

Release Version v2.1.0 (2014/5/28)

Modules:

Item		Version
FW	CT-4000/ CT-4000R	CT-4000(R)_2.1.0_0024_1823.bin
	CT-8000R/ CT-8000RP	CT-8000R(P)_2.1.0_0024_1826.bin
	Device Pack	v3.3
Application	Crystal NuClient - Windows	v2.1.0.19
	Crystal NuClient - Mac	v2.1.0.19

New Feature:

1. Support N+M Recording Failover group
2. Support system status monitoring (System Overview)
3. Support NUUO A08 IO box
4. Support new system event
 - Volume operation error (Recording Server)
 - Volume Group no functional volume (Recording Server)
 - Recording Module error (Recording Server)
 - Power Failed (Redundant power CT-8000RP model)
 - No available Failover Server for disconnected Recording Server (Ultimate level)
5. New language supported: French, Swedish, Simplified Chinese
6. Support Recording Server local display

Enhancement:

1. Handle SSL heartbleed security issue
2. Volume Group Self-Failover: In the unlikely event of volume group failure, cameras are automatically distributed across the remaining volume groups, providing volume group failover
3. Support selecting channel on Backup Player
4. Improve error handling in hard disk failure issue

Issue solved:

1. [FAE] Solve the issue that on the calendar of NuClient Playback, sometimes the date with video record will not be highlighted.
2. [FAE] Solve the issue that on the "Normal" status of boosting record (record in low frame rate), audio from the camera is not recorded.
3. Solve the issue that sometimes Metadata Search by regular expression will cause Metadata Server stop receiving data for several minute.

Version Compatibility Notice:

1. Please use Installation Wizard v2.1 to search v2.1 Crystal server; use Installation Wizard v2.0 to search v2.0 server.
2. Once upgrading system to Crystal v2.1, it is not supported to downgrade to Crystal v2.0.
3. Please ensure all servers and clients(Management Server/ Recording Server/ Metadata Server/ NuClient/ NuMatrix) in the system are in the same product version(v2.0 or v2.1).

Suggested upgrade SOP:

- 1) Backup all configuration in the system
- 2) Upgrade Management Server
- 3) Upgrade Recording Server and Metadata Server
- 4) Upgrade NuClient and NuMatrix application
- 5) Make sure all servers and clients are in the same version

Known Issue:

New known issue from v2.1.0

[Server]

1. [License] The maximum number of license serial number activation is 178 serial numbers.
For example, if one the system has 200ch camera, it is suggest activating one 200ch serial number, rather than 200 1ch licenses.
2. [Event Action] DO trigger action is not supported on disk abnormal event but it available on Config tab for setup.
3. [Recording Failover Server] When Recording Server activate manual record and then disconnect, the Recording Failover Server taking over the Recording Server will keep the target Recording Server original recording settings, rather than manual record operating.
4. Please shut down Crystal server before plug out hard drive from hardware.

5. Sometimes, switch between Recording Server "Recording" mode and "Recording Failover" type and then commit immediately, "commit fail" message will popup but it succeed.
6. Some languages not supported will still be able to choose on web client entrance page and display string in English.
7. [Mobotix] Camera resolution width more than 2560 pixel or height more than 1536 pixel from Mobotix camera is not supported.

[NuClient]

1. After upgrading device pack, please re-login NuClient so that the device pack version on system overview will be refreshed.
2. [VIVOTEK FE8174] When NuClient dewarp the camera by VIVOTEK SDK in full-view panorama mode, motion on the video will cause broken video frame.
3. On Playback timeline, all events available to set up in the system will display event log line on timeline, even the event is not assigned by user or not in event schedule.
4. If camera video frame is 1 fps, sometimes the live viewing of the video will stop.
5. Some nVIDIA VGA card(9600GSO, 9800GT) will cause NuClient CPU loading increase.
6. [Mac] Sometimes if editing and then committing a lot of view on Mac, the commit will fail.
7. [WAN] On WAN environment, sometimes NuClient will popup RPC error when logging in Management Server due to the network connection is not stable or the bandwidth is not enough. The issue will happen more frequently in Windows XP.
8. [WAN] On WAN environment, sometimes live view will stop due to the network connection is not stable or the bandwidth is not enough.

