Flumotion

Open Source Live Streaming

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BSc (Hons) Computer Science University College London

Worked for Flumotion (the company) for 4.5 years

Barcelona, Spain

Now working for Cisco/Tandberg on Telepresence

San Franci

GStreamer developer since 2001!

Flumotion - open source live streaming

http://www.flumotion.net/

Focus on free formats

Free formats

First and only WebM live streaming solution

WebM

May 19: Announcement by Google

WebM

Two long nights of hacking by 3 of us

WebM

May 21: Live streaming with Flumotion working

WebM

June 1: Committed into repository

WebM

July 26: GUADEC first conference to be streamed live in WebM

WebM

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WebM

September 15: In stable release 0.8.0 of Flumotion

WebM

October 14: Live WebM streaming of GUADEC voted best webcast of 2010

WebM

Today and into the future: adaptive streaming over http

Deployments

Flumotion streaming platform 40Gbps

People using Flumotion

Conferences

TV

Radio

Mosques

Python

http://www.python.org/

GStreamer

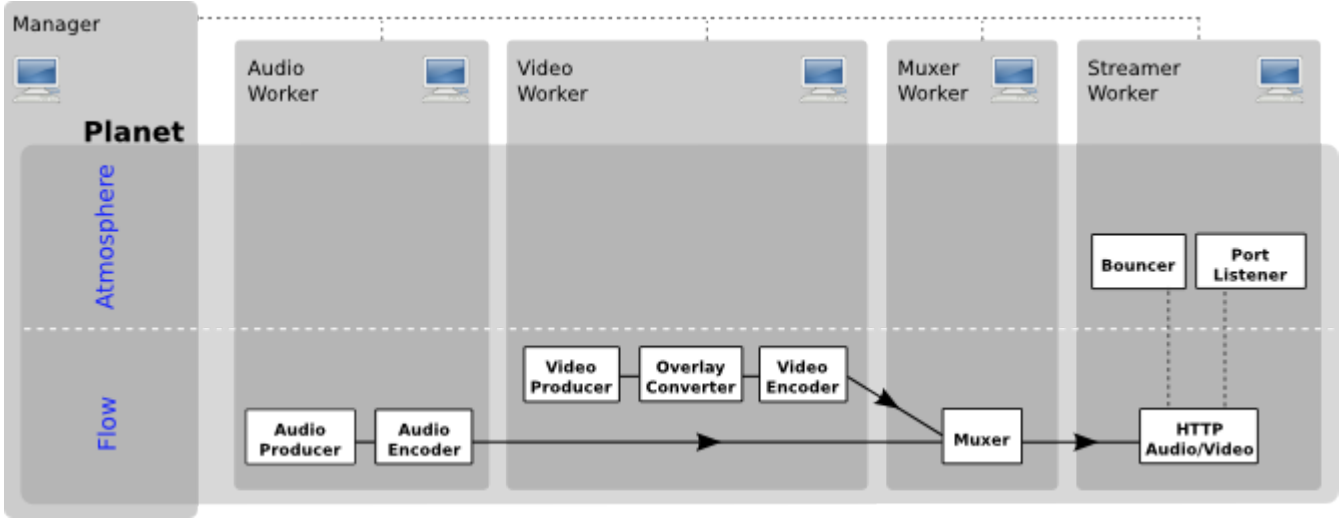
http://gstreamer.freedesktop.org

Twisted

http://twistedmatrix.com

Flumotion

Manager
Worker
Component


Manager
Audio Worker
Video Worker
Muxer Worker
Streamer Worker
Planet
Atmosphere
Flow
Bouncer
Port Listener
Video Producer
Overlay Converter
Video Encoder
Audio Producer
Audio Encoder
Muxer
HTTP Audio/Video

Component

GStreamer pipeline

Component

Inputs from other components known as eaters

fdsrc ! gdpdepay

Component

Outputs to other components known as feeders

gdppay ! multifdsink

Component

Synchronisation Network Clock

Component Bundles

Streamer Component

Connection setup in python

HTTP compliance, authentication etc.

