OpenView SDK 1.0 Release Notes

> **Important note:** InstallOpenViewSDK64.exe will include documentation and a sample application. This executable should be used for the development of your application. The InstallOpenView64.exe file does not include the documentation and sample.

> **Important installation note:** To update OpenView SDK from version 1.0R8 or earlier, uninstall the older version, and then install the new version.

> **Note:** To read data files generated by MXU 5.11 and higher, you will no longer require the SDK. Direct access through the HDF5 library will be used to read the files. OpenView SDK is still required to control instruments and to read files up to MXU 5.10.

OpenView SDK 1.1.98.0   2023-09-17

New Features for Support of OmniScan X3 Software Version 5.15.0 & FOCUS PX Data Acquisition Unit

- MXU 5.15.0 file compatibility (.nde).
- FOCUS PX: TCG gain limits corrected to specifications for UT channels.

OpenView SDK 1.1.95.0   2023-07-04

New Features for Support of OmniScan X3 Software Version 5.14.0

- MXU 5.14.0 file compatibility (.nde).

OpenView SDK 1.1.93.3   2023-04-03

New Features for Support of OmniScan X3 Software Version 5.13.0

- MXU 5.13.0 file compatibility (.nde).

OpenView SDK 1.1.92   2022-12-20

New Features for Support of OmniScan X3 Software Versions 5 11.1 and 5.12.1

- MXU 5.11.1 and 5.12.1 file compatibility (.nde).

OpenView SDK 1.1.85   2022-07-14

New Features for Support of OmniScan X3 Software Version 5.10

- MXU 5.10 file compatibility.

- Added ability to read phase coherence imaging (PCI) .odat files.

OpenView SDK 1.1.83   2022-03-15

New Features for Support of OmniScan X3 Software Version 5.9

- MXU 5.9 file compatibility.

- Added OmniScan™ X3 64 pulser voltage fix (VPP).

OpenView SDK 1.1.82   2022-01-04

New Features for Support of OmniScan X3 Software Version 5.8

- MXU 5.8 file compatibility.

- LAW file importation: Data generated from a LAW file are available in OpenView. Delays and LAW information are now available.

- Added ApplicationSettings to IConventionalConfiguration, IPhasedArrayConfiguration, ITotalFocusingMethodConfiguration.

- Enabled OmniScan X3 64 connection.

- Added Beam skew to IFormationCompound, IFormationSectorial, IPhasedArrayBeamConfiguration, IAscanBufferDescriptor.

- Added TFM Filter selection to IFullMatrixCaptureConfiguration.

OpenView SDK 1.1.81.2   2021-10-06

New Features for Support of OmniScan X3 Software Version 5.7

- MXU 5.7 RC 711 file compatibility.

- Enabled LAW file importation: Data generated from a LAW file are available in OpenView. Delays and LAW file content are not available.

- Custom palettes can now be loaded.

- Added weld cap information.

- Enabled importation of DXF CAD files.

- Added angle UT raster scan.

- Added Gate mode in IGateConfiguration.

- Custom palettes now save to OVD.

- Added format and usage properties to ICustomSection.

- New IFormationCustom for configuration can be created from a LAW file.

- Added scan type to IInspectionConfiguration (one-line or raster scan).

- Updated code snippet with TOFD on PA example (CreateDataFile and ReadDataFile).

- Enabled OmniScan X3 connection.

- Added weld cap and bottom views.

- Added thickness information (*IThicknessSettings* to *IConventionalConfiguration*).

OpenView SDK 1.1.68.7   2020-01-15

Bugs Fixed:

- *ConfigTool* issue with IP address.

New Features for Support of OmniScan X3 Software Version 5.5

- UT/TOFD probe in ODAT (*ProbeConfigurationType*).

- Added cap and HAZ parameters to the weld.

- Added thickness information (*IThicknessSettings* to *IConventionalConfiguration*).

FOCUS PX Package
1.3 R2T2

OpenView SDK 1.1.67.3   2020-11-09

Bugs Fixed:

- File reading issue with OmniScan data files acquired using the RollerFORM scanner.

FOCUS PX Package
1.3 R2T2

OpenView SDK 1.1.66.10   2020-10-01

Bugs Fixed:

- Buffer amplitude scaling descriptor with TOFD config.

