

# Etere Moves to IP

Planning a Broadcast System Without SDI



## Why Move to IP Now

- IP migration is increasingly a reality
- SMPTE 2110, Aspen & AIMS are too FAR away to be a standard
- So the idea is to create a cheaper & more effective IP solution for playout/Media Asset Management
- Leverage the advantages of IP, lower your operating & maintenance costs NOW

## Why Move to IP Now

- Lower costs by up to 50%
- IP infrastructure is easier to build
- Easy to expand
- Easy to connect

# Etere For SDI Over IP

- Requires only standard Gigabit network
- Does not require traditional SDI hardware, cables or other accessories
- Inexpensive and low TCO
- Open to the future, manages SD/HD/4K signals without any changes

## Etere is VM Compatible

- Uses Virtual Machine (VM) for any scope
- Only Multiviewer requires the SDI cards
- Virtual environment to manage your Media Asset Management, Ingest, Transcoding and Playout
- Cost savings of more than 50% in hardware & maintenance

# Network Device Interface

- Etere is compatible with NDI technology since 2014
- NDI is a royalty-free standard by NewTek
- Multiple video systems to identify & communicate with one another over IP
- Encode, transmit, receive video & audio in real-time



# NDI Characteristics

- The receiver connects to sender
- It is capable of auto reconnection
- It can have a failover
- It is point-to-point
- It allows 2 HD signals in 1 Gbit network port
- It has a very low CPU impact



# Etere is VM Compatible

Example ETX with NDI video stream	Approximate Bandwidth Required
1 x UHDp60 video stream	250 Mbps
1 x UHDp30 video stream	200 Mbps
1 x 1080p60 video stream	125 Mbps
1 x 1080i60 video stream	100 Mbps
1 x 720p60 video stream	90 Mbps
1 x SD video stream	20 Mbps

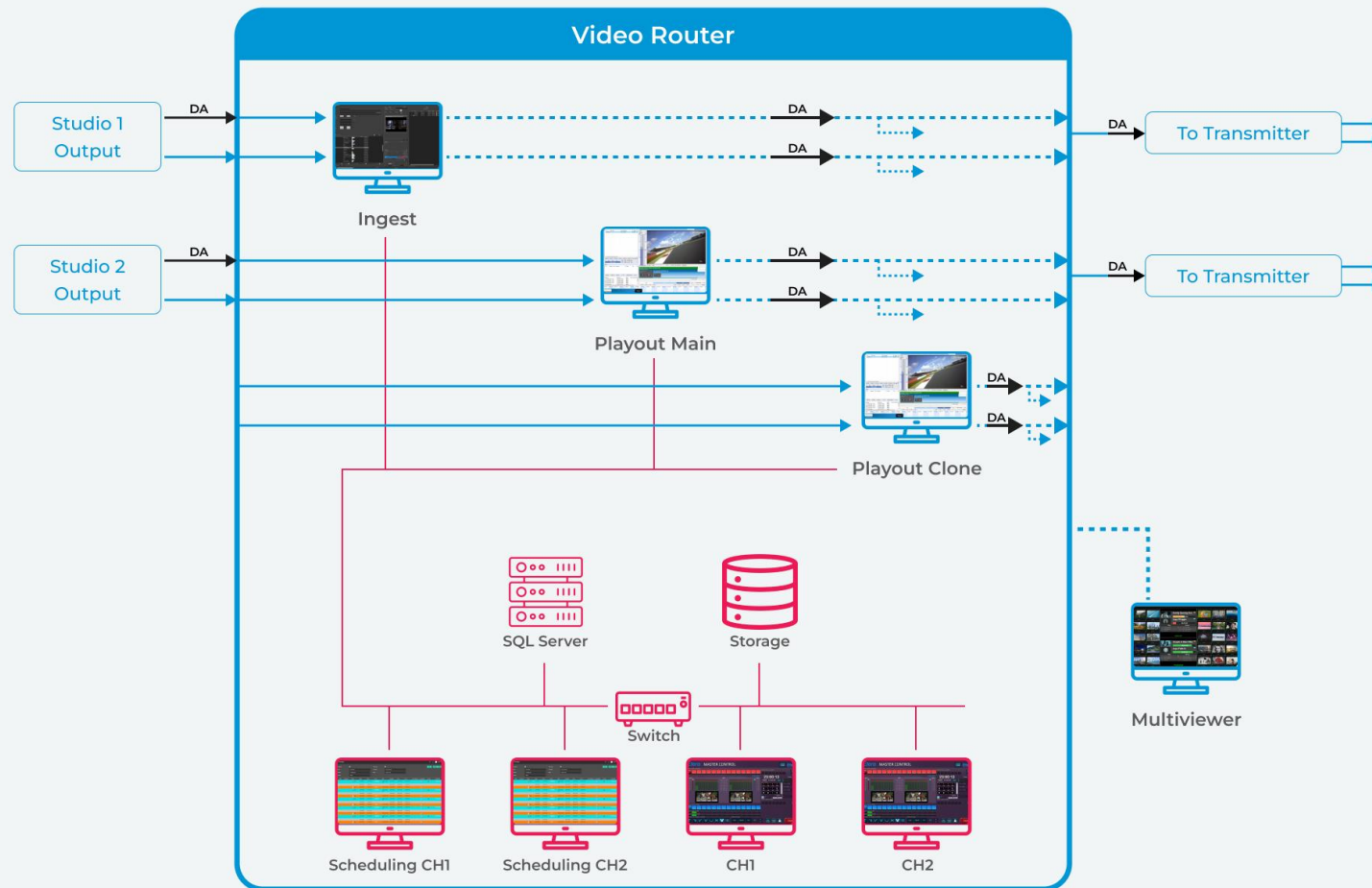
## Bandwidth Requirements:

