

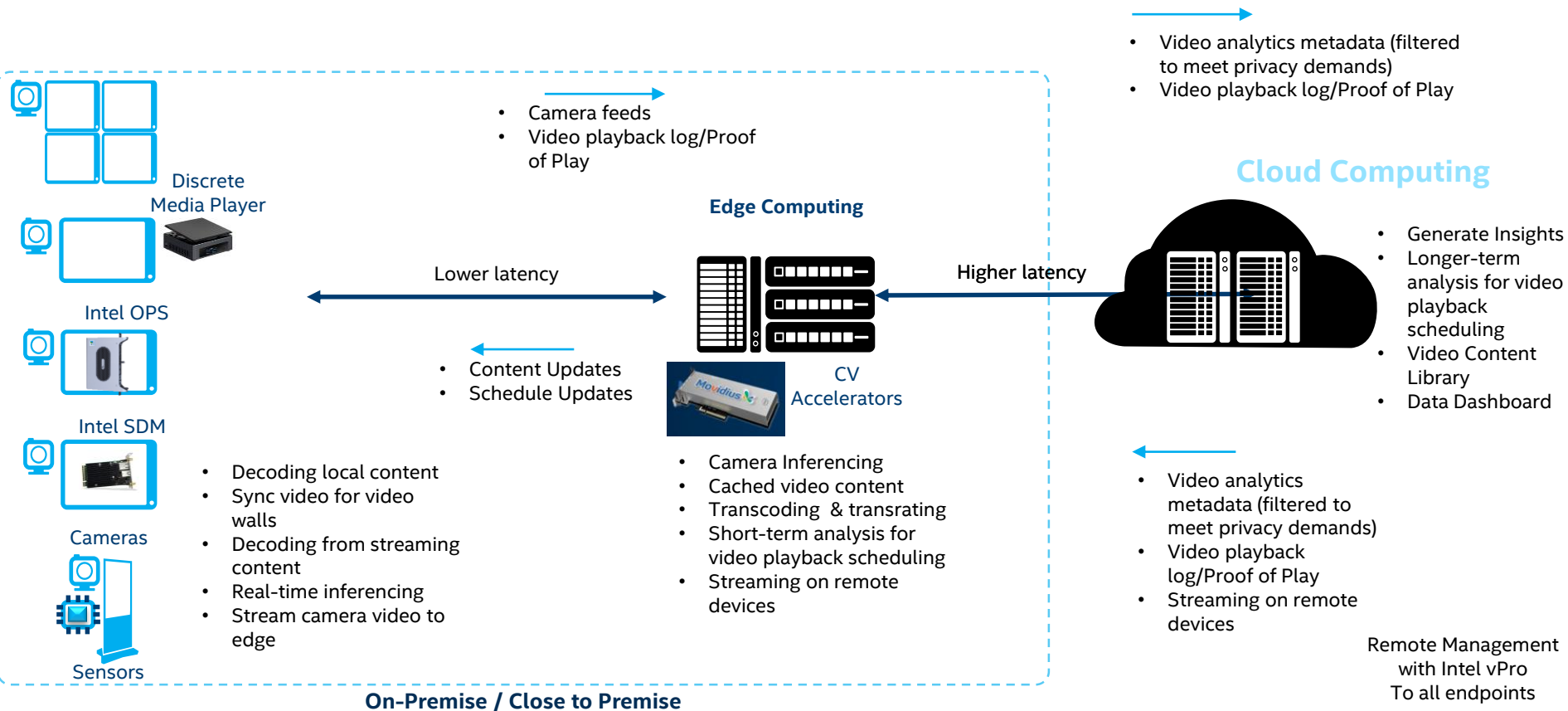


VICKI MILHOAN

PLATFORM SOLUTIONS ENGINEER – VISUAL RETAIL

Internet of Things Group

Visual Solution Architecture



Today's Focus: Software Tools

Mesh Connect and VPRO Management Solutions

DL Workbench for Intel OpenVINO Toolkit

Intel Media Accelerator Reference Software (MARS)

Lock Display Configuration

Intel Sensing & Acoustic Reference Design

Build vs. Buy

Build

Build your own product in-house utilizing Intel's hardware and software referencing designs

Intel SDM

Intel OPS

Intel Media Accelerator Reference Software

Intel Pioneer Pass

Intel Visual Data Device

Intel OpenVINO & Accelerators

Buy

Matchmake with the ecosystem

A4EON[®] **GIGAIPC**
an ASUS assoc. co.