Known issue from v2.0.4

[Server]

1. [Web] When "modifying" HDD and the bandwidth is not enough, it is possible to popup "modify fail" message, but the modification is success.
2. [Management Server] Users shall export/ import whole system configuration into new system, or "associated camera" configuration can't be copy to the target server.

3. [Management Server] If pull out HDD suddenly when system operating, some system event will not be triggered normally.
4. For "DO trigger" and "camera go to preset" action, it doesn't not support system automatically close these actions after assigned time period.
5. [Web][Firefox] The web port should be "80". (Firefox limitation)
6. [Camera] [Sony_SNC_DS60] Motion event won't be triggered
7. [Camera] [Sony_SNC_DS60] When trying to trigger camera DO2, the DO1 will be triggered, rather than DO 2.

[NuClient]

1. When the network connection is not stable, sometimes the video exists but video timeline/event sign on timeline/calendar view will not display video record sign.
2. [Metadata] Need to wait for a while for metadata timeline display when there are a lot of channels of metadata.
3. If system only has one volume but shared by Recording Server and Management Server, sometimes on NuClient Properties widget, the volume name will show "volume 2".
4. Not support metadata export as mov and original AVI file.
5. If video is recycled, users shall re-login so that the timeline on playback will be clear.
6. Not support cross resolution export. Please export video cross resolution into different videos.
7. It can't export video in H.264 format with SPS/PPS header to .mov file. Honeywell_HD3MDIH/ Sony-SNC_RX530 utilize this format, so on Mac OS, the video cannot be exported in H.264 because Mac only supports .mov export.
8. When the network connection is not stable, and commit multiple Views to server, it might fails and popup RPC error (-1) message.
9. If using joystick to control optical PTZ on popup video, sometimes the NuClient might automatically close.
10. [Web Client] On web NuClient, after installing metadata plugin in the first time, users should press "F5" to refresh the interface to view the plugin.
11. [Mac] When event triggering audio notification on NuClient, and manual stop the audio or change audio file, NuClient might be closed on Mac OS.
12. [Mac] The number of total connection per Mac client shall be under 500ch.
*If one camera utilizes multiple stream, each stream will count for one connection, so the total number of device connected shall be lower than 500ch.

13. [Camera] When rename preset point for some camera, it might add another preset point, rather than modify the assigned one. (Camera preset point settings format limitation.)
14. [Camera] [Axis_P1354/ Axis M1054] In AAC audio codec, the voice can't be heard.
15. [Camera] [Santec] In H.264, AAC audio codec, the voice is not clear.
16. [Camera] [Sony_SNC-CH280/ Sony_SNC-EP52] When using G.711_64K, the voice might be lag or not clear.
17. [Camera] [LG_LW352] G.726 24K audio codec doesn't work.
18. [Camera] [LG_LW130W] Audio codec "G.711 PCMA" and "G.726 24K" is not clear.
19. [Camera] [Everfocus_EMN 2220/Messoa_NCR875PRO] Audio on playback is not smooth.
20. [Camera] [Zavio_P5116] The H.264 format is not smooth on Playback.
21. [Camera] [Fine_TCP-VM559] H.264 can't be export as .mov.
22. [Language] Some words on the interface will display in English, not the chosen language.
23. [Language] Installation wizard not support Thai.
24. [Language] The system only support 12 languages, but some other languages() are available to be chosen and display in English.

[NuMatrix] (Available in Ultimate level)

1. When camera disconnect and then automatically connect, users need to manually disconnect and then connect the camera on NuMatrix tool bar to update the status. (Video live viewing will operate normally.)

Release Version v2.0.4 (2014/2/25)

Modules:

Item		Version
FW	CT-4000/ CT-4000R	CT_4000(R)_2.0.4_0086_1450.bin
	CT-8000R/ CT-8000RP	CT_8000R(P)_2.0.4_0086_1453.bin
	Device Pack	2.20
Application	Crystal NuClient - Windows	2.0.4.7
	Crystal NuClient - Mac	2.0.4.7

*For WAN project suggestion, please refer to <http://www.nuuo.com/wiki.php#>

New Feature:

1. Support Windows 8.1 and IE 11
2. Support NUUO Retail Gateway (wide POS software support, US only)
3. Support Spanish
4. Support device pack upgrade independently from server firmware

