Overview

The Intel® Media Server Studio 2017 - Video Quality Caliper is a graphical utility for objective and visual quality inspection of encoded or uncompressed videos. The following video formats are supported in this release:

- MPEG2: (ISO/IEC 13818-2 or ITU-T Rec. H.262), 8-bit
- AVC: (ISO/IEC 14496-10 MPEG-4 Part 10 or ITU-T H.264), 8-bit
- HEVC: (ISO/IEC 23008-2 MPEG-H Part 2 or ITU-T H.265), 8/10-bit
- Google* VP8*, 8-bit
- Google* VP9*, 8-bit
- Uncompressed YUV video streams (YV12, I420, NV12, P010, P012, I010{I420 10bit}, I012{I420 12bit}), 8/10/12-bits
- MP4: ISO/IEC 14496-14:2003 video container with AVC/HEVC content
- MKV: Matroska, open source multimedia container with AVC/HEVC/VPx content
- WebM: Google’s container, subset of MKV with VP8/VP9 content
- MPEG-TS: ISO/IEC 13818-1, H.222.0, video transmission standard, with AVC/HEVC content

Once bitstreams are loaded, the tool allows the user to calculate several video quality metrics and visually inspect the frame quality.
New Features

Intel® Media Server Studio 2017 – Video Quality Caliper:

Version 2.3.0
- Stream information, performance improvements, faster playback speed;

Version 2.2.0
- Frame offset adjustment, manual color space selection, smoother zoom, YUV histogram, API for custom metrics plugins;

Version 1.8.1
- Data exporting capabilities, FlexLM licensing, BT.709/BT.2020 support, minor stability improvements;

Version 1.7.0
- Container support (MP4, MKV, WebM, MPEG-TS), flexible axis controls, GUI improvements;

Version 1.6.0
- Extended color format support, improved usability and UI, single-view mode, and integration with Intel® Video Pro Analyzer (if installed);

Version 1.5.0
- Split mode in details window, improved usability and playback speed.
System Requirements

Hardware
- CPU supporting Intel® Supplemental Streaming SIMD Extensions 3 (SSSE3) is required.
- 4GB RAM minimum, 8GB recommended for working with larger streams.

Software
- Microsoft® Windows* 7 / 8 / 8.1 / 10, 32-bit;
- Microsoft® Windows* 7 / 8 / 8.1 / 10, 64-bit;
- Linux: CentOS* 6.5 (or newer) for 64-bit architecture or SUSE* Linux* Enterprise Server 12 (or newer) for 64-bit architecture;

Package Contents


Installation

To begin installation:
- Double-click on the executable file to begin installation.

Activation during installation

You must activate the product to finish installation. Use one of these methods:
- Activation using serial number. Internet connection is required;
- Remote activation using serial number. Used when your computer is not connected to the internet. You can use another computer with internet access;
- Activation using license file;
- Activation using license server.
- You can also evaluate the product for 30 days.

Activation after installation

Put the license file in the following default directory:

**Under Microsoft® Windows® 32-bit:**
c:\Program Files\Common Files\Intel\licenses\n
**Under Microsoft® Windows® 64-bit:**
c:\Program Files (x86)\Common Files\Intel\licenses\n
**Under Linux* (as root):**
/opt/intel/licenses

**Under Linux* (as current user):**
~/intel/licenses
Known Limitations

Video Quality Caliper has the following known limitations:

- Only progressive, single-view video streams with constant frame sizes are supported. Refer to overview section for the list of supported encoded stream formats / containers.

- Backward repositioning in the encoded streams can cause significant delays for longer video streams depending on the codec.

- Working with multiple encoded streams may require large amounts of memory, insufficient physical memory can potentially cause system-wide freezes for active pagefile usage during VQM calculation; to reduce the memory requirements, user may pre-decode some of the sequences and supply them as YUV inputs, as a possible workaround.

- If the correct path to Intel® Video Pro Analyzer application was not detected properly during installation, the user is advised to run the VPA application manually and restart VQC (disabling restore session flag), this time the path to VPA should be set correctly.
INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

UNLESS OTHERWISE AGREED IN WRITING BY INTEL, THE INTEL PRODUCTS ARE NOT DESIGNED NOR INTENDED FOR ANY APPLICATION IN WHICH THE FAILURE OF THE INTEL PRODUCT COULD CREATE A SITUATION WHERE PERSONAL INJURY OR DEATH MAY OCCUR.

Intel may make changes to specifications and product descriptions at any time, without notice. Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined." Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them. The information here is subject to change without notice. Do not finalize a design with this information.

The products described in this document may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

Contact your local Intel sales office or your distributor to obtain the latest specifications and before placing your product order.

Copies of documents which have an order number and are referenced in this document, or other Intel literature, may be obtained by calling 1-800-548-4725, or by visiting Intel's Web Site.

MPEG is an international standard for video compression/decompression promoted by ISO. Implementations of MPEG CODECs, or MPEG enabled platforms may require licenses from various entities, including Intel Corporation.

Intel, the Intel logo, Intel Core are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

**Optimization Notice**

Intel’s compilers may or may not optimize to the same degree for non-Intel microprocessors for optimizations that are not unique to Intel microprocessors. These optimizations include SSE2, SSE3, and SSSE3 instruction sets and other optimizations. Intel does not guarantee the availability, functionality, or effectiveness of any optimization on microprocessors not manufactured by Intel.

Microprocessor-dependent optimizations in this product are intended for use with Intel microprocessors. Certain optimizations not specific to Intel microarchitecture are reserved for Intel microprocessors. Please refer to the applicable product User and Reference Guides for more information regarding the specific instruction sets covered by this notice.

Notice revision #20110804
Qt

Qt licensed under the GNU Lesser General Public License (LGPL) version 2.1. It is appropriate for the development of Qt applications provided you can comply with the terms and conditions of the GNU LGPL version 2.1.
For details, please refer to http://qt-project.org/doc/qt-5/licensing.html for specific details.

D3Js

Copyright © 2013 Mike Bostock. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. Neither the name of the copyright holder nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

d3-tip

The MIT License (MIT) Copyright © 2013 Justin Palmer

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF
MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

libvpx

Copyright © 2010, The WebM Project authors. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:
* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither the name of Google, nor the WebM Project, nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

JQuery

Copyright jQuery Foundation and other contributors, https://jquery.org/

This software consists of voluntary contributions made by many individuals. For exact contribution history, see the revision history available at https://github.com/jquery/jquery

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN
NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

**JEditable**

The MIT License (MIT) Copyright (c) 2006-2013 Mika Tuupola, Dylan Verheul

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.