The approximate bandwidth required per NDI video stream for common video resolutions and frame rates



## BEFORE NDI

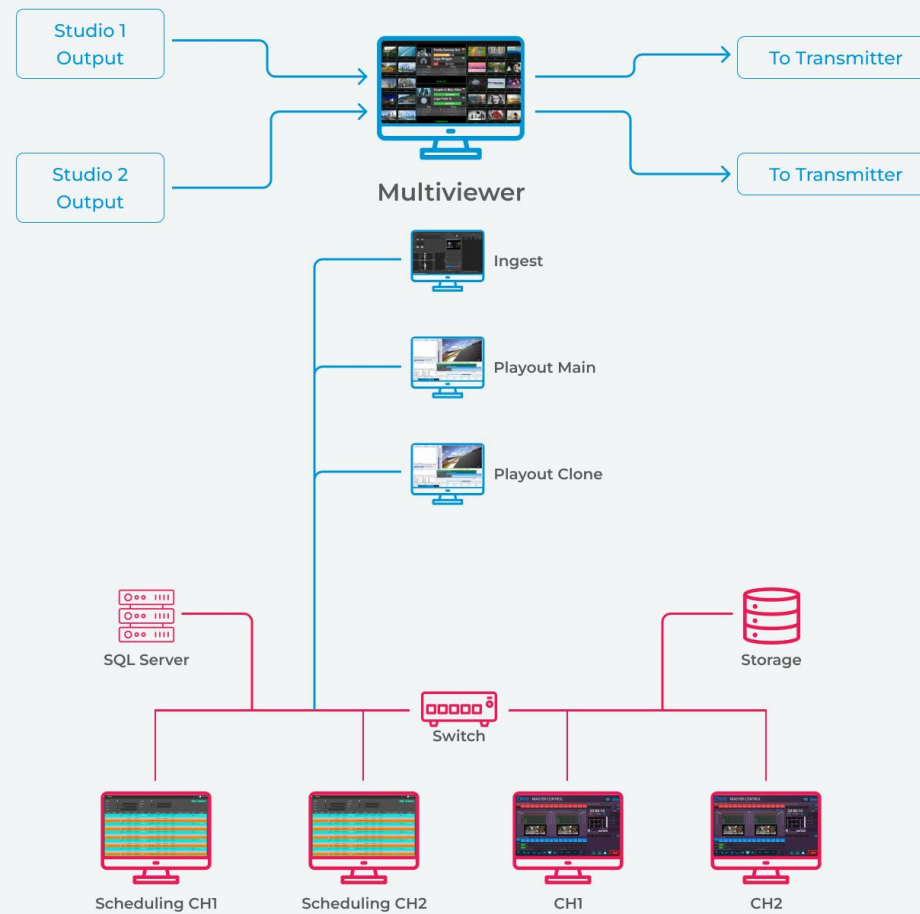
**Etere**  
a consistent system



**Etere**  
a consistent system

## AFTER NDI

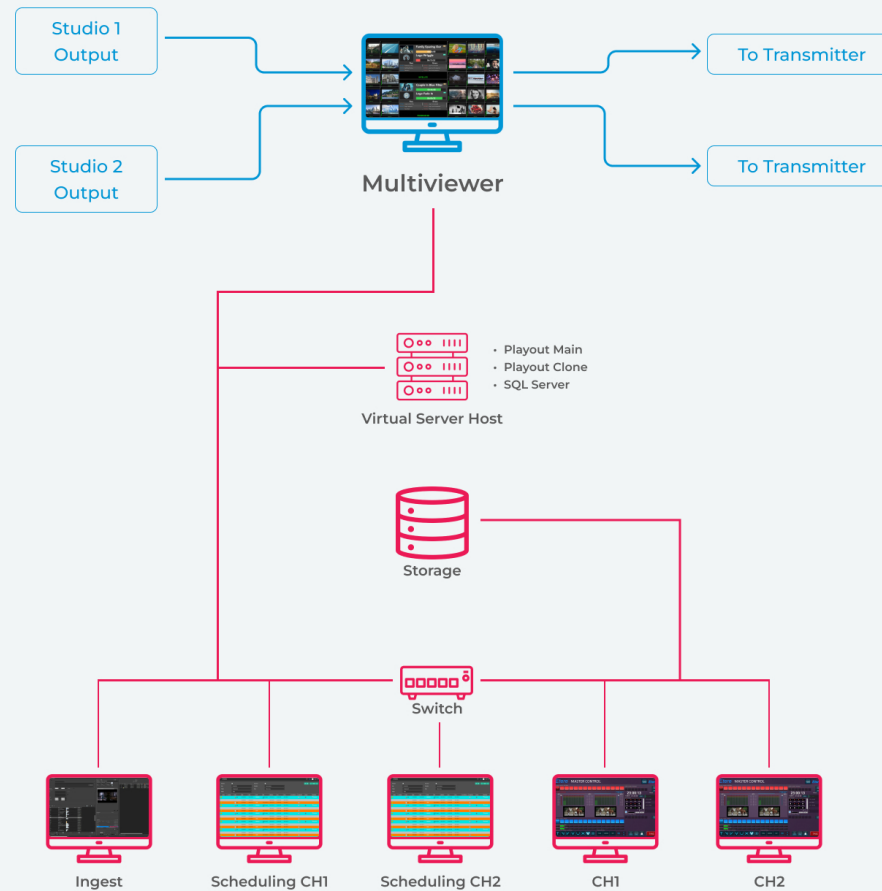
**Etere**  
a consistent system



**Etere**  
a consistent system

## NDI NOW VIRTUAL MACHINES

**Etere**  
a consistent system



**Etere**  
a consistent system

# Etere ETX-M IP Multiviewer



# Etere ETX-M IP Multiviewer

- Automatic email alerts
- Record simultaneously for live video & network video broadcast
- Compatible with ALL stream types including H.264
- Customizable buffering including low delay & user-defined speeds

