Metadata Interface

Metadata refers to any non-image data that supplements video frames with additional information. This may include statistics computed over the image, frame capture parameters supplied by the image source or device specific parameters for specifying how the device processes images. This interface is intended for transfer of metadata between the userspace and the hardware and control of that operation.

The metadata interface is implemented on video device nodes. The device can be dedicated to metadata or can support both video and metadata as specified in its reported capabilities.

Querying Capabilities

Device nodes supporting the metadata capture interface set the `V4L2_CAP_META_CAPTURE` flag in the `device_caps` field of the :c:type:`v4l2_capability` structure returned by the :c:func:`VIDIOC_QUERYCAP` ioctl. That flag means the device can capture metadata to memory. Similarly, device nodes supporting metadata output interface set the `V4L2_CAP_META_OUTPUT` flag in the `device_caps` field of :c:type:`v4l2_capability` structure. That flag means the device can read metadata from memory.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 23); *backlink*

Unknown interpreted text role "c:type".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 23); *backlink*

Unknown interpreted text role "c:func".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 23); *backlink*

Unknown interpreted text role "c:type".

At least one of the read/write or streaming I/O methods must be supported.

Data Format Negotiation

The metadata device uses the :ref:`format` ioctls to select the capture format. The metadata buffer content format is bound to that selected format. In addition to the basic :ref:`format` ioctls, the :c:func:`VIDIOC_ENUM_FMT` ioctl must be supported as well.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 38); *backlink*

Unknown interpreted text role "ref".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 38); *backlink*

Unknown interpreted text role "ref".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 38); *backlink*

Unknown interpreted text role "c:func".

To use the :ref:`format` ioctls applications set the `type` field of the :c:type:`v4l2_format` structure to `V4L2_BUF_TYPE_META_CAPTURE` or to `V4L2_BUF_TYPE_META_OUTPUT` and use the :c:type:`v4l2_meta_format` `meta` member of the `fmt` union as needed per the desired operation. Both drivers and applications must set the remainder of the :c:type:`v4l2_format`

structure to 0.

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 43); *backlink*

Unknown interpreted text role "ref".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 43); *backlink*

Unknown interpreted text role "c:type".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 43); *backlink*

Unknown interpreted text role "c:type".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 43); *backlink*

Unknown interpreted text role "c:type".

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 50)

Unknown directive type "c:type".

```
.. c:type:: v4l2_meta_format
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 52)

Unknown directive type "tabularcolumns".

```
.. tabularcolumns:: |p{1.4cm}|p{2.4cm}|p{13.5cm}|
```

System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\linux-master\Documentation\userspace-api\media\v4l\[linux-master][Documentation][userspace-api][media][v4l]dev-meta.rst, line 54)

Unknown directive type "flat-table".

```
.. flat-table:: struct v4l2_meta_format
    :header-rows:  0
    :stub-columns: 0
    :widths:       1 1 2

    * - __u32
      - ``dataformat``
      - The data format, set by the application. This is a little endian
        :ref:`four character code <v4l2-fourcc>`. V4L2 defines metadata formats
        in :ref:`meta-formats`.
    * - __u32
      - ``buffersize``
      - Maximum buffer size in bytes required for data. The value is set by the
        driver.
```