NDI Changes

NDI 6.1.1

Fixed

Resolved a low-level exception encountered when importing recorded SpeedHQ files into Adobe Premiere Pro.

Addressed an issue where the NDI Virtual Input could stop functioning after a few seconds on certain macOS platforms.

Improved handling of connection metadata when using with NDI Routing API.

Addressed a possible issue with the Discovery Server where sources might not appear intermittently.

NDI 6.1.0

NDI Tools

NDI Bridge Enhancements

Added a connection test feature to determine optimal buffer delay settings for your network.

Introduced a dedicated statistics window with timeline graphs to monitor system and bridge usage.

Added a logging window with support for log level filters to view bridge logs more effectively.

Local mode now includes an option to configure the local send group for bridge sources.

More

NDI Tools launcher layout and style improvements. (macOS and Windows).

The NDI Virtual Input app on macOS has been updated to utilize modern system extensions introduced in macOS Sonoma 14.1.

All NDI Tools apps on Windows are now updated to use .NET 8.

Standalone Tools

The NDI Bridge Service is now available for free download on the ndi.video website. It allows you to run NDI Bridge in a headless mode as a Windows service. Please refer to the documentation for more details.

The NDI Free Audio utility is now available for free download on Windows and Linux via the ndi.video website. It also includes enhanced ASIO support for Windows devices.

The NDI Analysis tool has been improved to include additional information about NDI stream timings when exporting to a CSV file. Please refer to the NDI Analysis documentation for more details.

Fixed

NDI Access Manager (macOS) now supports inputting multiple discovery server IP addresses.

Corrected an issue in NDI Router (macOS) where HDR images were not rendered properly in the preview.

Resolved a potential exception in the source menu of NDI Router (macOS) when parsing NDI sources.

Resolved an issue where NDI Bridge failed to auto-start in Local mode.

Fixed a potential deadlock when closing an NDI Bridge stream in Join mode.

Corrected NDI Test Patterns to ensure the full Rec.709 color range is output for imported images (Windows).

Fixed an issue with NDI Remote when enumerating system audio devices.

Resolved a potential issue in NDI Studio Monitor when rendering test patterns with alpha transparency.

Enabled high bit-depth decoding in NDI Studio Monitor for streams with BT.2020 color primaries.

Added support for higher color depth when playing SDR files using the VLC player with the NDI output plugin enabled.

Fixed audio driver stability issues with NDI Webcam.

NDI SDK

FPGA Improvements

Added support for 16-bit color formats on FPGA platforms.

Introduced encoder support for planar alpha.

Added support for new packed and semi-planar video formats.

Implemented 64-bit addressing in raw audio/video input and output logic. For more details, refer to the ChangeLog files.

More

The Advanced SDK now features a new API that enables dynamic adjustment of the receive bandwidth for NDI video streams. For more information, please consult the Advanced SDK documentation.

Added new audio conversion utility APIs for NDIlib_audio_frame_v3_t structure.

Made improvements to the SpeedHQ codec to verify the correctness of the bitstream before decompression.

Fixed

Fixed incorrect HDR color information in MOV files recorded using the NDI Recorder utility.

Addressed an issue where the NDI library took longer than expected to unload in specific scenarios.

Addressed a potential frame drop issue with NDI|HX streams under specific conditions.

General improvements to the RUDP protocol.

NDI 6.0.1

NDI Tools

HDR

The NDI output plugin for VLC now includes HDR support.

Fixed

Corrected rendering issue when importing custom images from older version of NDI Test Patterns on Windows.

Resolved a potential crash in NDI Remote.

Resolved a minor Talkback audio issue in NDI Remote.

Added a firewall exception rule for the NDI Remote app.

Resolved an issue with loading the NDI output plugin for Final Cut Pro on newer versions of macOS.

NDI video monitor on Mac was not playing audio.

Ensured correct permissions are set on the NDI Runtime installer on MacOS.

Resolved an issue where the NDI Tools registration state was not being saved correctly.

NDI SDK

Fixed

Resolved a source limitation issue with the NDI Discovery server running on Linux.

Addressed an issue with NDI Frame Sync, restoring correct behavior in audio capture.

Fixed a potential threading issue when loading and unloading the NDI library on Windows.

NDI 6.0.0

NDI Tools

All New NDI Router app for macOS.

HDR

NDI Test Patterns now supports HDR patterns (macOS and Windows).