- Show product version in the *ConfigTool* log window

- System device version between API and *ConfigTool*

- Deprecated *GetLibraryVersion* and added *GetLibraryVersionE*x for instrumentation

FOCUS PX Package
1.3 R2T2

OpenView SDK 1.1.65.5   2020-09-15

Bugs Fixed:

- Force patch index length to 1 with .odat files when using *OneLineScan* without linear @ zero

OpenView SDK 1.1.64.3   2020-09-08

Bugs Fixed (for the OmniScan X3):

- Instability issues caused by new versioning

OpenView SDK 1.1.63.8   2020-08-14

Bugs Fixed (for the OmniScan X3):

- Compatibility with the OmniScan X3 software 5.4 release.

- Use semantic versioning.

- Buffers data access using one line scan mode (.odat).

- Patch axes length with (.odat).

- Index offset with TOFD inspection method (.odat).

- Include storage library version in *FileSignature.*

OpenView SDK 1.0R62   2020-08-14

Bugs Fixed (for the OmniScan X3):

- Added indication logs.

- Fixed missing files after an installation upgrade.

- Changed indication distance unit from meter to millimeter.

OpenView SDK 1.0R61   2020-08-10

Bugs Fixed (for the OmniScan X3):

- Support the official OmniScan X3 5.3.0.1203 release.
- Support for the OmniScan X3 unit's *Coupling Check* group.
- Exposed the OmniScan X3 serial number.
- Changed indication *GroupingNumber* to *ReferenceNumber.*
- New libraries semantic version nomenclature.
- Index axis computation with .fpd merged group and 270 degree probe skew.

OpenView SDK 1.0R60   2020-07-29

Bugs Fixed (for the OmniScan X3):

- Added new file signature including original file source
- Synchronization with the OmniScan X3 package (5.3.0-RC.1186)
- Added reference gain for conventional and phased array config.
- Support for OmniScan X3 files using A-scan synchro on Gate I
- Support for OmniScan X3 16x64 model data files
- Fixed index axis computation for merged group with .fpd files
- Updated Visual C++ redistributables included with installers

OpenView SDK 1.0R59   2020-07-15

Bugs Fixed (for the OmniScan™ X3):

- Configuration Tool: Support for devices using IPv4 address with 0 as the last digit

OpenView SDK 1.0R58   2020-06-26

Bugs Fixed (for the OmniScan X3):

- Support for the official OmniScan™ X3 5.3.0.1203 release
- Support for the OmniScan X3 unit's *Coupling Check* group

- Exposed the OmniScan X3 serial number.

- Change Indication *GroupingNumber* to *ReferenceNumber*

- New libraries semantic version nomenclature

- Index axis computation with .fpd merged group and 270 degree probe skew

OpenView SDK 1.0R57   2020-06-25

Bugs Fixed (for the OmniScan X3):

- Synchronization with the OmniScan X3 package (5.3.0-Beta.911)

- Added analysis gain parameter to conventional and phased array configuration

- Added C-scan time resolution by gate according to process source

- Added new indication verdict value "Unspecified" as the default value

- Fixed the crash when probe connection was missing

- Reworked *ReadDataFile* snippet

- Updated documentation

OpenView SDK 1.0R56   2020-06-08

Bugs Fixed (for the OmniScan X3):

- Synchronization with the OmniScan X3 package (5.3.0-Beta.556)

- Support for .odat files using linear @ zero with a one line scan

- Support for .odat files with 5T TFM configuration

- Added new parameters to indication interface

- Use a double for amplitude scaling range

- Fixed index axis values with .fpd files

OpenView SDK 1.0R55   2020-05-11

Bugs Fixed (for the OmniScan X3):

- Synchronization with the latest OmniScan X3 package (5.3.0-Beta.221)

- Support for .odat files with total focusing method (TFM) configuration and data
- Added new key interfaces to access every kind of buffer without setup configurations

OpenView SDK 1.0R54   2020-05-03

- ABI compatibility with *IAcquiredData* interface
- Patched dimension and *RawCyledata* position mismatch
- Thickness source validation.
- A-scan DataType with .odat files