LITEMAX[®] **Panasonic**

AOPEN
Bright Ideas Connected

nowmicro

Seneca

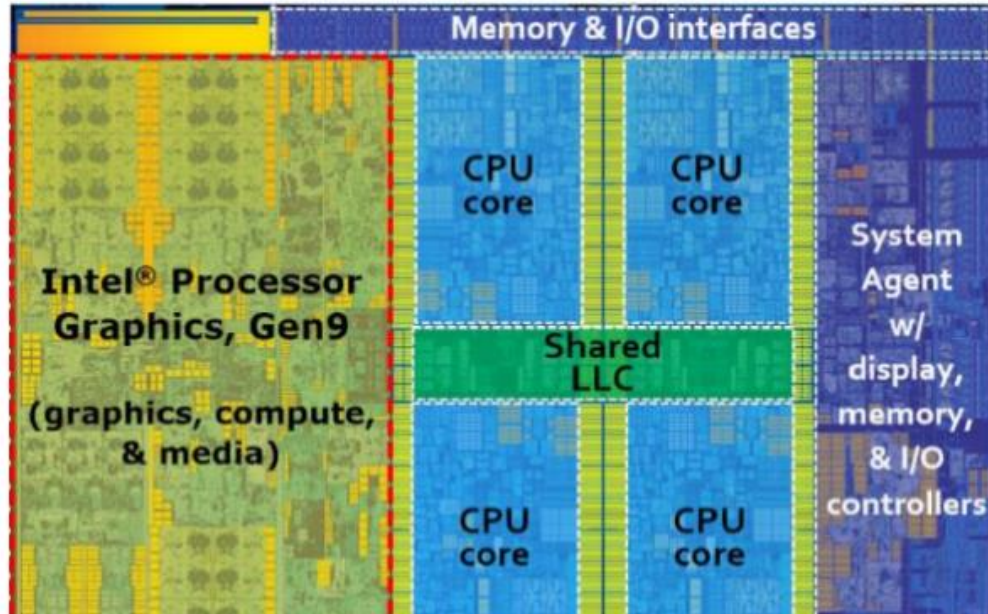
Simply NUC



INTEL® MEDIA ACCELERATOR REFERENCE SOFTWARE (M.A.R.S)

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INTEGRATED GPU – AN AVAILABLE RESOURCE, OFTEN UNDERUTILIZED

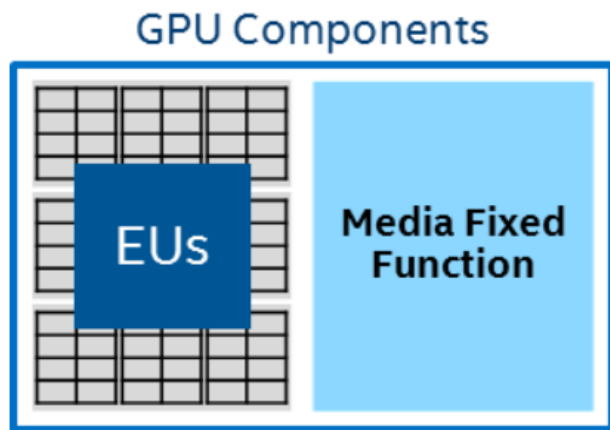


Media Acceleration using the Intel integrated GPU allows more CPU headroom to run applications

Components layout for an Intel(R) Core(TM) i7 processor 6700K

INTEL GPU COMPONENTS

- **Execution Units/EUs:** General purpose execution units. These are used for graphics rendering, but they are also suited to a wide range of media processing tasks.
- **Media Fixed Function:** In addition, specialized fixed function hardware accelerates video codec and frame processing algorithms for fundamentally higher performance at lower power than the EUs or CPUs.