Enhancement:

1. Speed up PTZ send command speed
2. Improve NUUO generic fisheye dewarp quality by enhancing algorithm
3. Video playback will be switch to i-frame mode when bandwidth is not enough
4. Built in NUUO C31A as default metadata plugin
5. Improve redundant power signal control

Support Language: (12 languages)

- Czech
- Chinese (Traditional)
- English
- Finnish
- Japanese
- Korean

- Polish
- Portuguese (Brazil)
- Russian
- Spanish
- Thai
- Turkish

Issue solved:

1. Solve the issue that if cameras use specific audio codec, the audio playback might be not smooth, e.x Samsung SND-5080N.
2. Solve the issue that NuClient and NuMatrix might disconnect when operate View Tour on NuMatrix
3. Solve the issue that NuMatrix may disconnect with NuClient matrix control console
4. Solve the issue that on Backup Player, when reverse playback in more than 2x speed and then reverse playback in 1x speed, the AP will stop.
5. [Mac] On Mac OS, when snapshot and print it from NuClient's interface, NuClient might be possible to stop for a while.
6. Solve the issue that after importing configuration to the system, sometimes the Metadata Server needs to restart to connect.

Known Issue:

[Server]

1. [Web] When upgrading firmware, the network bandwidth should be more than 4 mbps.
2. [Web] When "modifying" HDD, it is possible that the modification time out so display modify fail, but the modification is success due to not enough network bandwidth.
3. [Management Server] Users shall export/ import whole system configuration into new system, or "associated camera" configuration can't be copy to the target server.
4. [Management Server] If pull out HDD suddenly when system operating, some system event will not be triggered normally.
5. For "DO trigger" and "camera go to preset" action, it doesn't not support system automatically close these actions after assigned time period.

6. [Web][Firefox] The web port should be "80". (Firefox limitation)
7. [Camera] [Sony_SNC_DS60] Motion event won't be triggered
8. [Camera] [Sony_SNC_DS60] When trying to trigger camera DO2, the DO1 will be triggered, rather than DO 2.

[NuClient]

1. When the connection status is not stable, sometimes the video exists but video timeline, event sign on timeline, and calendar view will not display video record sign.
2. [Metadata] Need to wait for a while for metadata timeline display when there are a lot of channels of metadata.
3. If system only has one volume but shared by Recording Server and Management Server, sometimes on NuClient Properties widget, the volume name will show "volume 2".
4. Not support metadata export as mov and original AVI file.
5. If video is recycled, users shall re-login so that the timeline on playback will be clear.
6. Not support cross resolution export. Please export video cross resolution into different videos.
7. It can't export video in H.264 format with SPS/PPS header to .mov file. Honeywell_HD3MDIH/ Sony-SNC_RX530 utilize this format, so on Mac OS, the video cannot be exported in H.264 because Mac only supports .mov export.
8. When the network connection is not stable, and commit multiple Views to server, it might fails and popup RPC error (-1) message.
9. If using joystick to control optical PTZ on popup video, sometimes the NuClient might automatically close.
10. [Web Client] On web NuClient, after installing metadata plugin in the first time, users should press "F5" to refresh the interface to view the plugin.
11. [Mac] When event triggering audio notification on NuClient, and manual stop the audio or change audio file, NuClient might be closed on Mac OS.
12. [Mac] The number of total connection per Mac client shall be under 500ch.
*If one camera utilizes multiple stream, each stream will count for one connection, so the total number of device connected shall be lower than 500ch.
13. [Camera] When rename preset point for some camera, it might add another preset point, rather than modify the assigned one. (Camera preset point settings format limitation.)
14. [Camera] [Axis_P1354/ Axis M1054] In AAC audio codec, the voice can't be heard.

15. [Camera] [Santec] In H.264, AAC audio codec, the voice is not clear.
16. [Camera] [Sony_SNC-CH280/ Sony_SNC-EP52] When using G.711_64K, the voice might be lag or not clear.
17. [Camera] [LG_LW352] G.726 24K audio codec doesn't work.
18. [Camera] [LG_LW130W] Audio codec "G.711 PCMA" and "G.726 24K" is not clear.
19. [Camera] [Everfocus_EMN 2220/Messoa_NCR875PRO] Audio on playback is not smooth.
20. [Camera] [Zavio_P5116] The H.264 format is not smooth on Playback.
21. [Camera] [Fine_TCP-VM559] H.264 can't be export as .mov.
22. [Language] Some words on the interface will display in English, not the chosen language.
23. [Language] Installation wizard not support Thai.
24. [Language] The system only support 12 languages, but some other languages() are available to be chosen and display in English.

