


NDI[®] Version Update

Create. Connect.





IP has played a major role in media production, both pre and post, for years but has been more problematic in live production. NDI® from NewTek took on the live production challenge and made simple, efficient connectivity over IP a reality.


- **NDI® has evolved to be an elegant solution that merges all stages of production from start to finish, live or not.**

In this new world, all of your production tasks and processes are united.

- Searching, reviewing, and packaging content for pre-production
- Switching and replay in live production
- multi-cam editing and content for post-production

- **NDI® offers a seamless and transparent technology to accomplish your creative vision.**

The latest release of NDI® provides a wealth of digital media production power

- Enhanced quality and efficiency of the codec for video
 - Transformative media acquisition, capture, and recording with IP
 - Discovery of devices across multiple networks
 - Transport enhancement including use of network accelerators
 - Tools, such as a plug-in to the Unreal 4 gaming creation engine
- 

MEDIA ACQUISITION AND CAPTURE

Camera proliferation has enabled the capture of as many angles as anyone could want, and massive storage is cheap enough that all this material is getting captured, ingested, and edited. This flood of video has developed into a truly difficult challenge.

This newest NDI® release addresses this issue as it makes ingest much, much simpler and gives a boost to pre-production, production, and post-production.

Scalable recording with NDI® is quick and easy

- NDI® Studio Monitor, one of many NDI® Tools available at no charge, features NewTek's integrated NDI® capture
- Download and start working with software and computers you already own
- Connect a standard RJ-45 Gigabit Ethernet cable, pick an NDI® source
- Start a recording that gets converted into a file.
- Support for 'growing files' even lets you start working while media capture continues.

MEDIA ACQUISITION AND CAPTURE

The updated NDI® SDK also offers enhanced acquisition capabilities, supporting high-efficiency H.264 decoding in a single step. Now virtually every manufacturer of video recording devices such as smartphones, tablets, and DSLR cameras can add NDI® support to existing products with just a software upgrade. Not only does this extend NDI's capabilities and ubiquity – just imagine the number of potential NDI® sources this means for your productions!

Media captured with NDI® eliminates many limitations of older protocols like SDI

- Support for any video aspect ratio, frame rate, or resolution
- Inclusion of multi-channel audio, embedded alpha for keying, and video proxies.

SYSTEM DISCOVERY

One of NDI's great strengths is the way NDI® devices automatically recognize one another on the network.

Flexibly create specific transmit and receive groups using the NDI® Access Manager available at no charge

Make easy connections across local network boundaries using static IP addresses when desired with NDI® Access Manager

Coordinate and connect all sources automatically, facilitating crossing network boundaries and working in diverse network architectures including

Cloud environments using the Discovery Server found in the latest version of NDI®

LATEST CAPABILITIES

Video Codec

- Significant improvements in video quality at the same bit-rate.
- Significantly faster than previous versions.
- Separate code implementations for almost all Intel code architectures with platform specific optimizations.
- Higher quality, including support for 16bpp support. The 16bit path is very highly optimized and only a few percent slower than 8bit paths.
- Much faster RGBA support with significantly higher quality by keeping all intermediaries at full 16bit precision.
- Support for many more input and output colors as part of the native code path, planar 4:2:0, 4:2:2, 4:2:2:4, BGRA and RGBA
- The latest version of NDI|HX is fully integrated into NDI® and does not require separate drivers and is available in the NDI® Embedded SDK. This means that most camera suppliers can simply firmware upgrade their devices to full NDI® support.
- Full support for hardware acceleration on integrated NDI|HX implementation using Intel, Nvidia®, and AMD based hardware decoding accelerators.

Audio codec

- Full NDI|HX support that does not require separate drivers and supports up to 8 channels of audio compressed in other formats. This means that most camera and device suppliers can simply firmware update their devices to support full NDI® support.

LATEST CAPABILITIES

Discovery

- Support for a user implemented discovery server, that acts to coordinate and connect all sources. This permits use in the cloud, or in network architectures that cross network boundaries.

Transport

- New multi-TCP mode that is designed to use hardware accelerated network adapters with adaptive bandwidth sharing across NICs and all network paths, even ones with unmatched bandwidth or other traffic on them. Low kernel overhead and zero memory copy on many platforms.
- High performance IO completion port and ePoll implementations for highest OS native support.
- The latest version of NDI|HX includes error resilience by automatically detecting data drops and requesting I-frame insertions so that video will now show artifacts even on high error rate networks.
- Standardization around how PTZ cameras operate.

LATEST CAPABILITIES CONT...

Recording

- Record an unlimited number of NDI® video channels with all the complexity of matching audio and video time-bases, frame-rates, sample rates, efficient file writing.
- Record any number of NDI® video sources without recompression. This means that it takes no CPU time to record any number of channels so that any number of channels can be iso-recorded; limited only by disk and network speeds.
- All recordings are time-stamped and time-based corrected so that any number of channels can be recorded on any number of systems and the results will all be synchronized together. This makes editing video fundamentally easier.
- Full support for recording with alpha channel
- Full support for any number of audio channels.
- Recording works with 16bpp sources at full precision.
- Recording tools are included in the SDK at no charge, advancing ingest and capture as well as making multi-camera production and editing simple.

LATEST CAPABILITIES CONT...

Tools

- Epic Games Unreal 4 plugin
- Studio Monitor has integrated the recording of all NDI® sources. Using multiple monitors a user can ISO record as many channels as they need.



© 2019 NewTek, Inc. All rights reserved. NDI, TriCaster, 3Play, TalkShow, Video Toaster, LightWave 3D, and Broadcast Minds are registered trademarks of NewTek, Inc. MediaDS, Connect Spark, LightWave, and ProTek are trademarks and/or service marks of NewTek, Inc.