M.A.R.S. VALUE PROPOSITION

1

Hardware Accelerated Media Processing

Decode, Encode and Video post-processing on Intel GPU optimized for efficient workload balancing of system's GPU and CPU resources

2

Quick Time To Market via Key Technologies

Microsoft Media Foundation*, FFmpeg*, DirectX*, Intel® Media SDK, Intel® Automotive Solution Compositor for Wayland* Protocol, Intel® OpenVINO™

3

Quickly and Easily Validate Use Cases - Preloaded presets for demonstrating use cases. Highly intuitive GUI to create new custom use cases (e.g. media and analytics pipelines for a variety of workloads).

Intel® OpenVINO

Media Inference

Windows

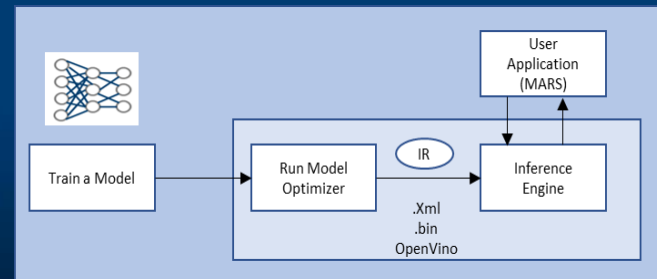
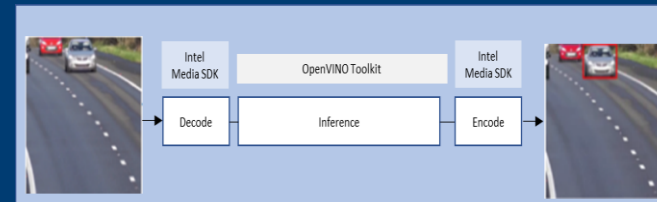
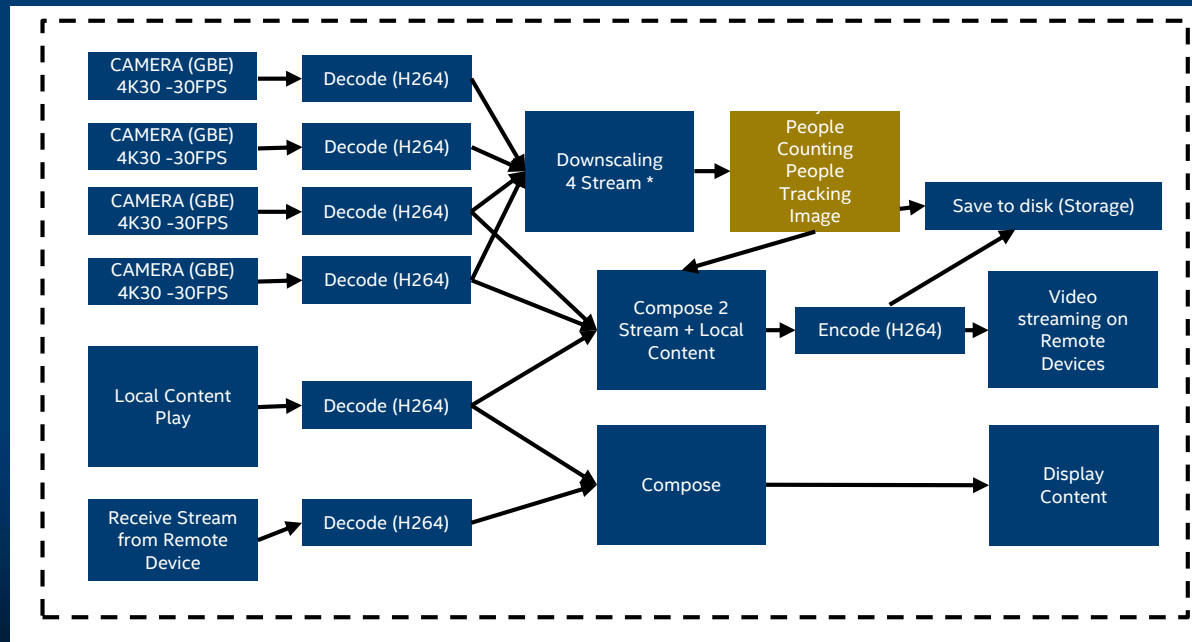
Linux