[NuMatrix] (Ultimate only)

1. When camera disconnect and then automatically connect, users need to manually disconnect and then connect the camera on NuMatrix tool bar to update the status. (Video live viewing will operate normally.)

Release Version v2.0.3 (2013/11/4)

Modules:

Item		Version
FW	CT-4000/ CT-4000R	CT-4040_2.0.0_0074_1042.bin
	CT-8000R/ CT-8000RP	CT-8000R_2.0.0_0074_1044.bin
	Device Pack	v2.18
Application	Crystal NuClient	MAC: Crystal_2.0.3_AP_MacOSX.zip Windows: Crystal_2.0.3_AP_Windows.zip

Main Features:

[Server]

1. Centralized management to manage unlimited devices and events on unified NuClient.
2. Built-in Management Server, Recording Server and Metadata Server in one Crystal Titan
3. 3rd party integration for Metadata Server—POS via TCP client or C31A, Falco Access Control
4. Onvif ProfileS compatible
5. Record up to 64 megapixel cameras per recording server
6. High throughput (250Mbps) supporting up to 64x 5-Megapixel cameras (based on H.264, 10 fps, moderate traffic)
*Please refer to NUUO calculator: <http://www.nuuo.com/calculator/>
7. Volume group to distribute cameras to assigned volumes
8. Individual recycle condition (IRC) per device
9. Support RAID 0,1, 5, and 10
10. Camera multiple stream support
11. Stream up to 256ch live viewing connections per server to multiple clients simultaneously
12. Camera edge motion detection
13. Support continuous, scheduled, event based and I/O based recording
14. Synchronized audio and video recording

15. Dual gigabit Ethernet ports
16. Centralized I/O and event respond systems
17. PTZ control priority
18. Powerful authorization for device permission and function privilege
19. Schedule-based user management
20. Scheduled Backup video to FTP location
21. Multiple codec support : H.264, MJPEG, MPEG4 and MxPEG
22. Watermark for video verification
23. Support NTP (Internet Time Server)
24. Support hardware watchdog (CT-8000R and CT-8000RP)and software watchdog
25. Support redundant power (CT-8000RP)
26. Support up to 256 NUUO I/O boxes per server (SCB-C24/C26/C28)
27. Support APC Uninterrupted Power Supply

[Client]

1. All in one NuClient for remote configuring and viewing
2. Unlimited channels of NuMatrix Video Wall (Ultimate)
3. Up to 400CH of video live view for each NuClient application
*Refer to <http://www.nuuo.com/calculator/>
4. Centralized E-map
5. Centralized I/O Panel and Event Panel
6. NUUO Image Fusion Technology - stitch up to 10 cameras together
7. Generic Fisheye Dewarp technology for all fisheye cameras
8. Support digital and optical PTZ
9. Support preset and patrol
10. Support multiple stream profile
11. Support automatically and simultaneously switch stream profile for View
12. Public and private view/ view profile for each user
13. Instant Playback on live view, e-map and event list
14. Save video clips into Original AVI, AVI ASF, and MOV.
15. Export video on AVI format with 3rd part data overlay

16. Intelligent Search in playback

Support Language: (11 languages)

- Czech
- Chinese (Traditional)
- English
- Finnish
- Japanese
- Korean
- Polish
- Portuguese (Brazil)
- Russian
- Thai
- Turkish

Known Issue:

[Server]

9. [Web] When upgrading firmware, the network bandwidth should be more than 4 mbps.
10. [Web] When “modifying” HDD, it is possible that the modification time out so display modify fail, but the modification is success due to not enough network bandwidth.
11. [Management Server] Users shall export/ import whole system configuration into new system, or “associated camera” configuration can’t be copy to the target server.
12. [Management Server] During hot swap HDD, some system event will not be triggered.
13. When assign one volume for recording, and then go to the Metadata Sever in the same Crystal Titan soon, it is possible that the volume can be assign as metadata volume, and record both of video and metadata stream in one volume and affect the throughput and recycle.
14. Automatically close action after n sec. function is not supported on “DO trigger” and “camera go to preset” action.

