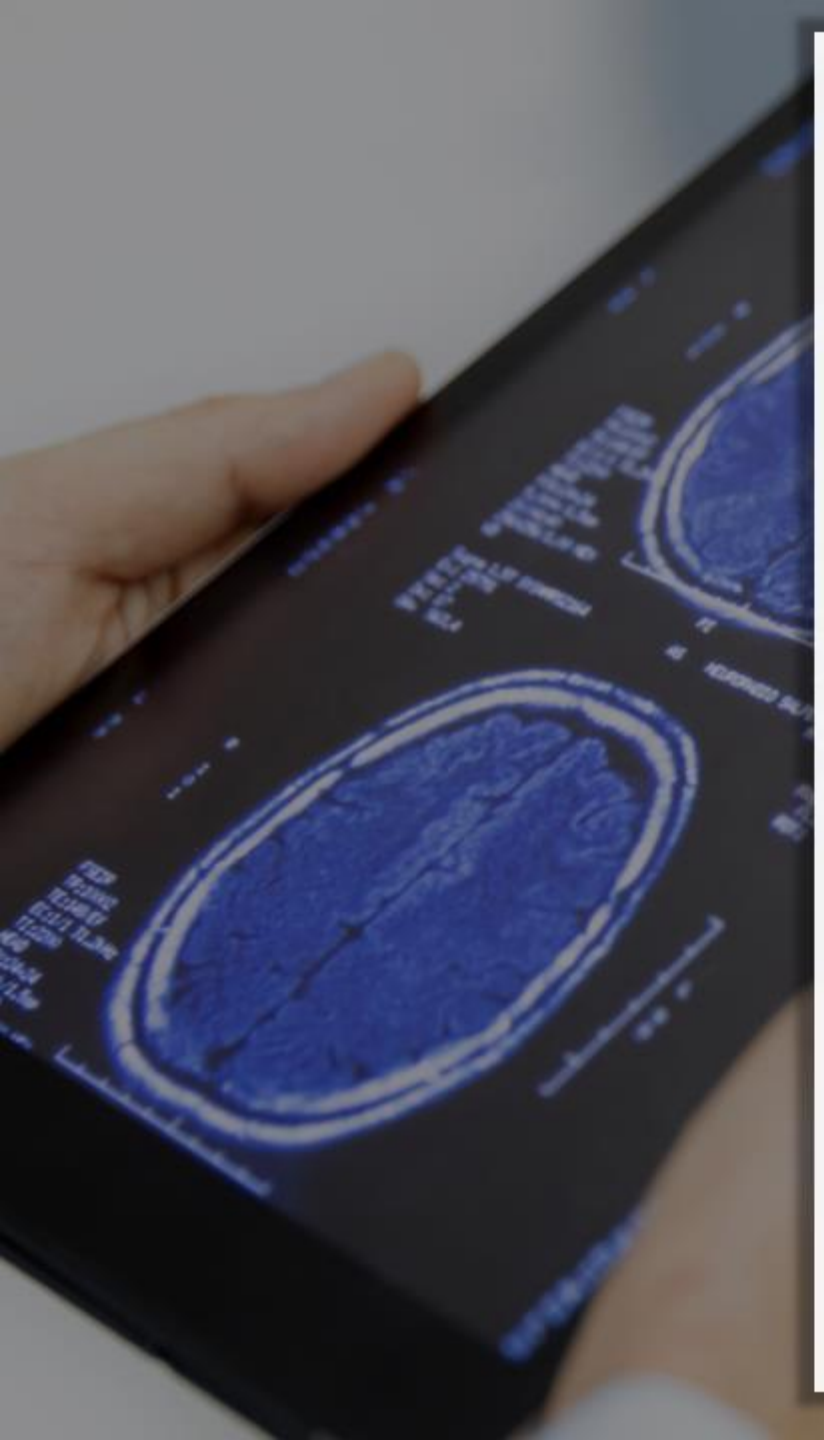


DEDICATED COMPUTING
POWERING THE WORLD'S MOST IMPORTANT DEVICES

Sonologi

AJA VIDEO SYSTEMS

Leveraging Edge AI in Video Analytics and Streaming for Medical Applications

November 20th, 9 a.m. PT

Presenter:

Jeff Durst

Sr. Product Manager

DEDICATED COMPUTING

Presenter:

Scott Matics

Sr. Product Manager

AJA VIDEO SYSTEMS

Presenter:

Arlyne Simon

AI Systems Architect

INTEL

Presenter:

Chonghe Wang

CTO

SONOLGI

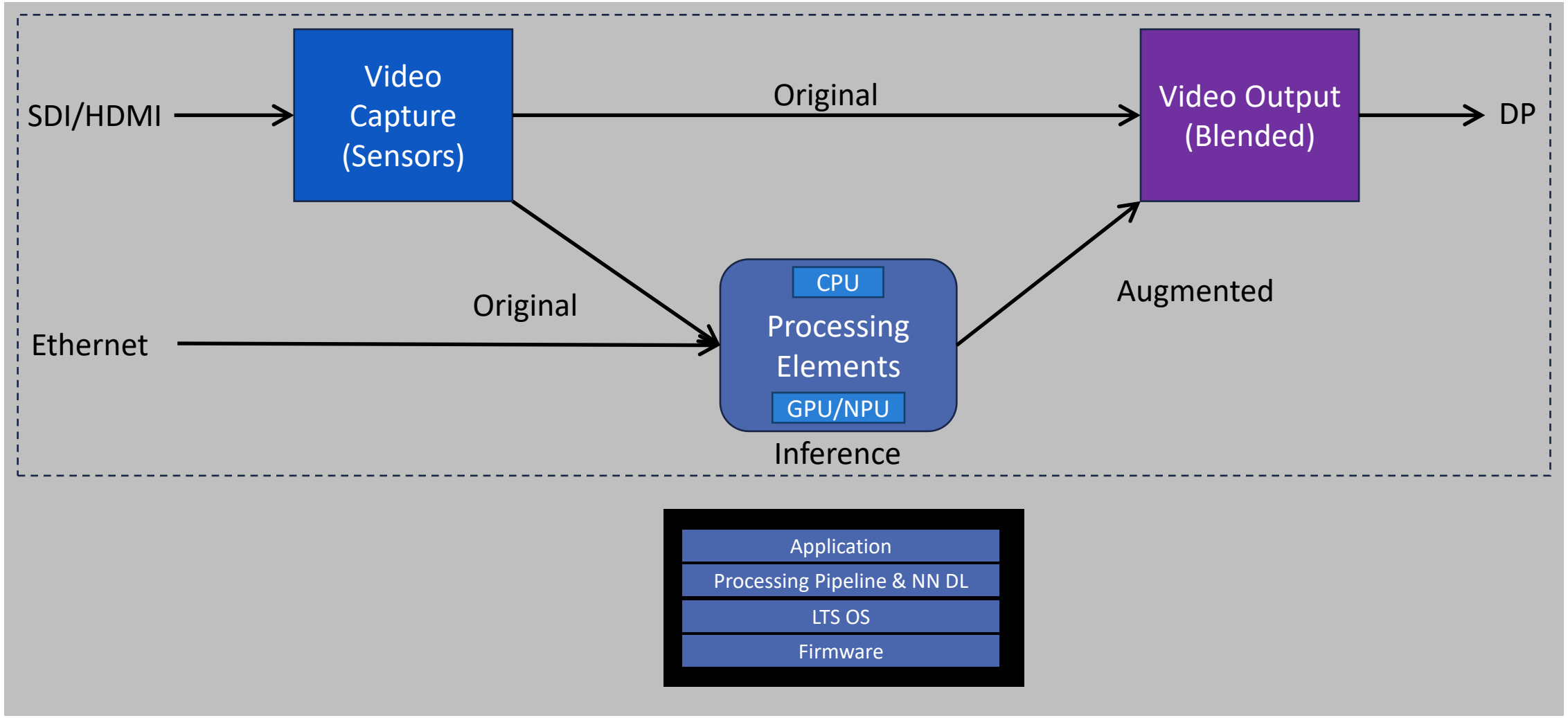
intel partner
Titanium

Attributes of an Edge AI System for Medical

Scalable TOPS to Meet Demand	Non-critical to Near Realtime
Secure Connectivity at the Edge	Standards-based & Validated
Management in Field	Software & Model Updates
Medical EMC & Safety	60601 Ready
Ingress Protection	Environmental
Long-term Availability & Support	Business Critical SLA
Fail-Safe Modes	Loss of AI—can't stop procedure