# Etere ETX-M IP Multiviewer

- Manage multiple inputs of network & live video sources for simultaneous broadcast
- 4K resolution monitoring
- Up to 9 display monitors
- Up to 30 video streams in real-time
- Includes ETX Legacy Converter



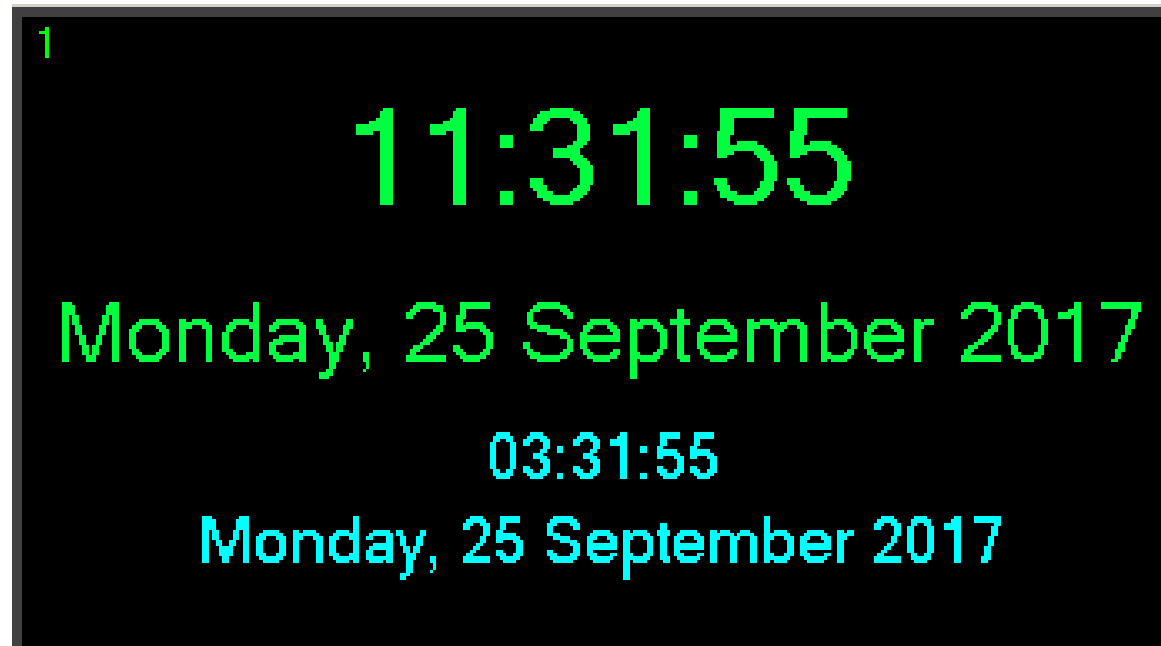
Instant  
This hour  
Last hour

Configurable  
Tally

Tally Lights



# Multi Time Zones Clock





# Etere ETX Legacy Converter

- ETX Legacy Converter
- Converts SDI in & SDI out in NDI streams
- Converts IP in out to NDI streams
- Uses UDP/RTP/RTSP/RTMP
- It can easily manage 20+ channels, limited only by the Network interface speed
- Software can be embedded in ETX-M IP Multiviewer to limit connection & bandwidth

# ETX Legacy Converter

**Etere multi viewer**

**Sources**

<b>Channel1</b>	
Id:	Channel1
Preview monitor:	1
Input:	NDI (01ETX0001N)
Output:	DeckLink SDI
<b>Clock</b>	
Id:	Clock
Preview monitor:	2
Input:	-
Output:	-
<b>Channel3</b>	
Id:	Channel3
Preview monitor:	3
Input:	NDI (CARLOW8 (PCH_1) ND
Output:	-
<b>Channel5</b>	
Id:	Channel5
Preview monitor:	4
Input:	NDI (CARLOW8 (PCH_2) ND
Output:	-
<b>Channel7</b>	
Id:	Channel7
Preview monitor:	5
Input:	DeckLink SDI (2)
Output:	-
<b>Channel9</b>	
Id:	Channel9
Preview monitor:	6
Input:	NDI (MASSIMOW10 (01ETX)
Output:	-

