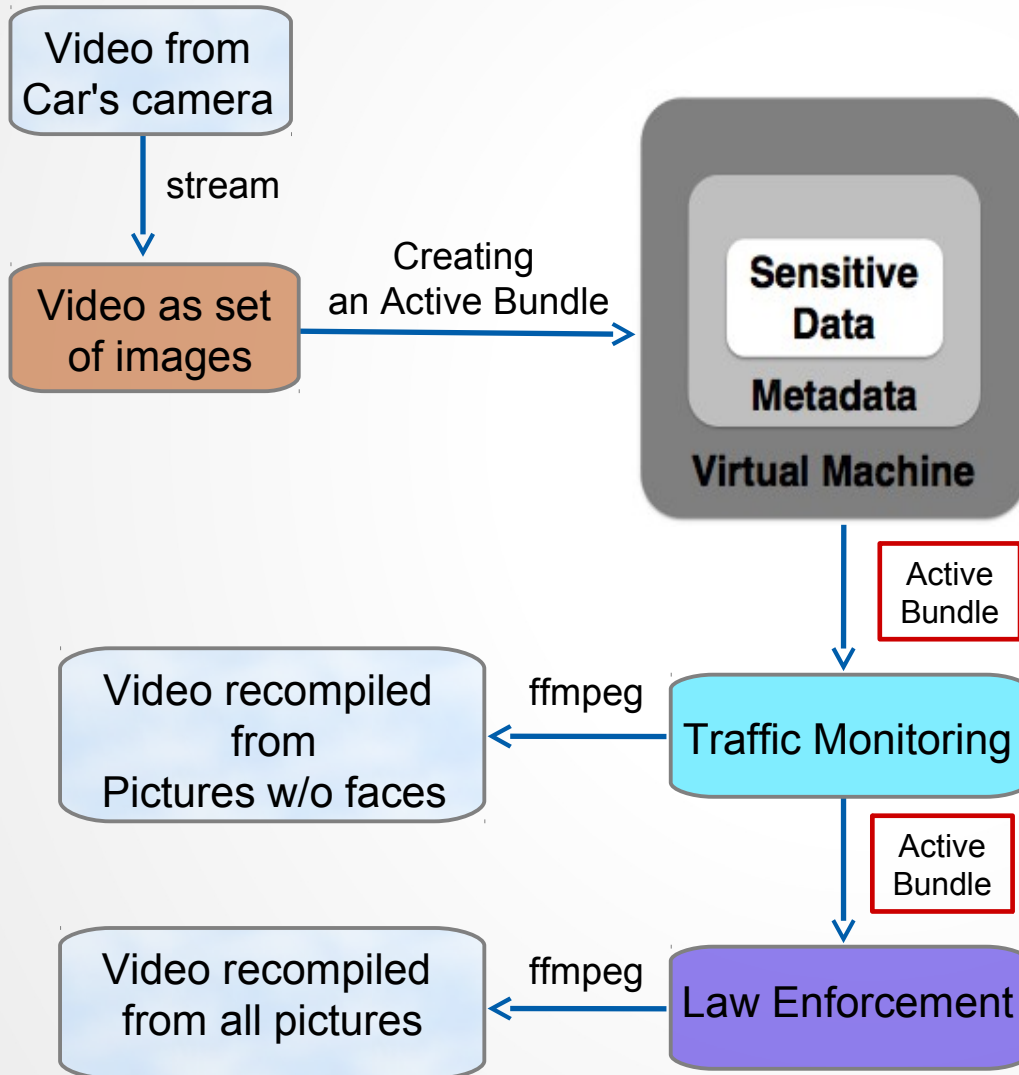# Policy-based video dissemination in V2V

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**"Policy-based secure distributed dissemination of video data in vehicle-to-vehicle systems "**

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# Core Design

Video from Car's camera

stream

Video as set of images

Creating an Active Bundle


Sensitive Data

Metadata

Virtual Machine

## Active Bundle (AB)
- Sensitive data is set of pictures, representing the video
- Metadata contains policies: if picture has human's face – it is accessible only by law enforcement
- Virtual Machine is a policy engine which provides policy enforcement

Active Bundle

ffmpeg

Video recompiled from Pictures w/o faces

Traffic Monitoring

**Active Bundle**
- Pictures without human's face
- E(pictures with face)

Active Bundle

ffmpeg

Video recompiled from all pictures

Law Enforcement

**Active Bundle**
- Pictures without human's face
- Pictures with human's face

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# Main Features

- Car is equipped with video camera, capturing the live video at rate 24 fps (frames per second)
- Video is decomposed into images
- Active Bundle containing images is created
  - Sensitive data is a set of pictures, representing video

  - Metadata contains policies: if picture has human's face then it is accessible only by law enforcement

  - Virtual machine is a policy engine which provides policy evaluation and enforcement

# Main Features

- Separate thread runs the face recognition algorithm
  - 4 algorithms are available

  - most accurate face recognition algorithm imposes the largest performance overhead (processing 1 image takes up to 2.6 sec depending on the resolution)

- Services receiving AB can recompile video from the set of pictures using ffmpeg