NDI Studio Monitor now supports displaying HDR content in both PQ and HLG (Windows).

NDI Studio Monitor (Windows) enhanced to capture NDI HDR streams.

NDI Bridge gains 10-bit HEVC transcoding and HDR pass-through.

NDI Screen Capture HX (Windows) adds support for HDR screens and 10-bit HEVC.

NDI Analysis in Frame Checker mode will now output HDR color information if present.

More

NDI Video Monitor (macOS) now includes new KVM support.

NDI Launcher app adds one-click link to extensive online Docs &Guides.

Fixed

Reduced latency from NDI Screen Capture HX (Windows).

Resolved NDI Bridge Local mode issue when handling a source that has multiple machine names.

NDI Bridge enhanced to leverage the increased number of encoders supported by NVIDIA GeForce cards (may require NVIDIA driver update).

Resolved an NDI Webcam audio driver stability issue.

NDI SDK

Support for 16-bit color formats improved (P216/PA16).

New specification for NDI HDR metadata (see the new dedicated HDR section of the NDI SDK for details).

New receiver formats permit SpeedHQ pass-through with UYVY/P216 video.

HDR example code samples provided with NDI SDK.

The NDI Advanced SDK includes a new NDI Embedded Bridge command line utility for Linux, with comprehensive guidance on its use.

NDI Recorder utility enhanced to capture NDI HDR streams.

Please note: The NDI Advanced SDK licensing scheme has been enhanced. To use NDI 6.0 features, advanced SDK users will need a new License ID (which replaces the former Vendor ID). Please contact support@ndi.video

Fixed

Improved audio synchronization with NDI Frame Sync API.

NDI 5.6.1

Bug fix in NDI Test Patterns on Windows where the NDI send pattern would appear green when changing the frame rate of imported stills.

Bug fix in NDI Screen Capture on Windows where options was not correctly restored on system reboot/restart.

Fixed an issue with NDI genlock where the genlock connect API call could get blocked.

Fixed an issue in NDI DirectShow filter to preserve the aspect ratio.

Bug fix in NDI Bridge when displaying calculated bandwidth in the UI.

Updated the NDI library for Android to use an embedded version of mDNS for compatibility with newer Android OS.

Fixed a potential crash in NDI library when destroying the NDI sender instance on windows.

Improvements to FPGA reference design. Please refer to the ChangeLog files for more details.

NDI 5.6.0

NDI Bridge Enhancements

Various minor improvements

New configurable buffer setting improves stability, smooths out network jitter, and reduces stuttering on the incoming remote NDI Bridge sources.

Updated encryption model with TLS 1.3 (Note: for compatibility, this requires all NDI Bridge nodes to use version 5.6).

New option for multi-GPU systems allows transcoding to be assigned to specific hardware.

More

Windows versions of NDI Tools now restore system tray icons after Windows Explorer restarts.

Newer PTZ cameras are recognized within NDI Studio Monitor for registration purposes.

Improved forward error correction in multicast and unicast UDP sending.

Improved detection of clients that suddenly disappear within the NDI Discovery server.

Improvements to FPGA reference design. Please refer to the ChangeLog files for more details.

The NDI Webcam tool will no longer show an NDI logo when connecting to sources. This makes the tool better for people who are using it in production.

NDI 5.5.4

Fixed detection of Adobe applications on Windows to install the NDI plugins appropriately.

Fixed potential crash when using the NDI Transmit plugin on macOS.

Fixed previews not rendering in NDI Webcam and NDI Router on a system with dual GPUs.

Fixed potential hang in NDI video encoder.

Fixed compatibility issue with NDI Remote while working on AWS.

Fixed handling of audio devices in NDI Studio Monitor when a device is added or removed.

Fixed potential hang in NDI Launcher after choosing to run certain NDI applications.

Added support for longer NDI source names.

Increased reliability when using NVIDIA GPU for hardware accelerated decoding.

Increased reliability of the embedded web server within NDI Studio Monitor.

Updated URLs for NDI short links.

NDI 5.5.3

Improved performance of audio resampling used in NDI frame sync.

Improved handling of misleading "extra data" within NDI|HX video streams.

Updated NDI Launcher on macOS to look for 2023 versions of Adobe applications.

Improved handling of encryption key changes in NDI Bridge.

NDI 5.5.2

Bug fix on older versions of Windows 10 where system audio was not captured within NDI Screen Capture.