OpenView SDK 1.0R53   2020-04-24

Bugs Fixed (for the OmniScan X3):

- Support for the latest OmniScan X3 files (1.0R20)
- Support for OmniScan X3 raster scan data files
- Support for floating element step with linear formation
- Read/Write merged A-scan and C-scan buffers
- Added thickness settings and gate source with phased array configuration
- Support for gate linking configuration
- Support for 2 values of time, crossing, and amplitude for C-scan data (only one for .fpd files)
- Updated .ovd file version to 1.0.2.0 to support C-scan data with 1 or 2 values of time

OpenView SDK 1.0R52   2020-03-12

Version not available

OpenView SDK 1.0R51   2020-03-12

Bugs Fixed (for the OmniScan X3):

- Fixed wrong scan min/max data axis buffer with patch origin different than zero
- Support for OmniScan X3 setup version up to V18
- Support for different percent amplitude scaling range

- Improved read buffer robustness

OpenView SDK 1.0R50   2020-02-11

Bugs Fixed:

- Temporary modification for package download and firmware command timeout
- Fixed C-scan data position with OmniScan X3 data files
- Fixed exit point on conventional wedge so it is always positive
- Fixed sample point quantity inconsistency with X3 setup information.
- Log improvement with data files.

OpenView SDK 1.0R49   2020-01-23

Bugs Fixed:

- Configuration Tool: Stretched network adapter combo box selection
- Configuration Tool: Added warning to logger when network selected use DHCP
- Configuration Tool: Added warning to logger when network selected doesn't have the last two digits set to 0.1
- Fixed first pin ID value with configuration using port splitter
- Fixed conventional wedge angle value with OmniScan X3 data files
- Fixed wedge delay value from microsecond to nanosecond with OmniScan X3 data files
- Updated OmniScan X3 package to support the latest setup version
- Added rule on *CreateBuffers* to enforce that the length of each axis is a multiple of resolution
- Fixed buffer cell quantity in relation to scan and index patch axis

OpenView SDK 1.0R48   2019-12-17

New functionalities:

- Unreachable device state can be known using the *GetState* function

Bugs Fixed:

- Fixed probes and ports association with some OmniScan X3 data files

OpenView SDK 1.0R47   2019-12-03

Bugs Fixed:

- Improved handling of TCP network communication errors (ex: cable disconnected)
- Modifed *AcquisitionDataProcess* snippet according to the improved error handling
- Fixed imprecision of values with Ultrasound axis min and max
- Modifed *AcquisitionDataProcess* snippet according to the improved error handling
- Fixed imprecision of values with *DigitizingDelay*, *DigitizingLength,* and *AscanCompressionFactor*
- Fixed imprecision of values with Ultrasound axis min and max
- Fixed save to OpenView format (.ovd)
- Improved log information available from *OlympusNDT.OpenView.log*

OpenView SDK 1.0R46   2019-11-13

Bug Fixed:

- Fixed memory leaks with instrumentation library
- Fixed memory leaks with storage library (.ovs, .ovd and .odat files)
- Give correct value for *LastElementOfLastLaw*
- Adjust cells quantity with .ovd data files
- Give correct value for compression factor with .odat data files
- Sample quantity is computed correctly when saving .odat as an .ovd
- Improved exception management with .fpd data files

OpenView SDK 1.0R45   2019-11-01

New Features

Change log

- Support for open .odat data files while using debug with mixed mode
- Support for creating unlimited data files size. (see *WriteDataFile* snippet)

Bug Fixed:

- Fixed amplitude axis resolution

OpenView SDK 1.0R44   2019-10-21

Bug Fixed:

- Amplitude resolution was wrong with .odat files
- Sampling amplitude was wrong with .fpd files including unrectified data

OpenView SDK 1.0R43   2019-10-13

Version not available

OpenView SDK 1.0R42   2019-10-13

Bug Fixed:

- Bug with the data descriptors in an .odat file with more than 2 contexts

OpenView SDK 1.0R41   2019-10-08

New Features

- Added DLA/DMA support for .odat files

Bug Fixed:

- Fixed the no data value problems that occurred with some .odat files

OpenView SDK 1.0R40   2019-09-27

New Features

- Storage: Adjust the distinction between beam gain and beam set gain for FPD files

- Storage: Saves inspection date and time automatically

- 2 new filters added in option (ETO 507) Note: This option needs to be unlocked by Olympus

factory.