WHAT IT IS NOT

- Production worthy media player
 - Reference software only
 - License allows source code access
 - Integrate with existing media playback solution
 - Can be used as demonstration solution if desired
- The only way to optimize graphics processing on Intel Architecture
 - Using best practices, Intel® Media Accelerator Reference Software may be able to help speed time to market

Name	Windows 10	Ubuntu
Media Framework	Media Foundation	FFMPEG
Hardware-accelerated video decode, encode, and video post processing	✓	✓
Codec	AVC, HEVC	AVC, HEVC
4K or Ultra High Definition (UHD) Resolution	✓	✓
High-Dynamic Range (HDR) imaging	✓	2020 (ICL)
Transcode/trans-rating from file, capture source & IP camera Real-time transcoding/trans-rating from file, capture source & IP camera	✓	Q4'19
Dynamic Adaptive Streaming over HTTP (DASH)	✓	Q4'19
Widgets	✓	✓
RSS Feed	✓	✓
HTML5	✓	NA
Ticker tape scrolling text	✓	✓
Real Time Streaming Protocol (RTSP)	✓	Q4'19
Video overlay, Alpha blending, border	✓	✓
Multiple displays, up to three, which can be different, tiled, or identical	✓	✓
E2E Video Analytics using OpenVINO	Q2'20	Available Now

NEXT GEN MARS – INTEGRATION WITH OPENVINO



Smart Classroom Analytics Usage – Teacher behavior, Student behavior, Attendance taking using Facial Recognition

In Execution



TECH CONNECT 2019

CALL TO ACTION, RESOURCES

Download ►

[Intel® M.A.R.S.](#)

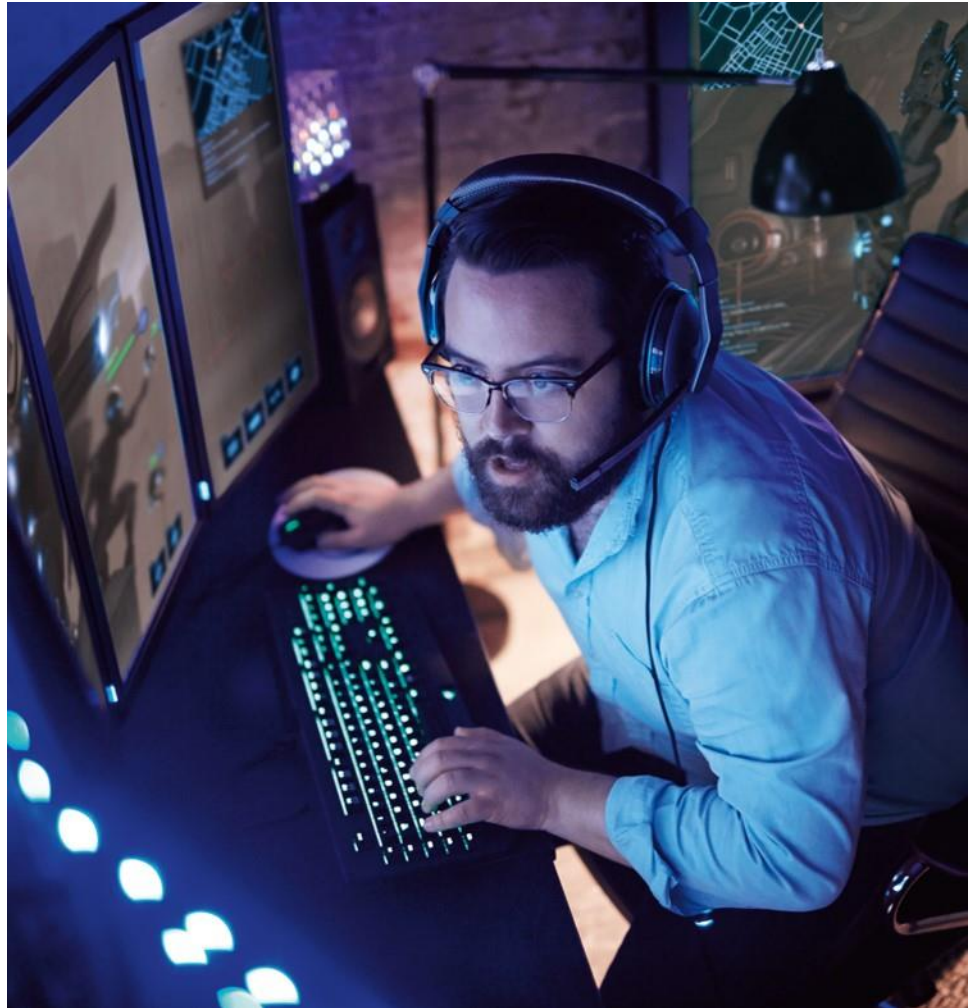
[Requires IRC account serial number and users will need to accept the license agreement]

