM**

VOD storage   **Dynamic Advertising**

JIT Packaging   **Media Manager**

AI — **Smart Origin**

AI — **AI Media Delivery**

Analytics

Delivery options

MainStreaming technology can easily support every type of service and business model, regardless of the size of the company or its business maturity

Global Video CDN

Provides the benefits of MainStreaming Video Delivery **QoE and allows the client to** control the video delivery capacity, without **dedicated investments and management costs**

The approach
Use **MainStreaming shared POPs** with dedicated hardware and bandwidth for each service

Business model
MainStreaming provides **guaranteed and dedicated bandwidth** for each specific location and ISP

Hybrid Video CDN

Allows to leverage the maximum performance and customization of a Private Video CDN with the flexibility of a Global Video CDN, to quickly meet Clients' business needs

The approach
Mix private CDN nodes for most important POPs and shared MainStreaming nodes for other Regions or temporary locations

Business model
A mix of Private and Global model

Dedicated Private Video CDN

Provides **full control** and allows to **plan the growth of the delivery network**, according to the business needs, optimizing **the investments**

The approach
Deploy **dedicated nodes** within selected ISPs and/or with peering, to cover specific regions/ISPs, based on customer base distribution

Business model
MainStreaming provides **equipment, technology**, **full service management** and cloud tools

Use case: in-net and off-net delivery

Hybrid Video Delivery Network built to guarantee full governance of a complex ecosystem

Ideal solution for triple/ quadruple play Operator

Scenario
Triple-play Operator with Broadband, phone and TV service
Linear channels and On-Demand service available both in-network and OTT

Goal
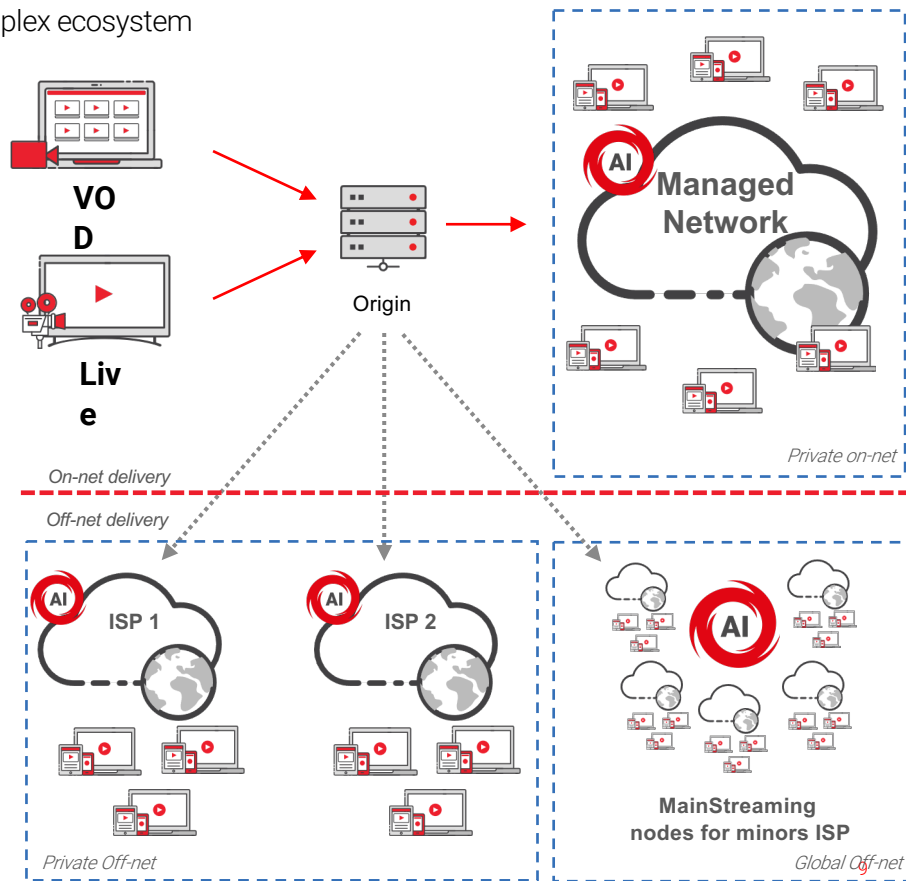Take **full control over the Video Delivery Network**, independently from the network ownership

The Solution
MainStreaming Hybrid Video Delivery Network
- **Dedicated Private Video CDN** deployments for the managed network and major service providers
- **MainStreaming shared nodes (Global Video CDN)** for minor ISPs and spill-over traffic

Benefits
- **Total governance** over the available bandwidth no longer based on "best-effort".
- **Flexible model** to support the transition toward a pure "Private Video CDN" approach

VOD

Live

Origin

Managed Network

Private on-net

On-net delivery

Off-net delivery

ISP 1

ISP 2

MainStreaming nodes for minors ISP

Private Off-net

Global Off-net

MainStreaming Benefits

Experience First

MainStreaming's AI technology guarantees the best Quality of Experience by increasing **audience satisfaction** and engagement, reducing churn, preventing **customer care calls** and improving **social feedback**

Fast Delivery

MainStreaming's intelligent delivery algorithm and **1-hop technology**, is specifically designed for video streaming in **high quality and low latency**

Stable & Proven

MainStreaming's stable and dedicated service streams content, whether live or on-demand, in real time to any connected device, **preventing impact from any other service** delivered via traditional CDN

Green Technology

MainStreaming's 15x more efficient technology **reduces** the rack space usage and power consumption **by 50%**. MainStreaming servers are located mainly within **"green" data centers**