**Settings** **Control**

Preview  
Id: Channel1  
Preview window: 1  
Audio thresholds (dB)  
Yellow -18  
Red -12  
Redundant channel  
Multiviewer MULTI2  
Channel Channel3  
☒ View closed captions

Input  
Type: Video device input

**Device input**

<b>Video input</b>	
Video device	NDI Receiver
Video line NDI stream	01ETX0001N
List active NDI streams	False
NDI bandwidth	highest
Video format	<Auto/Not Specified>
<b>Audio input</b>	
Audio device	<From Video>
External audio	<No External Audio>
Audio format	<Auto/Not Specified>

**Backup NDI**

<b>Video input</b>	
Video line NDI stream	01ETX0002N
List active NDI streams	False
NDI bandwidth	lowest
Video format	<Auto/Not Specified>
<b>Audio input</b>	
Audio device	<From Video>
External audio	<No External Audio>
Audio format	<Auto/Not Specified>

Output  
Type: Video device output

**Device Output**

Device	DeckLink SDI
Line-out	SDI

GPI 2

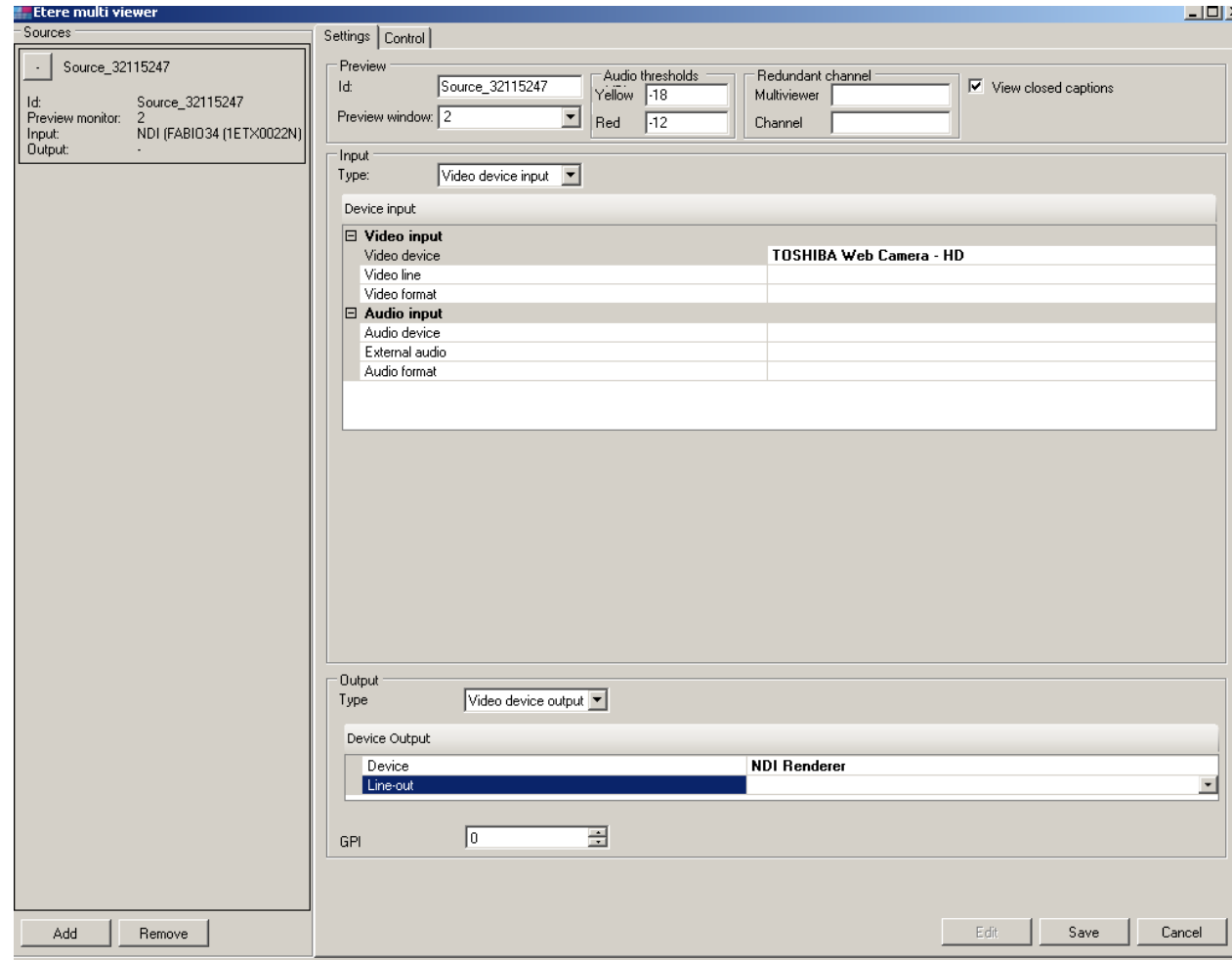
Add Remove Edit Save Cancel

Main

Backup

Output

# Legacy from SDI to NDI



# Router Monitoring


Video Routers

Video Routers  
C-01

Show only used channels

C-01 - channel 22

In/Out	Channel	Description	Connection	Manual	Used	View	URL