Get started quickly with:

- [White Paper - Windows](#)
- [White Paper - Linux](#)
- [Intel® Tech.Decode online webinars, how-tos & quick tips](#) [coming soon]
- [Hands-on developer workshops](#)

Support

- Contact your Intel representative





INTEL® LOCK DISPLAY CONFIGURATION (LDC)

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Lock Display Configuration

Prevents the OS from rearranging the Windows desktop layout when a display panel malfunctions, is turned off, or unplugged

- Digital Signage: Maintains the layout/content on the rest of the multi-screen installation
- Banking: Avoids protected content shifting to a customer-facing screen if the banker's screen fails

Supported from Intel 7th Gen Intel® Core™ processor onwards on DP 1.2, HDMI 1.4 and HDMI 2.0 interfaces.

Access to the reference software

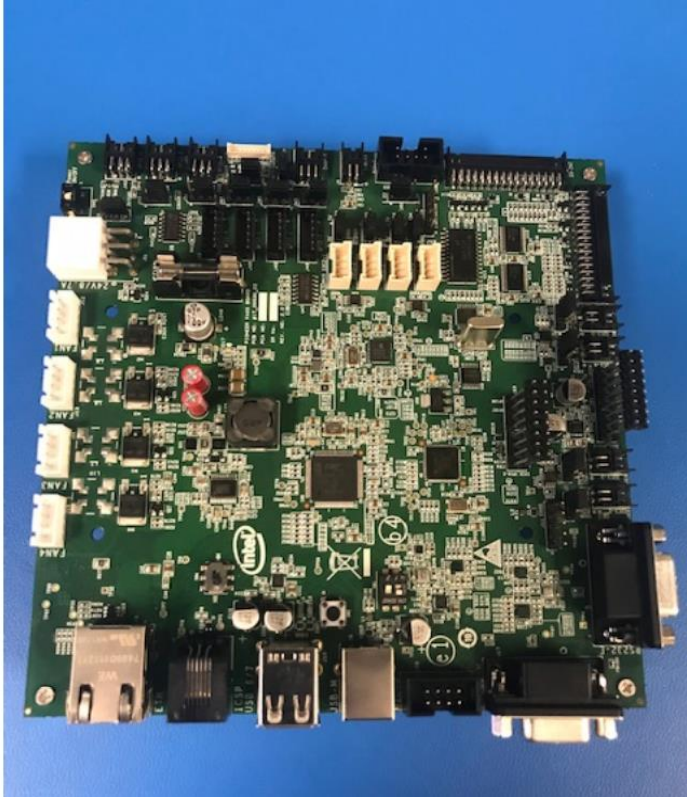
- Available now as a feature of the Intel® graphics driver
- Request App Note from your Intel® representative for instructions to enable LDC



