

Introduce Quality of Service in your IP_to_IP W@N unreliable infrastructure



QV QoS Proxy server

The QV-PROXY supplies two features : introduction of Error Correction mechanism improving the QoS and delivery of network addressing conversion method.

The QV-PROXY server is ideally suited for being used between different public internet networks (typically in a POP) where it receives a video stream from one public Internet network (coming from the source), and sending the video streams to one or several destination(s) through out other public Internet network(s). The QV-PROXY Server delivers essentially a reliable high level of QoS of video stream transport as well as Unicast/Multicast conversion and vice-versa.

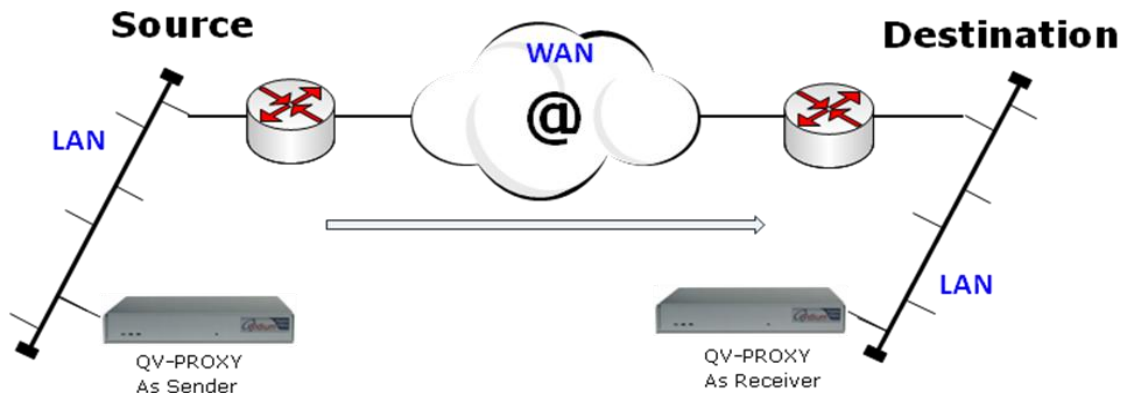
The QV PROXY server can receive up to four streams and can simultaneously send up to four streams. (a stream is considered as being a IP "video & audio content stream" packets as well as associated Error Correction packets session). The server corrects problems with the transport of a video signal over the IP network (Internet, other networks that can randomly lose, delay, and reorder packets).

The unicast/multicast conversion only changes the IP destination Address in the IP header.

The unicast-multicast conversion is transparent and agnostic with respect to video, audio and data formats.

The ARQ is applied on IP packets regardless of the type of video, audio, data streams encapsulated in the IP packets.

The QVidium's Error Correction mechanism "ARQ" delivers a jitter management & control feature acting at source and destination.



Unicast/multicast conversions possible are:

Unicast	Unicast
Multicast	Unicast
Unicast	Multiple-Unicasts
Multicast	Multiple-Unicasts
UDP	ARQ
ARQ	ARQ

Unicast	Unicast
Unicast	Multicast
ARQ	ARQ
ARQ	UDP
FEC CoP3	UDP
FEC CoP3	ARQ

The server can be ordered with 1 up to 8 streams enabled.