Fixed crash when handling SpeedHQ video within the NDI library on Android.

Bug fix where streams caused reconnections to occur when using RUDP on Android.

Bug fix for issue when initializing RUDP streams on platforms where RUDP is not supported.

Made improvements in mDNS handling on Windows.

Improve responsiveness when establishing new connections in NDI receiver.

Fixed crash in NDI Discovery Server if it was started on a system with no available NICs.

Fixed potential freeze in Adobe Premiere while attempting to export and the NDI Transmit plugin was active.

Fixed "Launch at System Startup" feature in NDI Launcher for non-admin user accounts on Windows.

Fixed bug where multiple TAB button clicks caused the NDI Launcher window to become blank.

Fixed bug in the NDI recorder when recording an audio stream that was not 48 kHz.

General performance and stability improvements for NDI Launcher.

Fixed a bug where the session settings from the older version of NDI Launcher would not transfer to the newly installed version.

NDI 5.5.1

Improvements in startup time for NDI Launcher caused by low internet bandwidth.

Bug fix for NDI tutorial video overlapping caused by low internet bandwidth.

Fixed potential instability issue when using a newer version of the NDI|HX driver with older versions of NDI software.

NDI 5.5.0

Registration and Launcher streamlined.

Autorun selected NDI apps on system start.

All new matrix Router for NDI streams.

NDI Remote enhancements, including Talkback.

Multi-cam support for NDI Webcam.

NDI Audio Direct (VST plugins for your DAW).

[Much more ...](#)

NDI 5.1.4

Bug fix in NDI Screen Capture on Windows incorrectly enabling pointer trails for mouse capture.

Bug fix in NDI Studio Monitor after activation of certain NDI|HX cameras.

Bug fix for issue when initializing RUDP streams on platforms where RUDP is not supported.

Bug fix when processing certain PA16 video frames.

Bug fix in NDI Scan Converter on macOS not capturing and sending video.

NDI 5.1.3

Bug fix in the NDI SDK where decoding 10-bit HEVC on an NVIDIA video card could lead to a crash.

Bug fix for NDI Screen Capture on Windows 11 to lead to webcam devices being unusable.

Bug fix for Premiere plugin where audio channels were mapped incorrectly for NDI output.

Addressed stability issues in NDI VST output plugin.

NDI 5.1.2

Bug fix for NDI Bridge using high bandwidth for H.264 and HEVC streams.

Bug fix in the NDI SDK where a reported tally change was not notified properly in the NDI sender.

Bug fix where the bandwidth for interlaced video was double the intended bandwidth.

Bug fix in NDI Bridge for HEVC video not being generated appropriately when running on an Intel-only system.

Bug fix in Premiere plugin that would lead to unstableness when reconnecting audio devices while the NDI output was enabled.

NDI 5.1.1

Fixed a problem in which HX sources might not have been decoded correctly on NVIDIA hardware when asking for RGB output data.

NDI 5.1.0

Bug fix in Premiere plugin that solved A/V sync problems when the NDI side-car index files have been deleted. In recent versions of NDI we moved our recording to use 64-bit MOV indexing in the headers which allows for much longer files to be recorded, this change needed to be reflected in the Premiere plugin.

Discovery servers may now be specified by a DNS name and not just as an IP address.

The NDI SDK uses typed values for returning "instances" instead of relying on void*. For most code this will be a change that does not require any updates, however if your code assumes that these types are void* then you will need to update it. Most importantly however, this avoids the potential for mixing up the types passed into NDI functions which reduces the chances of potential bugs in code that uses the NDI SDK.

Fix memory leak when using "chop" on NDI recording code.

The NDI installer and uninstallers will silently shut down the tools launcher and no longer give you a warning when installing.

The NDI SDK will validate XML messages being sent before they are transmitted, this ensures that there is no vulnerability in which a remote application might be able to crash by sending data that is not XML. The only SDK assumption of course is that down-stream NDI receivers correctly parse XML being received which is something that the SDK is unable to control directly.

NDI Studio Monitor has much lower GPU usage when running in Low Latency mode.

NDI Bridge will transcode into full-bandwidth with increased compatibility for hardware high-bandwidth decoders that do not have full support for the entire set of NDI codec capabilities. This should significantly improve compatibility with hardware decoders.

NDI Bridge includes an option that allows it to avoid automatic detection of the external IP and port number (and detection of whether port forwarding is enabled). This allows you to use NDI Bridge when you are not on a public network at all.