- FOCUS PX Package:1.3R2T2

Bugs fixed:

- OVSDK-722: Storage: Some capabilities were doubled
- OVSDK-558: Instrumentation: Removed potential problem with IP address 192.168.0.0
- OVSDK-696: Configuration Tool: Show log when application is started and improved the appearance of main buttons

OpenView SDK 1.0R39   2019-09-16

New Features

- Official release of the Unified Library File Format (Storage Library)
- Interpolate A-scans with compression to retrieve maximums

OpenView SDK 1.0R38   2019-08-21

Bugs Fixed

- Added refracted angle parameter for conventional configuration
- Fixed A-scan amplitude limits for half-wave negative rectification in a FocusPC file
- Fixed malformed OpenView registry key
- ODAT: Fixed A-scan and C-scan data descriptor values
- ODAT: Added access to encoder parameters
- ODAT: Added device capabilities
- ODAT: Added exit points

OpenView SDK 1.0R37   2019-08-14

Bugs Fixed

- Installer correctly cleans installation folder when a version upgrade is done
- Reverted to older version of Configuration Tool

OpenView SDK 1.0R36   2019-08-08

Note: It's important to uninstall "InstallOpenViewSDK64" and "InstallOpenView64" before installing this version.

Bugs Fixed

- Fixed the *AreEquals* function on *AcquisitionConfiguration* with recurrence values
- Fixed the blocking *ApplyConfiguration* when using the encoder firing trigger mode
- Data statuses when reading A-scan and C-scan data files

OpenView SDK 1.0R35   2019-08-06

New Features

- Storage project: Added Ultrasound and Amplitude for A-scan / C-scan data axis descriptors values with .ovd and .fpd files

Bugs fixed:

- Instrumentation: Beam recurrence value is now in nanoseconds
- Instrumentation/Storage: Logs improvement

OpenView SDK 1.0R34   2019-07-30

Note: Versions R31 to R3 (inclusively) are not compatible. (Need to compile your code)

Bugs fixed:

- Fixed binary compatibility.
- Installer now correctly updates all libraries

OpenView SDK 1.0R33   2019-07-25

New Features

- Storage project: Scan and Index offsets now available from FPD, OVD and for new files

OpenView SDK 1.0R32   2019-07-23

New Features

- Instrumentation: Modified the Equals function to use shared pointer and renamed *AreEquals*
- Instrumentation: Added *FocusPxConstants.h* definitions
- Storage project:
  - Added the new data access interface
  - Removed Dal.lib from the public interface

OpenView SDK 1.0R31   2019-07-11

New Features

- New Configuration Tool
- Labview sample
- Storage project:
  - New interface for the data access
  - Added an Equality comparison between an *AcquisitionConfiguration* (Instrumentation) and a *DeviceConfiguration* (Storage)

OpenView SDK 1.0R30   2019-05-28

New Features

- Maximum PRF conditional to a configuration setting
- Interpolation of Gate I C-scan data

OpenView SDK 1.0R28 (Unified Library File Format)   2019-04-25

New Features

- Official release of the Unified File Format library

OpenView SDK 1.0R27 (Unified Library File Format)   2019-04-11

Bug fixed:

- Releasing all objects maintains a Device over a TCP disconnect

OpenView SDK 1.0R26 (Unified Library File Format)   2019-04-08

New Features

- Ability to store a device's calibration has been added to the Storage Pre-Release Project

OpenView SDK 1.0R25 (Unified Library File Format)   2019-03-25

Bugs Fixed

- Acquisition state machine must be separated in 2:
  - *IAcquisition::Create**Ex***
  - *IAcquisition::WaitForData**Ex***
- FOCUS PX Package:1.3R1T7 rollback

OpenView SDK 1.0R24(Unified Library File Format)   2019-03-19

New Features

- Unified Library File Format
  - Indications were added
  - A File Container was added to facilitate the packing of indications with acquired data

Bugs Fixed

- Unified Library File Format
  - Installer would not update the registry key

OpenView SDK 1.0R23 (Unified Library File Format)   2019-02-25

New Features

- Prerelease of the Storage project.
  - Added Data Access Layer to the storage library

OpenView SDK 1.0R22 (Unified Library File Format)   2019-02-07

New Features

- Improved the *ICScan* class to simplify retrieval of the C-scan. *GetCrossingTime* and *GetBeamFiringOrder* are the new functions added.
- FOCUS PX Package: 1.3R1T8 upgrade

Note: If you upgraded your version from R19 to R22 or higher, recompilation is required.