Streamer Component

Socket passed to multifdsink for actual streaming

Multifdsink

List of buffers
Per client pointers
Drop when slow

Multifdsink

Streamheaders

Red Bull
SONAX
Plus
JSP
Red Bull
22
Red Bull
Plus

Bouncer component

Asked if request ok

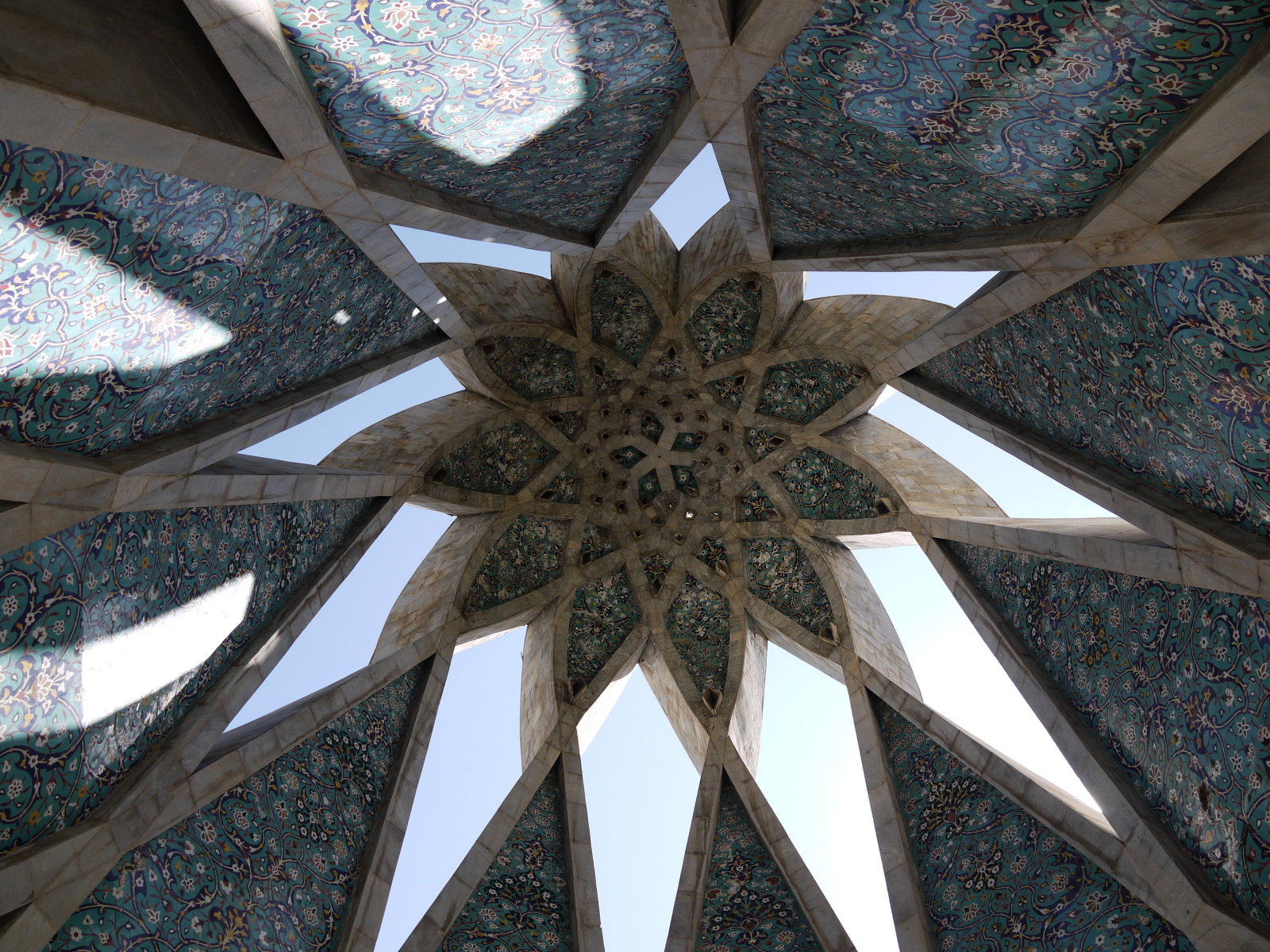
Returns keycard

Keycard

Can expire

Revokable

challenge/response



Producers

Webcam, TV Card, Firewire, DVB, Playlist, Icecast, Soundcard

Encoders

Theora, Vorbis, VP8, Jpeg, Mulaw

Encoders

H264, VP6

AAC

MP3

WMV

WMA

Muxers

Ogg

Multipart

WebM

Muxers

Flv

Asf

Mpegts

Consumers

HTTP Streamer

HTTP File

Disk

Icecast

Consumers

HTTP Fragmented Streamer

Bouncers

ical

token

geoip

DREAM

Questions