Important changes to the performance of RUDP on Linux platforms that enable Generic Segmentation Offload (GSO) for UDP sending, which might also be referred to as UDP_SEGMENT which was made available in Linux Kernel 4.18. This results in significantly reduced CPU overhead.

Removed limitation on how many NDI senders can be created on a single machine.

NDI 5.0.11

Bug fix for the NDI Transmit plug-in for Adobe CC applications.

Version number update to match public launch of NDI Tools that includes NDI Bridge.

MOV files recorded by the NDI SDK or Tools were technically limited to about 14 hours long because the indexes for this file format have a size limitation of 32-bits in "number of clock samples". By using the extended version of these headers there is no longer any reasonable restriction on the length of recordings.

NDI 5.0.10

The first version that includes full NDI Bridge. The NDI Bridge executable supports three command line options, the first is "/join" which will start the application in the Join mode. "/local" and "/host" start the application in Local and Host mode respectively.

Support for hardware rendering of the mouse cursor in Screen Capture without "trails" and without any performance overhead.

KVM support for applications has been added to the Advanced SDK.

Support for the latest version of the Adobe CC applications that have been updated.

Reliable UDP sending is likely to use lower CPU usage than previous versions. NDI will take advantage of computer systems with NICs that support hardware accelerated UDP segmentation offload. This can be used to offload much of the CPU burden of high bandwidth UDP sending. Better reliable UDP spreading of sending and receiving across multiple CPU cores.

If you are connected to an NDI discovery server and the network connection is physically lost (i.e., the application or device on one side does not gracefully close the connection), this will now be detected and handled much more quickly than previous versions.

Lower CPU usage in many situations through more efficient use of queues without CPU locking.

The NDI installer on Windows will check whether "Media Foundation" is available on your operating system and notify you if it needs to be installed. There are some local versions of Windows (e.g., Windows 10 Pro N) that might not include this as a default option.

The NDI installer will back up your NDI configuration when it is being installed so that each update to Tools does not wipe out your configuration. When you uninstall NDI Tools completely, the configuration should be completely removed.

Fix on Apple SDKs for cases in which extra data was incorrect in HX2 streams, we now handle this condition gracefully.

Apple SDKs with Free NDI SDK now bring back all the Apple platforms into a single installer which unfortunately significantly increases the install size. It does mean one SDK covers macOS, iPad, iOS, tvOS however.

Android SDK is available for free for use in mobile applications.

NDI 5.0.9

Launching an NDI application no longer will try to configure the firewall for you unless you have administration privileges. This avoids the potential for the annoying user-access-control dialog to come up each time you launch an NDI application – you are likely still then to see a firewall warning which you will have to click on "Allow" access for, or NDI will not be able to access you network correctly.

The NDI screensaver is now aware of multi-DPI settings when you have multiple monitors on the system with different DPI settings.

The NDI Webcam tool will no longer show an NDI logo when connecting to sources. This makes the tool better for people who are using it in production.

When auto-focus is switched off for a PTZ Monitor in Studio Monitor, we do not resend the previous focus distance which makes the operation "feel better" because the focus stays set on the last value it was seen when auto-focus was used.

Reliable UDP sending is likely to use lower CPU usage than previous versions. NDI will take advantage of computer systems with NICs that support hardware accelerated UDP segmentation offload. This can be used to offload much of the CPU burden of high bandwidth UDP sending.

NDI 5.0.8

Very significant changes have been made to RUDP sending to allow for much better network utilization on network with high round-trip time or packet loss. In addition, RUDP support has significant updates with much improved performance on WAN and MTU discovery. Significant

improvements to macOS, iOS, and Android have been made. Some important notes have been added to the Advanced SDK documentation regarding how to efficiently send compressed frames to the network under poor conditions with the SDK.

NDI SDK documentation has been updated with comments on performance, particularly related to some ARM platforms.

NDI 5.0.7

The NDI redistributable that was included with the SDK was not digitally signed, this has been corrected.

Fix for NDI Screen Capture HX in which a lockup was possible if a device (e.g., blue-tooth keyboard) was removed at almost the same time that an NDI connection was closed.

Fix a problem with Screen Capture in which we might not send the first frame if the current screen was not changing at the time the NDI connection was made.

A condition was fixed in which Panasonic NDI cameras might not be detected on the network if they had been added after NDI started and had not yet been running for more than a few minutes.