Bugs Fixed

- Binary compatibility with version R18 and previous restored. Version R19 to R21 not binary compatible.

OpenView SDK 1.0R21 (Unified Library File Format)   2019-01-31

New Features

- Prerelease of the Storage project.

OpenView SDK 1.0R20   2019-01-22

Bugs Fixed:

- 36085 - Silent installer does not upgrade from a previous version.

Note: Before installing this new version, uninstall the previous OpenView version. This will be valid for all previous version but will not be necessary for future versions.

- 35927 - Negative start time crash.
- Added the possibility to separate the A-Scan start and TCG start, enabling an A-Scan to start at the main bang while the TCG starts at the front wall

OpenView SDK 1.0R19   2018-12-11

New Features

- 35949 - Added 25 ns pulse width option and extended BW option

- 35949 - Added band pass filter 11 MHz (1.1–20.5 MHz) option
- FOCUS PX Package: 1.3R1T7 upgrade

Note: These options need to be unlocked by Olympus factory.

OpenView SDK 1.0R18   2018-11-29

- Demo version

OpenView SDK 1.0R17   2018-11-19

Bugs Fixed

- 35748 - When the FOCUS PX unit's hard drive D is full the software cannot be deployed
- 36078 - Encoder does not reset

OpenView SDK 1.0R16   2018-10-31

- Prerelease version for storage demo,
- FOCUS PX Package: 1.3R1T1 upgrade

OpenView SDK 1.0R15   2018-10-10

Bug Fixed

- 36006: Exception on acquisition start while switching contexts

OpenView SDK 1.0R14   2018-09-24

Bug Fixed

- 36001: Switching from UT to PA back to UT may restrict pitch-catch selection

OpenView SDK 1.0R13   2018-09-19

- Removed 32-bit support

Bugs Fixed

- 35984: Beam with amplitude near 0 induced a gain error
- 35930: Installing the 1.0R13 will now correctly uninstall previous versions of OpenView
- Enforced a device to be reprogrammed when switching acquisitions to prevent undefined behavior
- Fixed crash that happened when layouts were changed too quickly

OpenView SDK 1.0R11   2018-08-21

Bugs Fixed

- 35838: *DigitalOutput*: *SetState*; Getting the state of digital output pin did not always have the correct value
- 35880: Change from Log to Lin fixed

OpenView SDK 1.0R10   2018-08-15

Bug Fixed

- 35854: Law file element offset was not taken into account

OpenView SDK 1.0R9   2018-07-19

New Features

- Sample application

- Support for private IP addresses other than 192.168.0.1

- FOCUS PX Package: 1.3R1T7 upgrade

Note: We noticed that we were not using the extra feature set from the .net 4.5 framework so we lowered our references from 4.5 to 4.0, which means that if you wish to use the SDK in .net it would work in Visual Studio 2010.

Bug Fixed

- 35786 - Echo synchronization mode with TCG

OpenView SDK 1.0R8   2018-07-12

New Features

- Configuration Tool (FocusPC version)
- Diagnostic tools
- Support 65535 flag in law file import (TTU)
- Need an installer containing only runtime libraries
- New installer has slightly changed as it comes in 4 versions
  - 32 and 64 bits
  - Programmer and End-User

Note: To integrate them correctly refer to technical note in the "Appendix for OpenView SDK 1.0R8 and newest version:".