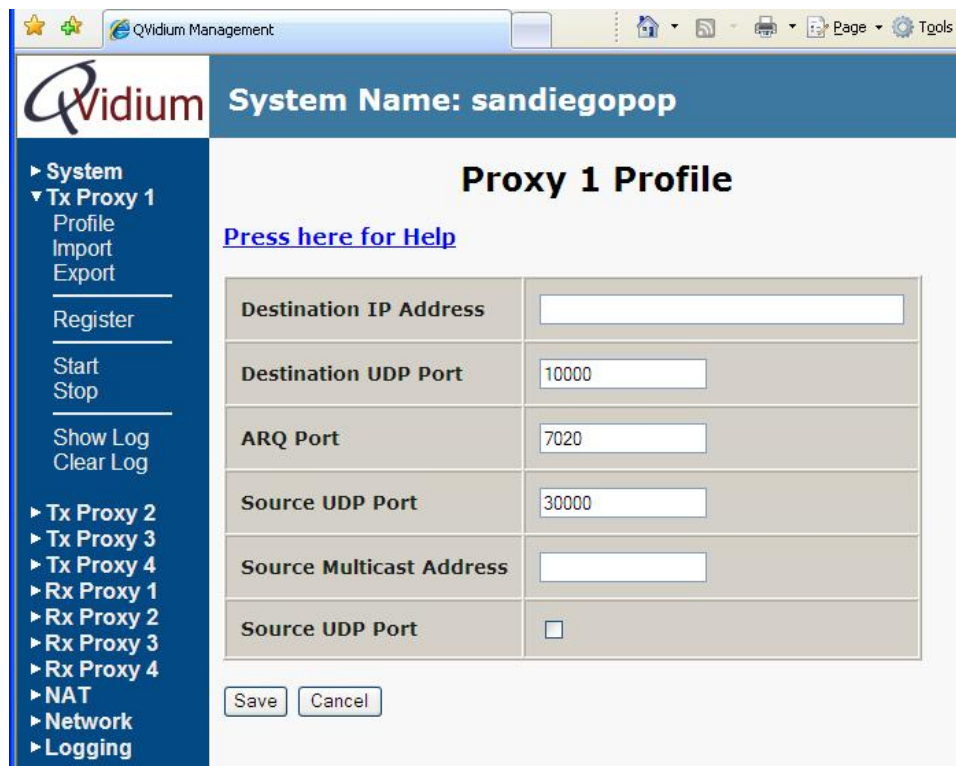
Receive features:

- Acts as an Error Correction IP_to_IP Proxy server as **Receiver** at the **Destination**. Quality-of-Service (QoS) video transport technologies to correct for problems with the transport of a video signal over the IP network (Internet, other networks that can randomly lose, delay, and reorder packets). These corrections include:
 - Error Correction supported: ARQ & ProMPEG CoP3.
 - Supports IGMP v3 (multicasting).
 - Restoration of correct packet sequence.
 - Jitter removal.
 - Clock synchronization to minimize the delay at the receiver.
- This QV QoS Proxy Servers at destination (as receiver) can adapt a Unicast stream received from the public Internet to a Multicast stream at the destination local network.
- The server can handle up to four Unicast to Multicast stream conversions.

Send features:

- Acts as an Error Correction IP_to_IP Proxy server as **Sender** at the **Source**. Quality-of-Service (QoS) video transport technologies to correct for problems with the transport of a video signal over the IP network (Internet, other networks that can randomly lose, delay, and reorder packets).
- Error Correction. (ARQ)
- This QV QoS Proxy Servers at source (as sender) can adapt a Multicast stream from the local network to a Unicast stream including ARQ to be sent over the public internet to the other end (destination).
- The server can handle up to four Multicast to Unicast or to Multiple-Unicast streams conversions.
- The server supports sending out up to 50 Multiple-Unicast streams, up to 60 Mb/sec as total bandwidth, with ARQ.

Transmitting or Receiving streams selection/configuration:

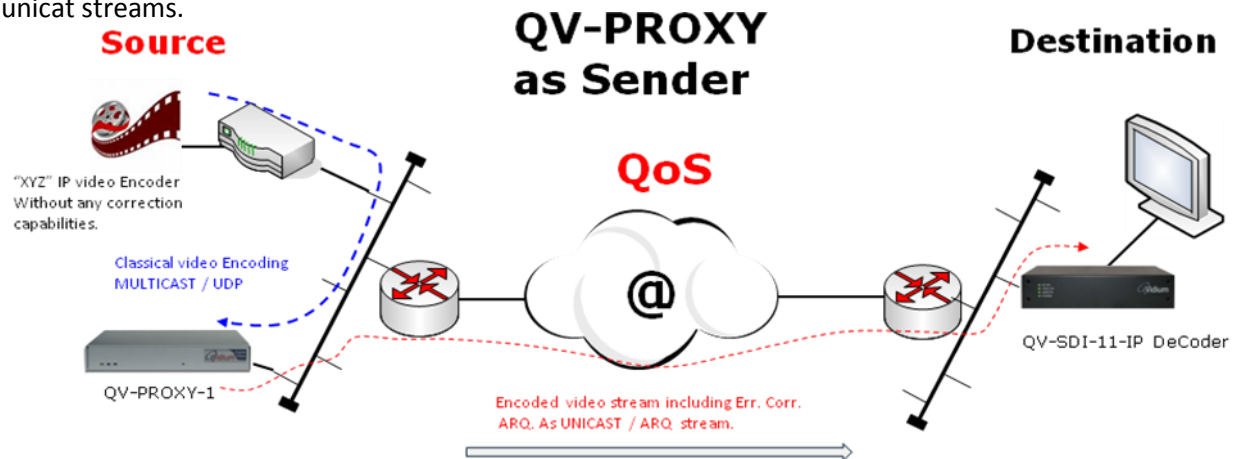


Typical Applications:

Multicast streaming across Internet

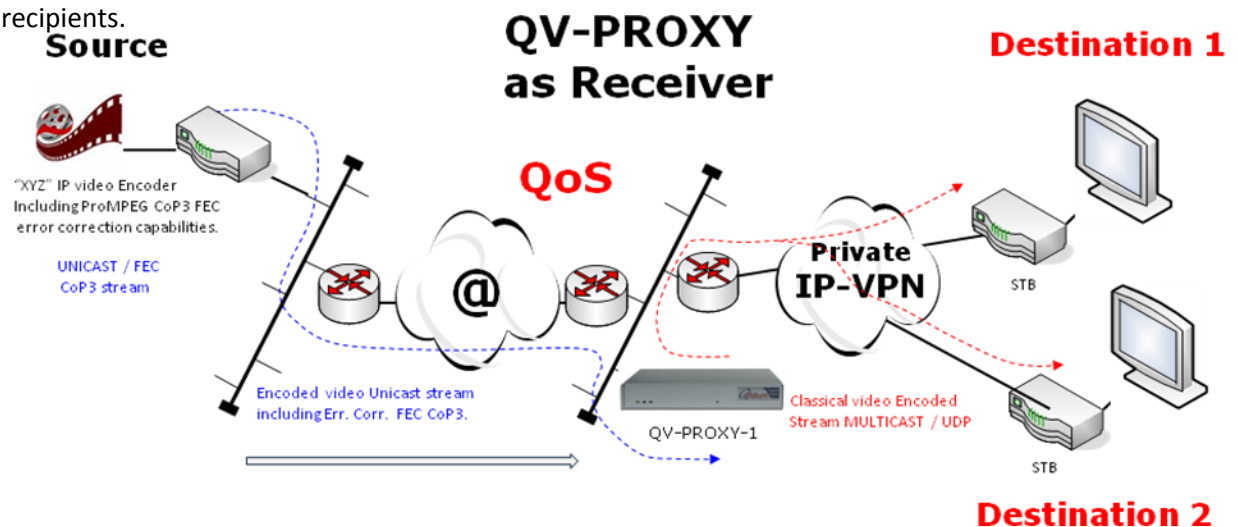
QV-PROXY used as Sending video stream(s) by adding a QoS mechanism (ARQ) and converting Multicast to Unicast.

Any Encoder being not able to guarantee the transport with a minimum level of quality can rest on the QV-PROXY to ensure the transmission of the video stream(s) through public Internet networks with a high level of quality. Since the Internet network doesn't support the Multicast streaming, the QV-PROXY converts the multicast streams from the encoder to a unicast transport stream or to several multiple unicast streams.



Multicasting streaming from public Internet

QV-PROXY used as Receiving quality video stream(s) converting the received Unicast stream to multicast streams. The Encoder can be any encoder providing quality transport by means of ProMPEG CoP 3 FEC or a QVidium encoder delivering the ARQ. At the reception site, the QV-PROXY will understand both the CoP3 or ARQ transported unicast streams and will convert them to multicast streams to the different recipients.