INTEL® SENSING AND ACOUSTIC REFERENCE DESIGN

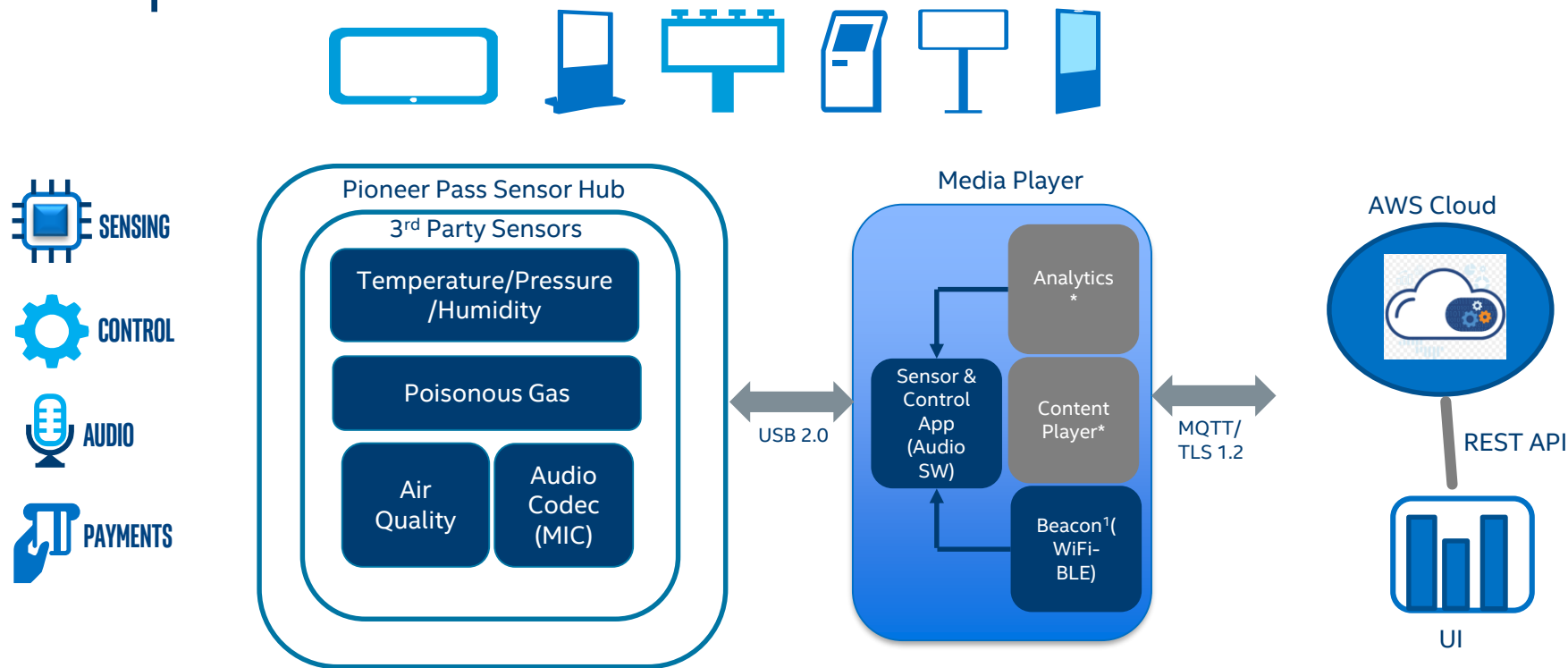
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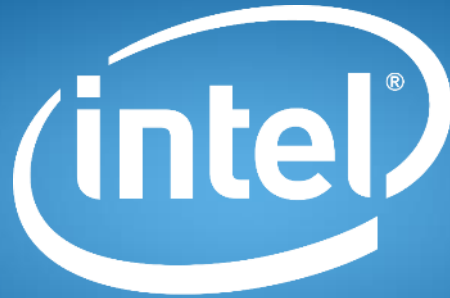
Sensor Hub Overview



- ❖ Multi- Protocol sensor connect points
- ❖ No firmware changes necessary for adding new sensors
- ❖ Modular architecture, allows for managing different sensors for changing use cases
- ❖ Actuation control integrated via same sensing board
- ❖ Capability to stack or connect discrete sensors

Sensor Data Aggregation for Visual Devices/ IoT Endpoints





experience
what's inside™