We deprecated some functions from the previous version. The functions can still be used but will generate a "warning: deprecated" indication. If this creates compiler errors, please verify the following in the project's properties:

- *Treat Warnings as Errors* should be set to *No*
- *SDL Checks* should be set to *No*

Bugs Fixed

- None

OpenView SDK 1.0R7   2018-06-21

New Features

- High Dynamic range
- Multidevice support
- FOCUS PX Package: 1.3R1T1 update

Bug Fixes

- 35617 - No beams have been applied error (manual recurrence)
- 35406 - Code snippets fixed
- 35682 - [UT Settings] Pulse Width value caused *ApplyConfig* error

New Features

- Library integration compilation specificity
- Multiuser accounts environment
- FOCUS PX Package: 1.2R1T2

Bugs Fixed

- 35413 - Recurrence in Manual Mode
- 35538 - Installation shows error 1152
- 35539 - Encoders going backward issue
- 35615 - Improvement of the deployment process stability

OpenView SDK 1.0   2018-03-28

General information:

The OpenView SDK (Software Development Kit) is designed for the integration of the FOCUS PX data acquisition unit into custom software environments. OpenView SDK is mainly used for the development of application-dedicated software interface and system automation.

Compatible Programming Languages (64-bit)

- C++
- C#
- LabVIEW

Supported Acquisition Units

- UT4
- FOCUS PX 16:64PR
- FOCUS PX 16:128PR
- FOCUS PX 32:128PR

Supported Operating Systems

- Microsoft Windows 10 (64-bit)
- Microsoft Windows 7 (32-bit and 64-bit)

Note: You must have administrator privileges to install OpenView SDK and configure the computer for data acquisition.

Computer Requirements

- **CPU:** Intel Core i7 or Xeon E3
- **RAM:** 16 GB (DDR3 or better)

- **Data storage drive:** SSD

- **Network adaptor:** Gigabit Ethernet card (dedicated for FOCUS PX data acquisition unit)

- **Display:** 1280 × 1024 or higher

- One USB port for the HASP security hardware key

- A keyboard and a pointing device

-

Available in standard languages

Appendix for OpenView SDK 1.0R8 and newest version:

End-User Requirements for Software Using OpenView SDK

This section promotes the best practices recommended while integrating OpenView SDK into your software.

1. Required Firewall Rules

The following table lists all ports to enable during the installation of your software. The second column shows the command to execute when adding a firewall rule for the corresponding port.

Port	Command
21	netsh advfirewall firewall add rule name="Olympus OpenView SDK" dir=in action=allow protocol=TCP localport=21
67	netsh advfirewall firewall add rule name="Olympus OpenView SDK" dir=in action=allow protocol=UDP localport=67
68	netsh advfirewall firewall add rule name="Olympus OpenView SDK" dir=out action=allow protocol=UDP remoteport=68
9994	netsh advfirewall firewall add rule name="Olympus OpenView SDK" dir=out action=allow protocol=TCP remoteport=9994,10994,12000,27015
10994	
12000	
27015	

2. End-User Installer

There are two installers available for OpenView.

Installer	Description
InstallOpenViewSDK-1.0RXXX.exe	To be installed on the programmer's computer. Includes libraries, documentation, and code snippets. This installs on C:\OlympusNDT.
InstallOpenView-1.0RXXX.exe	To be installed on the end-user's computer. Includes libraries only. This installs on C:\Program Files.

Integrators must integrate the end-user's installer into their own installer. Locating and accessing the libraries at runtime requires the use of one of those keys:

Installer	Key
InstallOpenViewSDK-1.0RXXX.exe	HKEY_LOCAL_MACHINE\SOFTWARE\OlympusNDT\OpenView SDK\1.0\VersionPath
InstallOpenView-1.0RXXX.exe	HKEY_LOCAL_MACHINE\SOFTWARE\OlympusNDT\OpenView\1.0\VersionPath

Each installer automatically configures the value of those keys.

