



# Scala video streaming widget for IAdea media appliance

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# Foreword

- IAdea implemented the streaming widget to manage IAdea appliance to video streaming playback via Scala Content Manager. User can follow the instructions within the document to set up video streaming application. For best video streaming quality, We would like to suggest user to use FFmpeg to convert video and use Live555 media server to stream video. Both softwares are open source and free. User can obtain these two softwares easily.

# Agenda

- FFmpeg convert video.
- Live555 Streaming media server configuration.
- Scala Content Manager configuration.

# FFmpeg convert video

- Download FFmpeg to convert video.
  - <https://www.ffmpeg.org/download.html>
- Type following command line to convert video.
  - `ffmpeg -i input.mp4 -c:v libx264 -profile:v high -level:v 4.2 -pix_fmt yuv420p -r 30 -g 30 -bf 0 -preset fast -b:v 10M -bufsize 10M -an -f h264 output.264`

```
handler_name : VideoHandler
encoder      : Lavc57.28.103 libx264
Side data:
cpb: bitrate max/min/avg: 0/0/10000000 buffer size: 10000000 vbv_delay: -1
Stream mapping:
Stream #0:0 -> #0:0 (h264 (native) -> h264 (libx264))
Press [q] to stop, [?] for help
frame= 450 fps=7.9 q=-1.0 lsize= 18436kB time=00:00:15.00 bitrate=10068.5kbits/s dup=15 drop=0 speed=0.262x
video:18436kB audio:0kB subtitle:0kB other streams:0kB global headers:0kB muxing overhead: 0.000000%
[libx264 @ 00000219afdf5c0] frame I:16 Avg QP:12.70 size:194282
[libx264 @ 00000219afdf5c0] frame P:434 Avg QP:17.06 size: 36336
[libx264 @ 00000219afdf5c0] mb I  I16..4: 3.5% 53.8% 42.6%
[libx264 @ 00000219afdf5c0] mb P  I16..4: 0.8% 7.0% 1.8% P16..4: 39.9% 19.8% 11.7% 0.0% 0.0% skip:18.9%
[libx264 @ 00000219afdf5c0] 8x8 transform intra:67.6% inter:58.4%
[libx264 @ 00000219afdf5c0] coded y,uvDC,uvAC intra: 87.2% 94.1% 70.6% inter: 46.2% 46.8% 14.4%
[libx264 @ 00000219afdf5c0] i16 v,h,dc,p: 38% 22% 14% 25%
[libx264 @ 00000219afdf5c0] i8 v,h,dc,ddl,ddr,vr,hd,vl,bu: 22% 19% 15% 6% 7% 8% 7% 8% 9%
[libx264 @ 00000219afdf5c0] i4 v,h,dc,ddl,ddr,vr,hd,vl,bu: 28% 23% 10% 5% 7% 7% 6% 7% 6%
[libx264 @ 00000219afdf5c0] i8c dc,h,v,p: 42% 23% 26% 10%
[libx264 @ 00000219afdf5c0] Weighted P-Frames: Y:0.5% UV:0.2%
[libx264 @ 00000219afdf5c0] ref P L0: 90.3% 9.7%
[libx264 @ 00000219afdf5c0] kb/s:10068.49

C:\Streaming\ffmpeg-3.1.3>ffmpeg -i 2.mp4 -c:v libx264 -profile:v high -level:v 4.2 -pix_fmt yuv420p -r 30 -g 30 -bf 0 -preset fast -b:v 10M -bufsize 10M -an -f h264 output_10M.264
Microsoft Windows [Version 6.0.6002.18000]
(c) Copyright (c) 2009 Microsoft Corporation. All rights reserved.
C:\>
```



