



RelayCaster server appliances offer a turn-key solution that enable optimized transmission of IPTV streams. By using the RelayCaster Streaming Protocol (RSP), reliability and data rates of streaming live content in wireless networks or along lossy long distance links can be greatly improved. RelayCaster servers allow for building cost-effective Content Delivery Networks (CDN) using the public Internet infrastructure. At the same time, RelayCaster servers can be used as powerful tool for performing various conversions between multicast and unicast networking. Being compatible with existing

gateways, transcoders, conditional access systems, streaming servers, and set-top boxes, RelayCaster appliances can be seamlessly integrated into your existing infrastructure.

Using RSP as streaming protocol between two RelayCaster servers allows for the optimized transmission of IPTV streams to remote company sites, data centers, or networks. Compared to streaming with UDP or RTP, RSP greatly reduces packet loss. Compared to content distribution with TCP or higher-level protocols such as FTP or HTTP, RSP offers much higher bandwidths for transmission of live content over lossy long distance links.

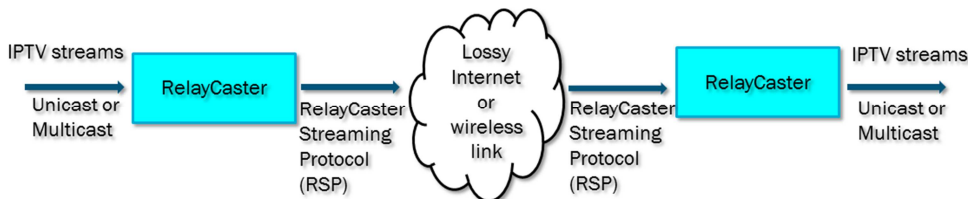
RelayCaster 200

RelayCaster Streaming Protocol (RSP)

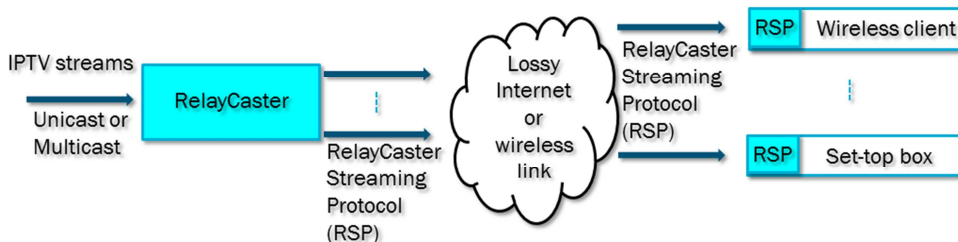


Application areas

- Optimized IPTV streaming for lossy long-distance links in Content Delivery Networks (CDN)



RSP can also be employed as client-side protocol on wireless clients or set-top boxes.



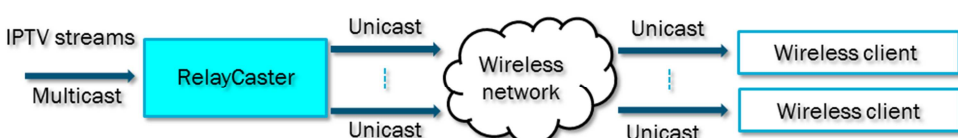
- Optimized IPTV streaming to clients in lossy wireless networks

A pair of RelayCaster servers can be used to transparently convert between multicast and unicast. This allows for 'bridging' network segments that do not support multicast.



- Multicast-unicast-multicast bridging for IPTV

Today's commodity devices and infrastructures for wireless networks often do not support IPTV multicast. RelayCaster appliances overcome these limitations by transparently recasting IPTV multicast streams available in the wired network to unicast streams for wireless clients.



- Multicast-unicast conversion for wireless IPTV networks

<ul style="list-style-type: none"> ■ IP Streaming 	<ul style="list-style-type: none"> ■ 2x 1000 BaseT Gigabit Ethernet <ul style="list-style-type: none"> ■ 1x Mgmt (Management and Streaming) ■ 1x GbE (Streaming only) ■ MPEG Transport Stream (MPEG-TS) for SDTV and HDTV <ul style="list-style-type: none"> ■ MPEG-2 ■ MPEG-4 (AVC/H.264) ■ MPEG Audio, AC3, ... ■ Protocols <ul style="list-style-type: none"> ■ Unicast / Multicast / Broadcast ■ UDP ■ RTP over UDP ■ RelayCaster Streaming Protocol (RSP) (optional) ■ Output rate for receiving UDP and sending UDP <ul style="list-style-type: none"> ■ 1x incoming stream: sending up to 500 Mbps, or 60 SDTV streams, or 40 HDTV streams ■ Several incoming streams: receiving up to 230 Mbps, and sending up to 230 Mbps, or 40 SDTV streams, or 25 HDTV streams ■ Output rate for receiving UDP and sending RSP <ul style="list-style-type: none"> ■ Several incoming streams: receiving up to 100 Mbps and sending up to 100 Mbps, or 20 SDTV streams, or 12 HDTV streams (simulated 1% PLR, 50 ms delay) ■ Output rate for receiving RSP and sending UDP <ul style="list-style-type: none"> ■ Several incoming streams: receiving up to 100 Mbps and sending up to 100 Mbps, or 20 SDTV streams, or 12 HDTV streams (simulated 1% PLR, 50 ms delay)
<ul style="list-style-type: none"> ■ Free Software Developer Kit (SDK) 	<ul style="list-style-type: none"> ■ Fully programmable and remotely controllable using C++ API (Windows, Linux, Mac OS), PHP or XML-RPC (all platforms) ■ Based on award winning Network-Integrated Multimedia Middleware (NMM) by Motama
<ul style="list-style-type: none"> ■ Administration 	<ul style="list-style-type: none"> ■ Linux system (kernel 2.6.x) ■ Web interface (http/https) ■ ssh ■ Integrated LCD panel: System setup and monitoring
<ul style="list-style-type: none"> ■ Hardware 	<ul style="list-style-type: none"> ■ 1 U, 19" rack mountable ■ 1x HDD 3,5" (24/7) ■ 2 GB main memory ■ VGA ■ 2x USB ■ Height x Width x Depth <ul style="list-style-type: none"> ■ 43 mm (1.7") x 426 mm (16.8") x 356 mm (14.0") ■ Voltage: 100V – 240V AC, 50-60 Hz ■ Weight: 5 kg ■ Power consumption: <ul style="list-style-type: none"> ■ < 4 W (standby), 45 W (idle) to 55 W (loaded) ■ High-quality server appliance assembled in Germany

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RelayCaster Streaming Protocol (RSP)



Motama GmbH
 Lortzingstr. 10
 66111 Saarbrücken
 Germany
www.motama.com

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