# SMART-SRT SERVICE DESCRIPTION

**SmartSRT** is a service offered by **TodoStreaming**, based on the usage of the **SRT** protocol of Haivision®, but oriented to point to multipoint distribution. Because it is based on SRT protocol, its benefits are:

- **High Quality**.- Professional quality of image up to 16 Mbps ( up to 4K UHD)
- **Low Cost**.- Replacing expensive satellite connections and rigid MPLS, by the more affordable and flexible Internet network.
- **Flexibility**.- Allows broadcasting from any place in the world with access to the Internet.
- **Low Latency**.- Allows quick UDP connections with the realibility of TCP.
- **Reliability**.- Allows packets loss recovery even on 10% loss.
- **Codec Agnostic**.- Allows any TS containee such as MPEG-2, H.264. HEVC, AV1 or other future codec.
- **Safe**.- Every connection is AES encrypted, so it will travel safe through the Internet.

This is what **SRT** protocol gives us, but what else can we get from SmartSRT Service ?.

**SRT** is point to point oriented, so we have to add a input-output multiplexer in the middle of our **SmartSRT** server to convert an input to many outputs, so we could deploy a final point to multipoint solution, where someone can send **SRT** to our server, and many can retrieve the same stream on **SRT**. For us, using **SRT** on all public Internet connections was crucial, to have better performance than old TCP based protocols such as RTMP.
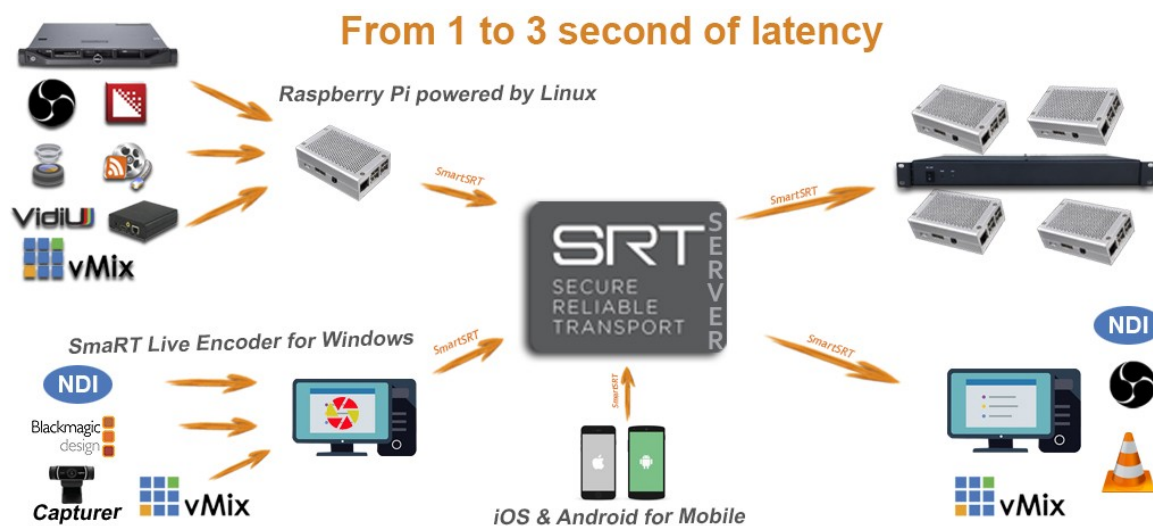


Every input or output **SRT** connection with the **SmartSRT** server is **AES** encrypted with its own password. And every of them is represented by an immutable **smart URL** that makes very easy to configure every connection. Both parts, the server and the client, would negotiate, which port, password, and delay to use, being a transparent process for the end user. All this negotiation is done using **SSL** encription, so these parameters are only known internally. So configuring a connection is just a click and play game.

Before starting to stream for the first time, you will have to register every client only once (encoders and players) in the server. **SmartSRT Control** is a Windows tool, that displays a panel with all the elements in your distribution network. You can register them, get the **smart URL** to use, and follow

their status in real-time, second by second. In a glance you will you will see, who is sending, who is receiving, who is disconnected, how much time is receiving, its delay with the server. You can also control all the elements in the network. You can change their names, disconnect them, reconnect them, delete them and register them back again, and do this individually, not affecting the rest of the elements in the distribution network. Everything is done in a few clicks, so easy as a children game.

This is not just a piece of cake, but also a very flexible system, where you can send from very different devices and software, to very different devices and software.

**You can send SRT from:**
- Any hardware or software encoder that works on RTMP, HTTP, UDP or RTSP, using a *RPi gateway*.
- Any videocapture card (Black Magic, AJA, BlueFish, DekTec, Deltacast, Magewell, StreamLabs), DirectShow device (generic capture cards, webcams), NDI source, Virtual Devices (vMix, Wirecast Virtual Camera) using *SmaRT Live Encoder* for Windows.
- Any Android 4.1+ or iOS 9.3+ smartphone, using our *SmartSRT Cam* app.

**You can receive SRT from:**
- An RPi 3 mainboard using our *Metal Player* software image.
- A *Full Metal Player* hardware player (you can buy it from us).
- A Windows PC using our *SmaRT Receiver* and sending to OBStudio, vMix, VLC or any other TS-UDP capable software, such as many Playout softwares (WinJay, Inta Playout, etc).

We have all these software and manual explaining how to use them on our website's download area.

Do you want to test them from free ?

Enter our website https://www.todostreaming.eu fill in our Contact form, and request for a free testing period. We will be delighted to help you tune your contribution or distribution network.

We hope to know about you soon.

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