M2S SDK

Macnica Media Streaming SDK

SMPTE® ST 2110
COMPLIANT STREAMING SOFTWARE

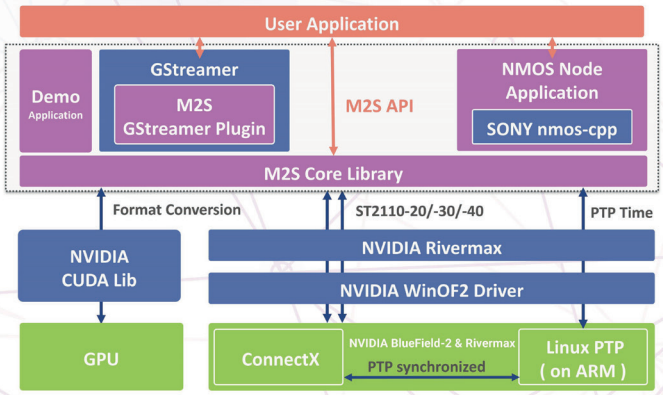
Recently, the number of system devices for broadcasting stations using general-purpose IP networks has been increasing. In the future, the need for not only conventional SDI to IP converters (SDI over IP Gateway, etc.) but also broadcast operation systems (on-premise/cloud) based on All IP is expected to increase so Macnica is offering an early release of the Macnica Media Streaming SDK (M2S SDK), which enables the implementation of software-based SMPTE ST 2110 and AMWA NMOS IS-04/IS-05 compatible systems on general-purpose servers.

FEATURES

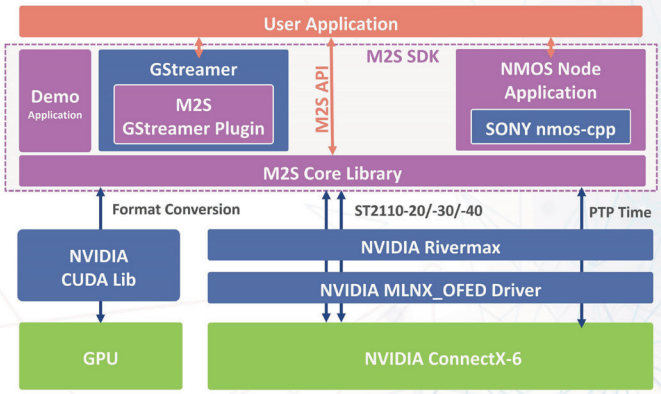
- Compatible with SMPTE® ST 2110 standard and AMWA NMOS IS-04, IS-05
  - Supports Video (4K, 1080p, 1080i/50Hz, 59.94Hz/4:2:2/10bit), Audio (24bit/2-32ch), Ancillary
  - Compatible with ST 2110-22. JPEG-XS encoding and decoding will be supported by hardware processing or software processing using the CPU or GPU.
- API provided with M2S SDK.
  - Control by API is possible. Basic processing of ST 2110 such as IP packet generation and analysis, hitless protection, etc. is performed inside M2S, allowing customers to focus on video, audio, and ancillary raw data processing and application development.
- Support for Multiple NICs
  - APIs can be used across NICs
- Supports PTP control via Hardware Timestamp on NICs
- GPU Support
  - When used with a GPU, the GPU performs the most demanding processing to reduce the CPU load.
- Supports Linux OS (Ubuntu)
- ST 2110 plug-in for GStreamer supporting M2S is provided.
  - By connecting GStreamer elements, it is possible to input and display video and audio, and send compressed content via ST 2110.
  - Input to OBS Studio is possible by connecting to v4l2 element.

