Release Notes

Intel® RealSense™ SDK for Windows* Release
F200 Gold
SR300 Gold

SDK version 11.0.27.1384

These release notes covers Intel® RealSense™ SDK for use with Intel® RealSense™ Camera, model SR300. Please review the “Intel RealSense SDK License.rtf” for licensing terms. Please refer to attributions.rtf for third party attributions and third_party_programs.txt for third party licenses.

IMPORTANT! PLEASE READ!

- This release supports 2 cameras:
  - The Intel® RealSense™ Developer Kit (F200)
  - The Intel® RealSense™ Developer Kit Camera (SR300), which can be ordered on the Intel RealSense Website (https://software.intel.com/en-us/realsense/devkit)
- This package is the Software Development Kit.
- This package does not include the driver/service (DCM) for the camera. Camera Driver / DCM Package is hosted on Windows Update. It is automatically installed when you connect your camera to the system. If not automatically installed, please download the Camera Driver / DCM Package from the Intel RealSense downloads website.
  - F200 Camera: DCM version 1.4.27.41944 or later
  - SR300 Camera: DCM version 3.2.26.6137 or later
- If installer requests that you reboot, please reboot, or your system will not install correctly.
- F200 Camera OS:
  - Microsoft* Windows* 8.1 x64 August Update required.
  - Microsoft* Windows* 10
- SR300 Camera OS:
  - Microsoft* Windows* 10
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SDK Features

Based on developer community feedback, the Intel RealSense SDK will refocus on specific capabilities. Please use this table to determine which version to use for application development.

<table>
<thead>
<tr>
<th>Capability</th>
<th>Camera</th>
<th>SR300</th>
<th>F200</th>
<th>R200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cursor Mode</td>
<td></td>
<td>2016 R3</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>User Background Segmentation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3D Scan</td>
<td></td>
<td>2016 R3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face Tracking &amp; Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand Tracking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scene Perception</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth Enabled Photo &amp; Video</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>2016 R2</td>
</tr>
<tr>
<td>Person Tracking</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object Tracking</td>
<td></td>
<td>NA</td>
<td>2016 R2</td>
<td>NA</td>
</tr>
<tr>
<td>Blob Tracking</td>
<td></td>
<td>2016 R2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Touchless Controller</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RealSense Web Runtime</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Java Support</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Please note that SDK features are at various levels of maturity in this release as follows:

<table>
<thead>
<tr>
<th>Maturity</th>
<th>F200 Feature</th>
<th>SR300 Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold</td>
<td>• SDK essential interfaces and color/depth/IR data streaming</td>
<td>• SDK essential interfaces and color/depth/IR data streaming</td>
</tr>
<tr>
<td>Beta</td>
<td>• F200 Object Tracking</td>
<td>• SDK UWP Support</td>
</tr>
<tr>
<td>Removed</td>
<td>• R200 Camera Support &amp; Features</td>
<td>• Speech Recognition &amp; Synthesis</td>
</tr>
<tr>
<td></td>
<td>• Speech Recognition &amp; Synthesis</td>
<td>• RealSense Web Support</td>
</tr>
<tr>
<td></td>
<td>• RealSense Web Support</td>
<td>• Java Support</td>
</tr>
<tr>
<td></td>
<td>• Java Support</td>
<td>• Touchless Controller</td>
</tr>
<tr>
<td></td>
<td>• Touchless Controller</td>
<td>• Blob Tracking</td>
</tr>
</tbody>
</table>

Hardware Requirements

- 4th Generation Intel® Core™ Processor (code name Haswell), or later. Core i5/i7 recommended.
- 8 GB free hard disk space
- The Intel RealSense Camera
  - F200 PRQ Camera
  - SR300 Camera
- The Intel RealSense Camera may have known defects and errata which will be provided with the product.
- A USB 3 port for the Intel RealSense Camera.

**IMPORTANT NOTE:** To support the bandwidth needed by the camera, a **USB3** interface is required.
Software Requirements

- One of the following operating systems:
  - F200 Camera OS:
    - Microsoft® Windows® 8.1 x64 August Update required
    - Microsoft® Windows® 10
  - SR300 Camera OS:
    - Microsoft® Windows® 10
- Microsoft Visual Studio® 2012-2015 with the latest service pack or update
- Microsoft Visual Studio® 2015 with the latest update and "Universal Windows App development tools"->"Tools and Windows 10 SDK (10.0.10586)" feature for UWP development
- Microsoft .NET 4.0 Framework for C# development
- Unity 5.2.3.p3 or later for Unity game development
- Intel® Iris™ and HD Graphics Driver for Windows® 10/8.1 64-bit
  - Please install the latest drivers appropriate for your system

Installation steps for SDK

This is for developer systems ONLY
- Run the SDK offline installer.