To make an installer silent you need to add the command line arguments: `/s /v/qn`

3. Firmware Package

SDK versions and software packages used by the FOCUS PX unit are bundled together. Since the SDK always uses the package used on the computer, the application code should search for the latest version installed. Here is a sample code showing good practice.

```cpp
// Select the latest version of firmware packages.
shared_ptr<IFirmwarePackage> package;
auto packages = IFirmwarePackageScanner::GetFirmwarePackageCollection();
if (!packages.empty() )
    package = packages->GetFirmwarePackage(0);

if (package == nullptr)
  throw std::exception("Could not find the firmware package.");


// Start the package on the device.
if (!device->HasPackage(package))
  device->Download(package);

device->Start(package);
```

4. Config Tool

The configuration tool is installed by the end-user's installer and the root directory is located at the content of registry key:

Installer	Key
InstallOpenViewSDK-1.0RXXX.exe	HKEY_LOCAL_MACHINE\SOFTWARE\OlympusNDT\OpenView SDK\1.0\VersionPath
InstallOpenView-1.0RXXX.exe	HKEY_LOCAL_MACHINE\SOFTWARE\OlympusNDT\OpenView\1.0\VersionPath

The folders "\Tools\Configuration" must be added to this root directory. The program name is ConfigurationTool.exe.

We recommend adding a link in your software to call this configuration tool. The link should show Microsoft shield icon indicating the administrative rights may be required.

IMPORTANT: The tool should be called prior to any other SDK calls since it may change some network settings and test connection with devices.

Appendix A – Matlab

The Matlab code below has been validated. However, during our limited tests, we were not able to reach data throughputs of more than 0.1 Mb/s, which is very limitative. We believe this problem could be resolved with more investigation.

```
% Import OpenView
asmInfo = NET.addAssembly('C:\Program Files\Olympus
NDT\OpenView\1.0\Bin\v141\OlympusNDT.Instrumentation.NET.dll');
OlympusNDT.Instrumentation.NET.Utilities.ResolveDependenciesPath()

% Discover device
discovery = OlympusNDT.Instrumentation.NET.IDeviceDiscovery.Create('192.168.0.1');
result = discovery.DiscoverFor(1000);
device = result.device;

% Setup
firmwarePackage =
OlympusNDT.Instrumentation.NET.IFirmwarePackageScanner.GetFirmwarePackageCollection().GetFirmwarePac
kage(0)
device.Start(firmwarePackage)
utConfig = device.GetConfiguration().GetUltrasoundConfiguration()
firingBeamSets = utConfig.GetFiringBeamSetCollection()
convTechno =
utConfig.GetDigitizerTechnology(OlympusNDT.Instrumentation.NET.UltrasoundTechnology.Conventional)
beamSetFactory = convTechno.GetBeamSetFactory()
connectorCollection = convTechno.GetConnectorCollection()
connector = connectorCollection.GetConnector(4)
beamSet = beamSetFactory.CreateBeamSetConventional('BS')
firingBeamSets.Add(beamSet, connector, 0, 0)

% Start acquisition
acquisition = OlympusNDT.Instrumentation.NET.IAcquisition.Create(device)
acquisition.SetRate(1);
acquisition.ApplyConfiguration()
acquisition.Start();

% Acquire cycles
for iCycle = 0:5
    waitForDataResult = acquisition.WaitForData();
    cycleData = waitForDataResult.cycleData;
    aScanCollection = cycleData.GetAscanCollection();

    for iAscan = 0:aScanCollection.GetCount() - 1
        aScan = aScanCollection.GetAscan(iAscan);
        ascanSampleQty = int32(aScan.GetSampleQuantity()); % Marshal from uint32 to int32
        aScanPtr = aScan.GetData();

        % Matlab indexes start at 1.
        % OpenView indexes start at 0
        matlabArray = zeros(1, ascanSampleQty);
        for iAscanSample = 1:ascanSampleQty
            % We read the IntPtr by offsetting it by sampleIndex * 4 bytes
            matlabArray(iAscanSample) = System.Runtime.InteropServices.Marshal.ReadInt32(aScanPtr,
(iAscanSample - 1)*4);
        end
```

```
      aScan.Dispose();
    end

    aScanCollection.Dispose();
    cycleData.Dispose();
    waitForDataResult.Dispose(); % This is VERY important, or memory will overflow
end
```

```
acquisition.Stop()
```

Appendix B – Network Diagnostic
The following tools can be used for advanced diagnostic on network errors:

- C:\OlympusNDT\OpenView SDK\1.0\Tools\Configuration\InstrumentConfig.exe will verify the general parameters of the network
- If the previous tool identifies a port cannot be acquired, start a command prompt as admin and run:
  > netstat -a -b