NDI 5.0.6

Change to the RUDP receiver (and somewhat the sender) to have higher performance on multi-core machines that are under load or running many threads. When possible, we now keep a thread in a wake-able state on each CPU core so that upon receiving data we always know that it can be processed if there is any CPU time on the machine.

In Screen Capture it was possible that if a screen was not currently being updated that new NDI connections that occur do not receive a frame. The primary problem occurred when there was more than one connection at a time.

The NDI Launcher application will notify you when there is a newer version available, so you do not always need to track our web site for changes!

The NDI launcher will give you access to the NDI changes list so you can quickly see what has been updated in this version of NDI.

A crash that could occur based on timing when applications connected and disconnected from the "Web Cam input" on Windows has been fixed.

The discovery server allows you to specify a port number using the flag "-port 5959". You can now choose any port you want and in Access Manager or the configuration files you can specify a

discovery server address that includes a port number. This allows you for instance to run multiple discovery servers on a single machine that controls different sets of NDI sources.

NDI 5.0.5

Using NDI | HX v1 cameras with the Bridge Local mode (our transcoder) could cause video artifacts under certain network conditions due to the potential for compressed frames to be missed. This is now no longer possible.

There was an issue where if a configuration file had a NIC filter set up that specified adapter that did not exist on your machine then we would bind to a NIC that does not exist which would fail but might slow down the creation of connections or other possibly symptoms. We now validate the configuration files against the NICs that are on the machine and check that the IP addresses are truly valid before attempting to bind to them.

SDK sample code that shows how to display the average frame time and jitter in the advanced SDK.

NDI 5.0.4

NDI Remote had an issue with some cameras when moving between the high quality and proxy streams. This has been resolved.

Reliable UDP sending was always asynchronous in all sending, however it still needed to use a single thread per sending destination to ensure that individual connections could not interfere with other ones (which might have stalled). This is no longer the case and RUDP can now send across all destinations with all buffers in flight without needing any additional threads to service the sending.

NDI 5.0.3

Improvement to Windows-based audio and video drivers will make them much more robust to applications that are less tolerant of "strange clocking". In general, this makes things far more robust and should result in much better results. A placeholder image is shown when you are not connected to a source so that the application receives video instead of simply receiving no data.

In the NDI Tools on Windows, clicking on the "Balloon help popups" in Screen Capture and Webcam input no longer opens the help, but instead opens the context menu for that tool. This is very convenient and much less annoying! (Help is still available on the context menus).

The Webcam tool on Windows will connect to audio much faster. It was previously a problem that when you started a call (e.g., with Skype, Teams or Zoom) that it took about half a second for the audio to even start which meant that communication was hard. This should no longer happen.

Importantly, if you are using the Webcam plugins with applications like Skype, Teams or Zoom and you are using audio content that is not just speech, it is important to disable noise suppression and

echo cancellation. These effects are designed to make speech more audible against background sounds, however, can also create significant audio artifacts on music or other non-speech content.

Audio support on some much older NDI HX v1 converter devices was not working, this has now been solved.

NDI 5.0.2
NDI discovery server has an optional parameter that allows you to bind it to a single NIC on your machine for improved security.

NDI discovery server displays output that is designed to be read by another application that might want to provide a UI on top of it.

NDI 5.0.1
Example code for showing how to connect to a device (as a receiver) and recover the tally state. This makes the implementation of external tally devices very simple. This uses the *tally_echo* functionality.

New example code included in NDI Advanced SDK.

RUDP is available as a specific connection type setting on macOS, previously "auto" selected it because it is now the default but there should be a specific setting that enables it.

The "preferred NIC" is not a guarantee that a NIC will be used on all protocols since there are some cases where it might not be possible; this is particularly true for the older transfer protocols. We have extended the support for NIC selection to include more modes and increasing both sides of the connection (both sending and receiving).

Bug fix for a case in which connection sharing might not have always worked, particularly when using loop-back on the local machine. This did not actually cause any visible problem but caused NDI to work a little less efficiently than it should have.

Studio Monitor PTZ keyboard shortcuts handled "left" at a slightly different speed from "right". These now match exactly.

Changes to HX drivers on iOS that make them more compliant with app store rules.

Bug fix for crash using NDI Audio Direct with Adobe Audition.

NDI 5.0.0
The first launch of NDI 5!