**README**

**Digital Video Exchange Standards - Resources**

* The following XML schema files and XMP example file were developed by NIST and provided in NISTIR 8161 - *Recommendation: Closed Circuit Television (CCTV) Digital Video Export Profile – Level 0*. They can be used to facilitate implementation of the recommended standards profile.
  + XML Schema
    - [**ClockOffset.xsd**](http://biometrics.nist.gov/cs_links/DVR_Standards/ClockOffset.xsd)
    - [**TimeValueset.xsd**](http://biometrics.nist.gov/cs_links/DVR_Standards/TimeValueset.xsd)
  + XMP example
    - [**ClockOffsetXMP.xmp**](http://biometrics.nist.gov/cs_links/DVR_Standards/ClockOffsetXMP.xmp)
* The example video files listed in the table below were used by NIST in conducting the research described in [NISTIR 8172](https://doi.org/10.6028/NIST.IR.8172) - *Assessment of Closed Circuit Digital Video Recording and Export Technologies*:
  + Files F1 – F4 were obtained as exported files from two of the digital video recorders used in NIST’s research
  + File F5 was obtained from the National Geospatial-Intelligence Agency’s Motion Imagery Standards Board. KLV-encoded precision time stamps are embedded in SEI messages.[[1]](#footnote-1)
  + File F6 is the same as file F5 but renamed with a “.ts” extension1
  + File F7 is an open source mp4 file using H.264 video compression and was obtained from <http://orangehd.com/blog/flower-and-insect/>
  + File F8 is an open source mp4 file using H.265 video compression and was obtained from <http://www.cinemartin.com/cinec/samples/> (select Clip0005.MXF)
  + File F9 was created by NIST as a reference implementation of the recommendations put forth in NISTIR 8161

| **File ID** | **File Name** | **File Description** |
| --- | --- | --- |
| **F1** | [**D3M1.dav**](http://biometrics.nist.gov/cs_links/DVR_Standards/D3M1.dav) | A *dav* file example with video compressed using H.264 |
| **F2** | [**D1M1.h264**](http://biometrics.nist.gov/cs_links/DVR_Standards/D1M1.h264) | A raw video file saved as H.264 |
| **F3** | [**D3M1.asf**](http://biometrics.nist.gov/cs_links/DVR_Standards/D3M1.asf) | An *asf* file example with video compressing using H.264 |
| **F4** | [**D1M1.avi**](http://biometrics.nist.gov/cs_links/DVR_Standards/D1M1.avi) | An *avi* file example with video compressed using H.264 |
| **F5** | **MISB.mpg** | An *mpg* file example with video compressed using H.264 and KLV-encoded precision time stamps embedded in SEI messages |
| **F6** | **MISB.TS.ts** | Same Content as the MISB *mpg* file but renamed with a *ts* extension |
| **F7** | [**WEB1.mp4**](http://biometrics.nist.gov/cs_links/DVR_Standards/web1.mp4) | An *mp4* file with video compressed using H.264 |
| **F8** | [**WEB2.mpeg**](http://biometrics.nist.gov/cs_links/DVR_Standards/web2.mpeg) | An *mp4* file with video compressed using H.265 |
| **F9** | [**WEB3.mp4**](http://biometrics.nist.gov/cs_links/DVR_Standards/web3.mp4) | An *mp4* file with video compressed using H.264. This file serves as a reference implementation of the metadata defined in NISTIR-8161; it includes precision time embedded in each video frame and clock offset metatdata stored as an *xmp* packet at the end of the video bitstream. |

* The illustrative description of WEB3.mp4 describes the contents and layout of this file.

1. This file has not been authorized for public release. Contact the [National Geospatial Agency, Motion Imagery Standards Board](http://www.gwg.nga.mil/misb/) for further information. [↑](#footnote-ref-1)