SDK Interface Changes

- SDK 2016 R3:
  - New C++ Interface
    - The new interfaces are defined in header files under folder include/RealSense or include/RealSense/<Module>/ folders.
  - Legacy C++ interface, defined in header files with prefix "pxc", is also supported.
  - New C# interface
    - The new C# interface is similar to the new C++ interface. Compared with the legacy C# interface in R2-releases, the major changes include
      1. replace Set/Query methods with C# property
      2. replace Subscribe/Unsubscribe methods (with handler object) with C# events.
  - Binaries for legacy C# interface are provided, as well as the source code.
  - Java interface and Web service are not supported in R3 release.
  - Utility interface of PointerConverter, Smoother and Rotation are included along with core API. Thus the utility DLL binary is packaged with core runtime.
  - Unity
    - unitypackages provided under $RSSDK_DIR/framework/Unity for easy integration of algorithm modules. For more info, ReadMe provided in the same directory.
    - Automated copying of runtime contents in application data directory while building Unity standalone executable. No manual steps required for deploying.
    - Fixed Unity Editor hang issue when subscribing to events.

F200 Release Notes

The following items apply to the F200 camera.
F200 SDK Features

Gold Features
- SDK essential interfaces
  - Session management
  - SenseManager pipeline programming
  - File recording and playback
- Color and Depth Streaming
  - Read color, depth and IR samples from the camera.
  - Map coordinates among color, depth coordinates, and world coordinates.
  - Recording/playing back device property changes.

F200 Known Issues and Limitations

SDK Core/SDK Framework

<table>
<thead>
<tr>
<th>Issue</th>
<th>Recovery/Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>No source code is released for compiling the cpp2c, c#, or unity wrappers.</td>
<td>Pre-compiled .dlls are provided in the $RSSDK_DIR\bin folder. Will be fixed in future release.</td>
</tr>
<tr>
<td>High CPU use / low FPS seen in various scenarios, particularly when running multiple applications simultaneously</td>
<td>Will be addressed in future releases.</td>
</tr>
<tr>
<td>CameraViewer.cpp sample may hang in recording mode when path to clip, specified in command line, doesn’t exist.</td>
<td>Specify the existing path in command line (“-file EXISTING_PATH\filename”).</td>
</tr>
<tr>
<td>CameraViewer.cpp sample may crash when waking up the system from sleep mode with active streaming from camera</td>
<td>Restart the sample after it crashes.</td>
</tr>
</tbody>
</table>

Unity Toolkit

<table>
<thead>
<tr>
<th>Issue</th>
<th>Recovery/Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unity Toolkit is not supported in R3</td>
<td>Use 2016 R2</td>
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</table>

Frameworks Support (C#, Unity, Web support, Java and Processing)

<table>
<thead>
<tr>
<th>Issue</th>
<th>Recovery/Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>Java interface is not supported in R3</td>
<td>Use 2016 R2</td>
</tr>
<tr>
<td>Web service and JavaScript web apps are not supported in R3</td>
<td>Use 2016 R2</td>
</tr>
<tr>
<td>Processing framework is not supported in R3</td>
<td>Use 2016 R2</td>
</tr>
</tbody>
</table>

SR300 Release Notes

SR300 SDK Features

Gold Features
- SDK essential interfaces
  - Session management
- SenseManager pipeline programming
- File recording and playback
- C# and Unity* C#

**Beta Features**
- Core SDK API
  - SDK UWP Support
- Depth Streaming
  - SDK UWP Support

**SR300 Known Issues and Limitations**

<table>
<thead>
<tr>
<th>SDK Core/SDK Framework</th>
<th>Issue</th>
<th>Recovery/Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>No source code is released for compiling the cpp2c, c#, or unity wrappers.</td>
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<td></td>
</tr>
<tr>
<td>SampleDirectX project (Sample.DX_vs2015.vcxproj) does not compilation in &quot;Debug&quot; mode.</td>
<td>Change project setting by adding linkage to d3d9.lib and mfplat.lib.</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
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<td>Specify the existing path in command line (&quot;-file EXISTING_PATH\filename&quot;).</td>
<td></td>
</tr>
<tr>
<td>CameraViewer.cpp sample may crash when waking up the system from sleep mode with active streaming from camera</td>
<td>Restart the sample after it crashes.</td>
<td></td>
</tr>
<tr>
<td>RawStreams.cpp sample doesn’t resume streaming after replugging the camera into different USB port</td>
<td>Restart the sample.</td>
<td></td>
</tr>
<tr>
<td>RawStreams.cpp sample doesn’t refresh device list when plugging/unplugging cameras</td>
<td>Restart the sample after plugging/unplugging cameras.</td>
<td></td>
</tr>
<tr>
<td>CameraExplorer tool does not allow to choose the camera if multiple cameras or the same type are connected to the system. It just uses first enumerated camera.</td>
<td>Disconnect all cameras except the one, which you want to explore using CameraExplorer tool.</td>
<td></td>
</tr>
<tr>
<td>&quot;Import from image list&quot; feature inside ClipEditor tool does not support import of Depth and IR streams</td>
<td>Use &quot;Import from image list&quot; only for Color image lists</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frameworks Support (C#, Unity)</th>
<th>Issue</th>
<th>Recovery/Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>UnityToolkit is not supported in R3.</td>
<td>Use 2016 R2</td>
<td></td>
</tr>
</tbody>
</table>

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