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Interoperability between GStreamer and DirectShow

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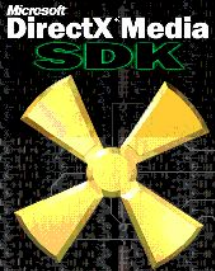scerveau@fluendo.com

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Motivations

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Motivations:

- Customers using DirectShow who needs a legal codec solution.
- ThinClient market using Windows MMS (Citrix eco-system using Windows)
- Legal solution to compete LAVFilters using unofficial FFMPEG codecs

Solution:

A generic directshow filter bridging legal plugins powered by Fluendo.
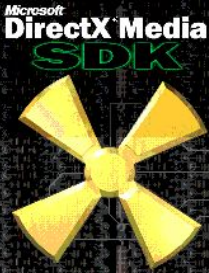
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DirectShow vs GStreamer: Doppelganger ?

Two different-related frameworks

Same behaviour but different names:

- Plugin -> COM Object
- Pipeline -> Graph
- Element -> Filter
- Pad -> Pin
- Caps -> Media Types/Media Subtypes/Format types

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Let's talk about MS DS media types ...

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DirectShow media types as unique ID.

- Microsoft policy to describe an object
- DirectShow using 3 different GUID to perform pin negociation
  - Media type
    - MEDIATYPE_Video
    - MEDIATYPE_Audio
  - Sub type
    - MEDIASUBTYPE_YUY2
    - MEDIASUBTYPE_WMAUDIO2
  - Format type
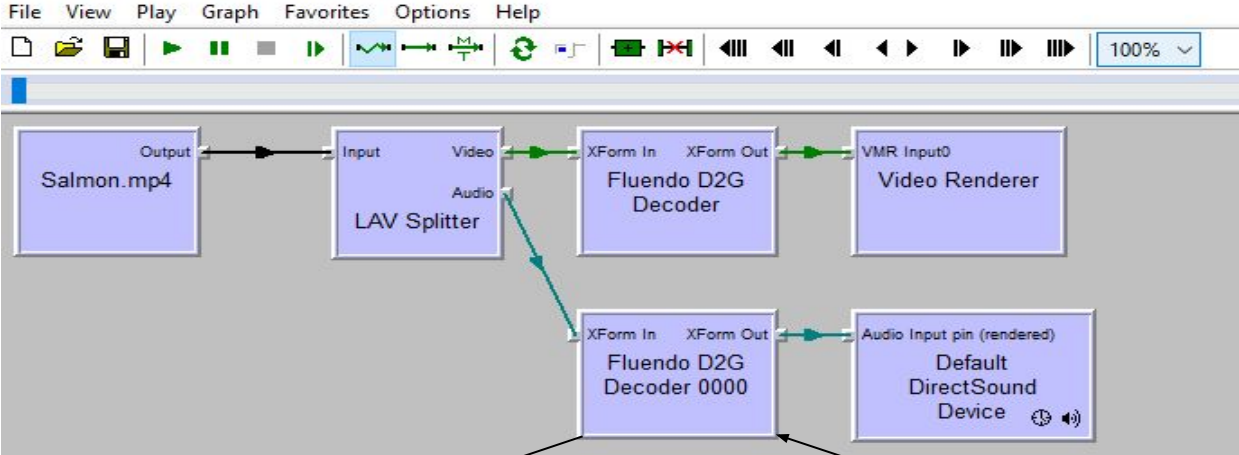   - FORMAT_VideoInfo
    - FORMAT_MPEG2_VIDEO

GStreamer caps

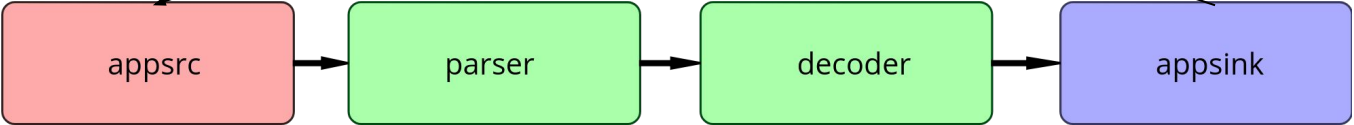Fluendo

GStreamer caps:

- One structure policy
- Mimetype as first filter
  - video/x-raw
  - audio/x-flac
- Structure fields to describe the pads negociation.
  - video/x-raw
    - format: { I420 }
    - width: [1, 2147483647]
    - height: [1, 2147483647]
    - framerate: [0/1, 2147483647/1]
    - pixel-aspect-ratio: [0/1, 2147483647/1]

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Conclusion

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DS Graph:

GST Graph:

https://fluendo.com/en/developer/blog/

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