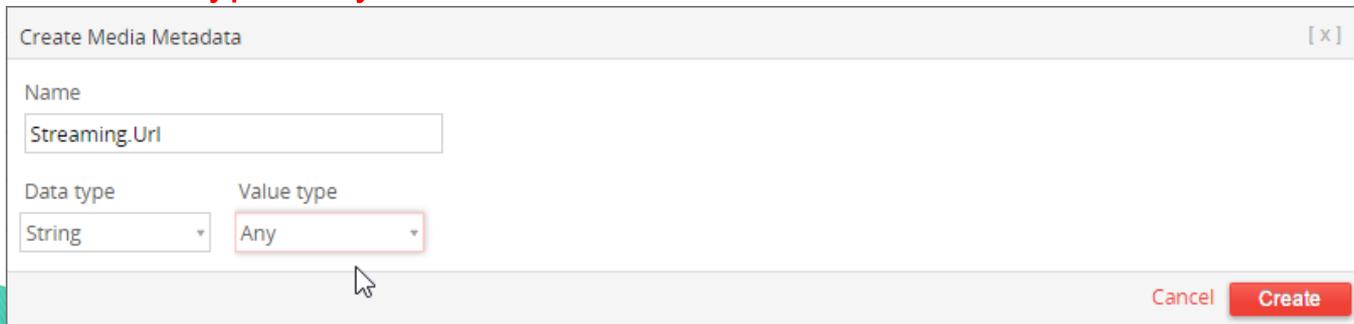
# Live555 Streaming media server configuration

- Since Live555 official web site doesn't have pre-built binary versions for Windows platform. IAdea has compiled a execution file for Windows environment for test purpose. User can download the execution file via below link to test.
  - [https://s3.amazonaws.com/download.us.iadea.com/support/Miscellaneous/live555MediaServer\\_x86.exe](https://s3.amazonaws.com/download.us.iadea.com/support/Miscellaneous/live555MediaServer_x86.exe)
- 1. Once the Live555 Media Server execution file downloaded.
- 2. Place all videos that you want to broadcast, in the same folder of Live555
- 3. Launch the Live555 program, it shall return stream url on console as format as **Rtsp://IP/<filename>**

```
LIVE555 Media Server
  version 0.88 (LIVE555 Streaming Media library version 2015.10.29).
Play streams from this server using the URL
  rtsp://192.168.1.167/<filename>
where <filename> is a file present in the current directory.
Each file's type is inferred from its name suffix:
  ".264" => a H.264 Video Elementary Stream file
  ".265" => a H.265 Video Elementary Stream file
  ".aac" => an AAC Audio (ADTS format) file
  ".ac3" => an AC-3 Audio file
  ".amr" => an AMR Audio file
  ".dv"  => a DV Video file
  ".m4e" => a MPEG-4 Video Elementary Stream file
  ".mkv" => a Matroska audio+video+(optional)subtitles file
  ".mp3" => a MPEG-1 or 2 Audio file
  ".mpg" => a MPEG-1 or 2 Program Stream (audio+video) file
  ".ogg" or ".ogv" or ".opus" => an Ogg audio and/or video file
  ".ts"  => a MPEG Transport Stream file
          (a ".tsx" index file - if present - provides server 'trick play'
support)
  ".vob" => a VOB (MPEG-2 video with AC-3 audio) file
  ".wav" => a WAV Audio file
  ".webm" => a WebM audio(Vorbis)+video(VP8) file
See http://www.live555.com/mediaServer/ for additional documentation.
Microsoft Bopomofo 半 optional RTSP-over-HTTP tunneling, or for HTTP live stream
```

# Scala Content Manager configuration

1. Obtain “Scala\_Video\_Streaming.wgt” from IAdea support.
2. Access Scala Content Manager then click select “Media Metadata” in system option.
3. Create a new streaming url field in Media Metadata to pass target RTSP url to the Scala\_Video\_Streaming.wgt” via Scala Content Manager.
  - Name: Streaming.Url
  - Data type: String
  - Value type: Any



Create Media Metadata [x]

Name  
Streaming.Url

Data type Value type  
String Any

Cancel Create

4. Upload the widget as a media object to Scala Content Manager.
5. Find the Medialtem.Streaming.Url field in the widget's properties then type your target RTSP url and save.

Medialtem.Streaming.Url:

rtsp://192.168.1.167/output\_10M.264

6. Assign the widget into a playlist.
7. All done.





**Thank You**