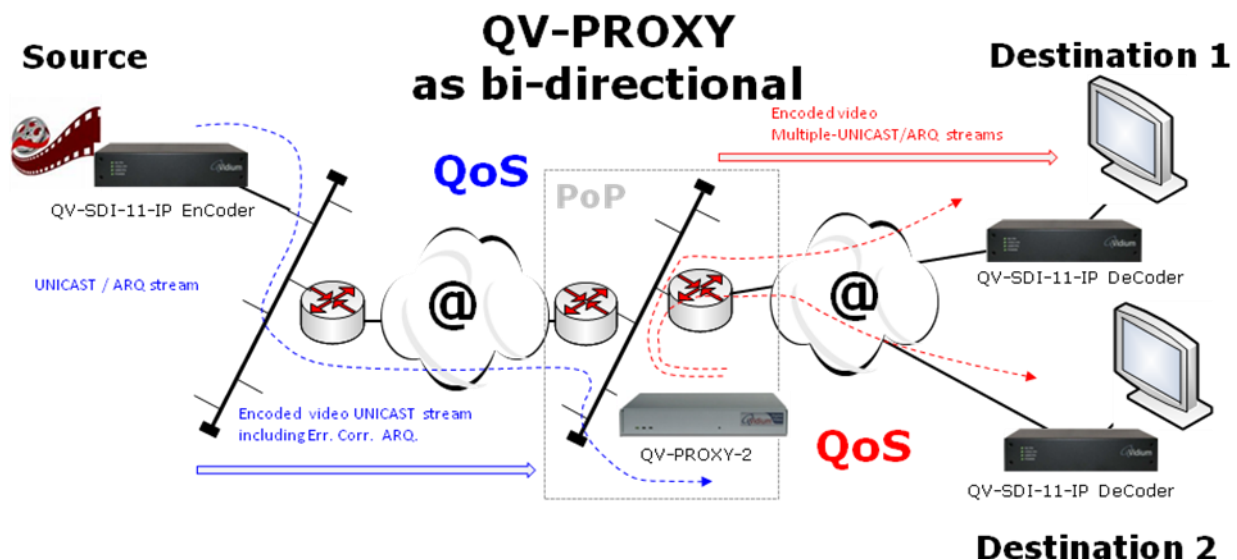


Quality STREAMING conversion

QV-PROXY used in bi-directional mode : Only one QV-PROXY box deliver the two transmission modes: sender and receiver.

Typically the QV-PROXY is used as a relay between two public internet networks.

The “receiver part” of the QV-PROXY can get quality unicast streams from QVidium encoder (ensuring the quality by ARQ) or from any other encoders delivering ProMPEGCoP3 unicast transport. While the “sender part” of the QV-PROXY converts the streams (under CoP3 or under ARQ) to several destination QVidium decoders. A QV-PROXY working in bi-directional mode, receiving a video stream improved by ProMPEG CoP3 FEC, corrects the video signal prior resending it without any error correction mechanism.



Technical Specifications:

IP routing & NAT capabilities.

60Mb/S Max video stream treatment capacity.

Up to four video streams can be converted Multicast to Unicast or vice-versa in each direction.

The number of streams in each direction can be chosen and decided when the product is ordered according to these combinations:

QV-PROXY-1 can be ordered:

0 Tx streams and 1 Rx streams

1 Tx streams and 0 Rx streams

QV-PROXY-2 can be ordered:

0 Tx streams and 2 Rx streams

1 Tx streams and 1 Rx streams

2 Tx streams and 0 Rx streams

QV-PROXY-3 can be ordered:

0 Tx streams and 3 Rx streams

1 Tx streams and 2 Rx streams

2 Tx streams and 1 Rx streams

3 Tx streams and 0 Rx streams

QV-PROXY-4 can be ordered:

0 Tx streams and 4 Rx streams

1 Tx streams and 3 Rx streams

2 Tx streams and 2 Rx streams

3 Tx streams and 1 Rx streams

4 Tx streams and 0 Rx streams

QV-PROXY-5 can be ordered:

1 Tx streams and 4 Rx streams

2 Tx streams and 3 Rx streams

3 Tx streams and 2 Rx streams

4 Tx streams and 1 Rx streams

QV-PROXY-6 can be ordered:

2 Tx streams and 4 Rx streams

3 Tx streams and 3 Rx streams

4 Tx streams and 2 Rx streams

QV-PROXY-7 can be ordered:

3 Tx streams and 4 Rx streams

4 Tx streams and 3 Rx streams

QV-PROXY-8 can be ordered:

4 Tx streams and 4 Rx streams

Replication: up to 50 streams can be multiple-unicasted. (no bandwidth limitation per unicast; the total MAX capacity being limited to 60 Mbps).

The QV-Proxy does not have any limitations with the stream's contents. The applications can use the same UDP port for data, video and audio streams. The only limitation is the UDP packet payload size needs to be less than 1460 bytes.

Physical Dimensions:

W-D-H : 158 – 155 - 28 mm

Ports (all on rear):

One RS232 Console port

Two 10/100base-T Ethernet Ports as Ethernet Switch.

Two USB (not used) (dual stack USB between the power connector and LAN2 connector).

Power specifications:

Power consumption: less than 20 W; typically 12VDC (min. 7V to max. 20V).

Power connector: DC jack (5mm/2.1mm barrel power jack, center positive) or passive PoE.