15. It is possible that after import configuration to the system, Metadata Server need to restart to connect.
16. [Web][Firefox] The web port should be "80". (Firefox limitation)
17. [Camera] [Sony_SNC_DS60] Motion event won't be triggered
18. [Camera] [Sony_SNC_DS60] When trying to trigger camera DO2, the DO1 will be triggered, rather than DO 2.

[NuClient]

25. [Metadata] Need to wait for a while for metadata timeline display when there are a lot of channels of metadata.
26. Not support metadata export as .mov and original AVI file, so on Mac environment, it cannot export metadata stream because it only supports .mov export. (Format decode limitation)
27. After recycle, users shall re-login so that the timeline on playback will be clear.
28. When server throughput or CPU loading is high, or bandwidth is not enough, Playback will not smooth.
29. Not support cross resolution export. Please export video cross resolution into different videos.
30. Crystal not supports export H.264 SPS/PPS format as .mov file. Honeywell_HD3MDIH/ Sony-SNC_RX530 utilize this format, so on Mac OS, the video cannot be exported in H.264 because Mac only supports .mov export.
31. When the network connection is not stable, and commit multiple Views to server, it might fails and popup RPC error (-1) message.
32. If using joystick to control optical PTZ on popup video, the NuClient might close sometimes.
33. On Backup Player, it not supports reverse playback in more than 2x speed and then reverse playback in 1x speed.
34. [Web Client] On web NuClient, after installing metadata plugin in the first time, users should press "F5" to refresh the interface to view the plugin.
35. [Mac] When "print" snapshot from NuClient's interface, NuClient might be possible to hang on Mac OS.
36. [Mac] When event triggering audio notification on NuClient, and manual stop the audio or change audio file, NuClient might be closed on Mac OS.
37. [Mac] When using joystick to control next or previous grid on playback, it might be possible to focus to other grid first, and then the assigned grid on Mac OS.
38. [Mac] It is suggested that the number of total connection per Mac client shall be under 500ch.

*If one camera utilizes multiple stream, each stream will count for one connection, so the total number of device connected shall be lower than 500ch.

39. [Camera] When rename preset point for some camera, it might add another preset point, rather than modify the assigned one. (Camera preset point settings format limitation.)
40. [Camera] [Axis_P1354/ Axis M1054] In AAC audio codec, the voice can't be heard.
41. [Camera] [Santec] In H.264, AAC audio codec, the voice is not clear.
42. [Camera] [Sony_SNC-CH280/ Sony_SNC-EP52] When using G.711_64K, the voice might be lag or not clear.
43. [Camera] [LG_LW352] G.726 24K audio codec doesn't work.
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47. [Camera] [Fine_TCP-VM559] H.264 can't be export as .mov.
48. [Language] Some words on the interface will display in English, not the chosen language.
49. [Language] Installation wizard not support Thai.

[NuMatrix] (Ultimate only)

2. When camera disconnect and then automatically connect, users need to manually disconnect and then connect on NuMatrix tool bar to update the status. (Live view will operate normally.)
3. It's not recommend to use View tour on NuMatrix.

Remote Client PC Requirement:

Client PC Minimum Requirements		
Operating System	Windows XP (32-bit)/Windows 7 (32/64-bit)/Windows 8(32/64-bit) Mac OSX (v10.6/10.7/10.8)	
CPU	Intel Core 2 Duo, 2.6GHz	
Display Card	nVidia or ATI with 1GB memory (OpenGL 2.0 and later)	
OS Supported	Windows XP 32 bit	Windows 7 32/64 bit Windows 8(32/64-bit) Windows 8.1(32/64-bit) Mac OS X 10.6/10.7(64-bit)
RAM	1GB	2GB
LAN Transmission Speed	10/100/1000 Mbps (RJ45)	
Web Client	Internet Explorer 8, 9, 10, 11 Firefox 4.0-9.0 (Windows version)	

*It is suggested to use 64 bit system for best system performance.