

IFF SDK on Jetson platform

This setup demonstrates capabilities of MRTech IFF SDK on one of the supported platforms.

Hardware

- NVIDIA Jetson AGX Xavier module installed on ConnectTech Rogue carrier board
- Two XIMEA MX031CG-SY-X2G2-FF cameras with FireFly cables and M.2 adapters
- Two XIMEA MC031CG-SY-UB cameras with USB cables
- Laptop with NVIDIA GPU as a receiving station

Software

- L4T operating system running on Jetson
- example IFF SDK application implementing RTSP streaming server with minimal code:

```
iff_initialize(base_cfg);  
auto handle = iff_create_chain(chain_cfg, error_handler);
```

- demo RTSP streaming client application

MRTech IFF SDK features:

- IFF SDK supports Linux running on ARM and Intel CPUs and Windows operating systems.
- IFF SDK can be customized or extended per customer request.
- Integration with 3rd party software is also possible using import and export adapters.

Features

- Acquisition from XIMEA, Basler, MIPI or other cameras.
- Various image processing modules, including, but not limited to black level subtraction, (auto-) white balancing, auto-exposure, demosaicing, gamma correction, H264/H265 encoding.
- RTSP/RTP streaming server and client.
- Reliable and proven production-ready code with deep technical support offered.
- Processing acceleration using NVIDIA GPU.
- JSON-based pipeline description language.
- Simple C and Python SDK interfaces allowing for low-code solutions in simple cases and providing extensive capabilities for complex applications.
- Runtime control of various acquisition and processing parameters through C, Python and HTTP REST APIs.

Example operation performance

High dynamic range mode:

- All four cameras work simultaneously
- QXGA 2062x1544 resolution (more than 1080p Full HD), 60 FPS, 12-bit acquisition for each camera
- 11x11 demosaic, color correction
- Hybrid Log-Gamma correction
- 8-bit H264 10 Mbit/s RTSP streaming
- glass-to-glass latency: ~70-80 ms including 20 ms processing time on Jetson