  - NIC: Network Interface Card
  - M2S: Macnica Media Streaming

M2S SDK STRUCTURE FOR WINDOWS



M2S SDK STRUCTURE FOR LINUX



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SPECIFICATIONS

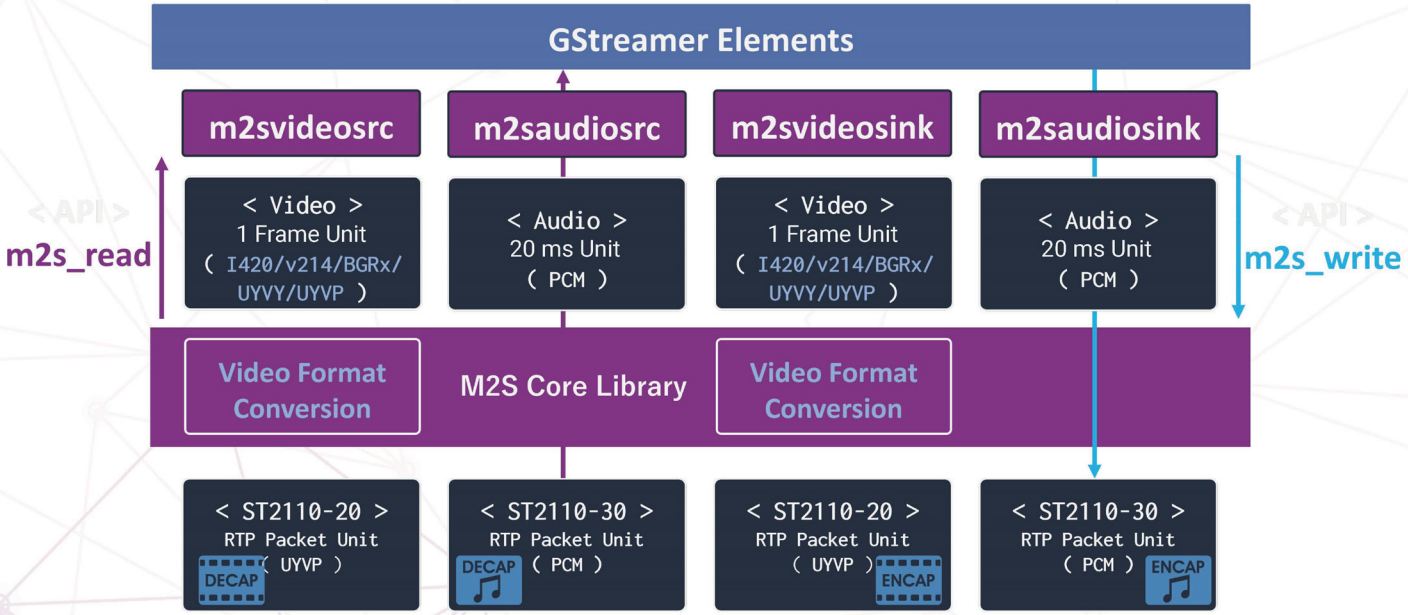
M2S SDK Windows for NVIDIA BlueField-2/Rivermax

	Features	Spec	Note
Target Platform	Supports Linux OS (Ubuntu)		
Software	Target OS	Windows	
	User interface	Macnica M2S plain API	
Ethernet	100GbE x 2		
ST2059	Linux PTP		
ST2110-20	Resolution	3840x2160p 1920x1080p 1920x1080i	
	Mapping Structure	4:2:2 10bit	
	Frame Rate(Hz)	59.94, 50	
ST2110-21	Supported Type	TX side : Type-N RX side : Type-W	
ST2110-30	Conformance Level	Level-B + 16ch	
	Sampling Rate	48KHz	
	Number of channel per stream	2 to 16	Packet Time 1ms up to 8ch Packet Time 125us up to 16ch
ST2110-40	Supported DID/SDID	Any	
ST2022-7	Support Class	Class-A, B, C and Class-D	
NMOS	Support protocol	IS-04 and IS-05	Supported by next version

M2S SDK Linux for NVIDIA ConnectX-6/Rivermax

	Features	Spec		Note
Target Platform	Supports Linux OS (Ubuntu) & Windows OS (2022 Server)			
Software	Target OS	Linux		
	User interface	Macnica M2S plain API		
Ethernet	100GbE x 2			
ST2059	Linux PTP			
ST2110-20	Resolution	3840x2160p, 1920x1080p, 1920x1080i		
	Number of Streams	Tx	Up to 36 for 1080i Up to 24 for 1080p Up to 5 for 2160p	In case of Supper Micro SYS 510P WTR. (The number of stream depends on PC performance.)
		Rx/Tx	Up to 25 for 1080i Up to 13 for 1080p Up to 3 for 2160p	
	Mapping Structure	4:2:2 10bit		
	Frame Rate(Hz)	59.94, 50		
ST2110-21	Supported Type	TX side : Type-N RX side : Type-W		
ST2110-30	Conformance Level	Level-B + 16ch		
	Sampling Rate	48KHz		
	Number of channel per stream	2 to 16		Packet Time 1ms up to 8ch Packet Time 125us up to 16ch
ST2110-40	Supported DID/SDID	Any		
ST2022-7	Support Class	Class-A, B, C and Class-D		
NMOS	Support protocol	IS-04 and IS-05		

M2S GSTREAMER PLUGIN



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