	21			<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	22	Fabio NDI PLAY		<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	23			<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	24			<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	25			<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	26			<input type="checkbox"/>	<input checked="" type="checkbox"/>		
	27			<input type="checkbox"/>	<input checked="" type="checkbox"/>		



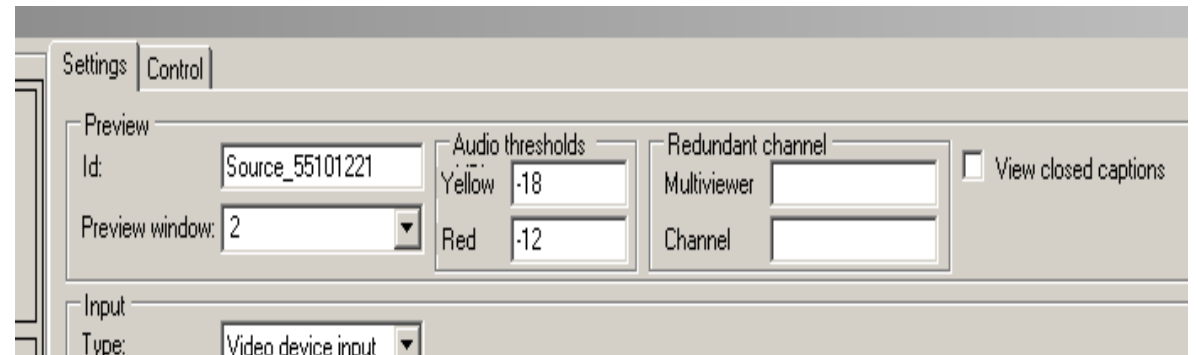
Directeur d'Écriture  
ALEX GALATIS  
Écrit par  
SEÁN CULLEN  
Storyboard  
STEVE EVANGELATOS  
Directeur Artistique  
MARK EVESTAFF

# Etere Bandwidth and Compatibility

- Manage multiple inputs & outputs ports
- Bandwidth consumption is only limited by the sources that are in use
- IP data packets are automatically processed, sorted & delivered
- Point-to-point IP connection with failovers
- Automatic re-connections

# Redundancy and Other Settings

- Etere ETX-M IP Multiviewer allows a main and BKP process
- To have an output in any case
- Closed caption preview is inserted automatically
- Audio custom loudness level for alert



# Thank you

[www.etere.com](http://www.etere.com)

