



# **What is The Multicast Agent**

## **Overview**

The MDI Multicast Agent is a lightweight software service designed to modernize enterprise video delivery by bridging the longstanding gap between multicast-based IPTV systems and modern browser/mobile consumption. Most enterprises still use multicast to distribute MPEG-TS video streams for IPTV, digital signage, and internal live channels, yet today's users expect playback on laptops, desktops, and mobile devices that do not support multicast natively. The Multicast Agent solves this by receiving multicast traffic and instantly converting it into HLS, allowing any device on the corporate network to access live channels securely and without requiring any new hardware.

## **Core Functionality**

At its foundation, the Multicast Agent ingests standard multicast MPEG-TS streams directly from the enterprise network. It processes these packets and generates HLS segments and playlists in real time, ensuring compatibility with all modern browsers and mobile platforms. Because the agent serves content locally over the LAN, each viewer receives the stream through a simple, secure URL without rerouting traffic to central servers. This keeps traffic localized, reduces load on core routers, and ensures reliable access for users in offices, classrooms, signage clusters, control rooms, and hybrid work environments.

The agent operates entirely in software and installs in minutes on standard Windows or macOS machines. No specialized appliances are needed, and existing IPTV encoders, routers, switches, and multicast groups continue functioning exactly as they do today. The Multicast Agent becomes a seamless modernization layer that allows enterprises to extend the life of their existing video infrastructure while upgrading the viewer experience to browser-native workflows.

## **Analytics and Optimization**

A key advantage of the Multicast Agent is the real-time visibility it provides into multicast delivery. Traditionally, IT teams have struggled to diagnose issues such as packet loss, jitter, or channel instability because multicast lacks built-in analytics. The agent exposes these metrics directly, giving IT operations teams actionable insight and enabling faster troubleshooting. It also applies adaptive behavior, automatically tuning buffering and request patterns based on local network conditions. This helps prevent congestion and ensures that viewers receive the best possible experience even on networks with uneven performance.

## **Deployment and Architecture**

Deployment is intentionally simple. The agent installs like any standard enterprise application and can run on dedicated mini-PCs, signage players, or existing on-prem workstations. It supports secure HTTPS output when certificates are available and does not expose external WAN endpoints unless an organization intentionally configures it to do so. The software is designed to operate within existing VLANs or segmented networks, making it suitable for highly controlled environments such as government offices, financial institutions, and multi-building campuses.

Because the solution is software-only, organizations can scale by deploying additional agents in distributed locations or on different floors or buildings. Each agent serves its own local audience, reducing unicast duplication and minimizing backbone traffic. This architecture supports both small single-site installations and large multi-campus deployments.



## Key Advantages

The Multicast Agent provides several clear technical and operational benefits. It modernizes multicast delivery without requiring costly hardware upgrades; enables browser-native playback across all devices; and offers visibility into multicast performance that IT teams have historically lacked. It also reduces network strain by localizing traffic and relying on standards-based HLS rather than proprietary players. From a sustainability and cost perspective, eliminating set-top boxes and reducing power consumption make the solution especially attractive to organizations seeking modern, environmentally efficient infrastructure.

## Primary Use Cases

The software supports a range of enterprise scenarios, including IPTV distribution for office floors, internal broadcast channels for corporate communications, campus-wide signage networks, and live event workflows. Universities use it for classroom displays and campus channels; government agencies rely on it for public information and emergency programming; and enterprise teams use it to deliver town halls and internal streams to hybrid workforces. Future versions will extend to telecom and consumer edge environments, where a lightweight agent can simplify last-mile video delivery.

## Technical Summary

For clarity, the core technical specifications are:

- **Input:** Multicast MPEG-TS
- **Output:** HLS served locally over HTTP/HTTPS
- **Operating Systems:** Windows 10/11 and macOS
- **Playback Compatibility:** All modern browsers and mobile platforms
- **Network Requirements:** Multicast-enabled VLAN or subnet
- **Installation Time:** Typically, under five minutes (Not including network configuration)

## Contact

For technical evaluations, POCs, or deployment discussions:

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