DEDICATED COMPUTING

Edge AI for Medical Inferencing Functional Diagram



DEDICATED COMPUTING

Accelerate AI Development with Intel® Tiber™ Edge Platform

Build

intel GETi

oneAPI

Optimize

OpenVINO™

intel CORE ULTRA

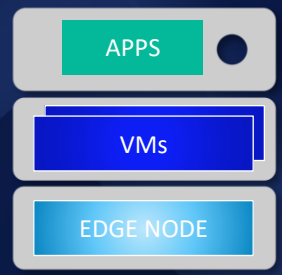
intel XEON

intel ARC GRAPHICS

Deploy & scale

OEM, ISV, ODM Partners

Manage

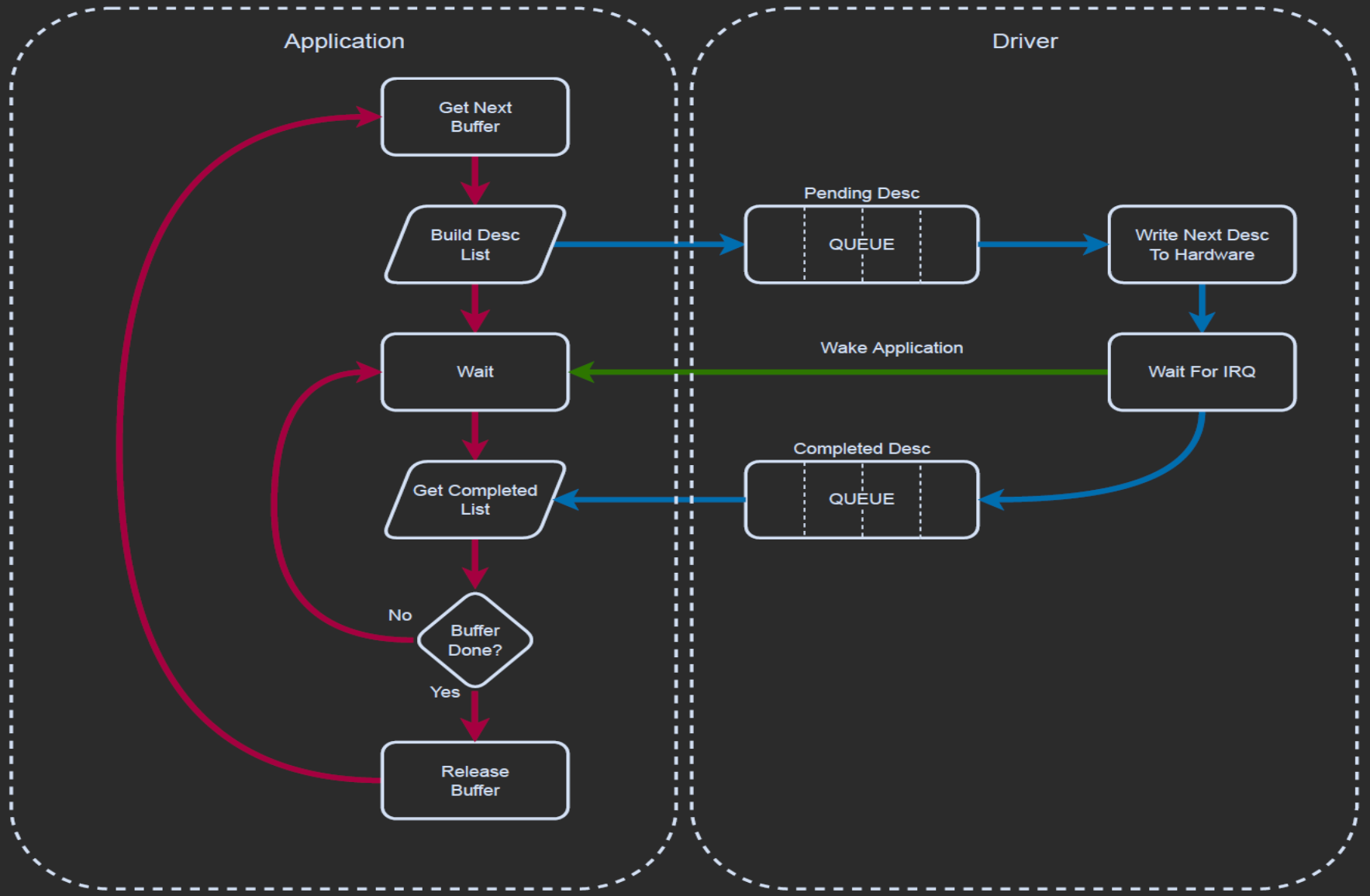


Speed up development time

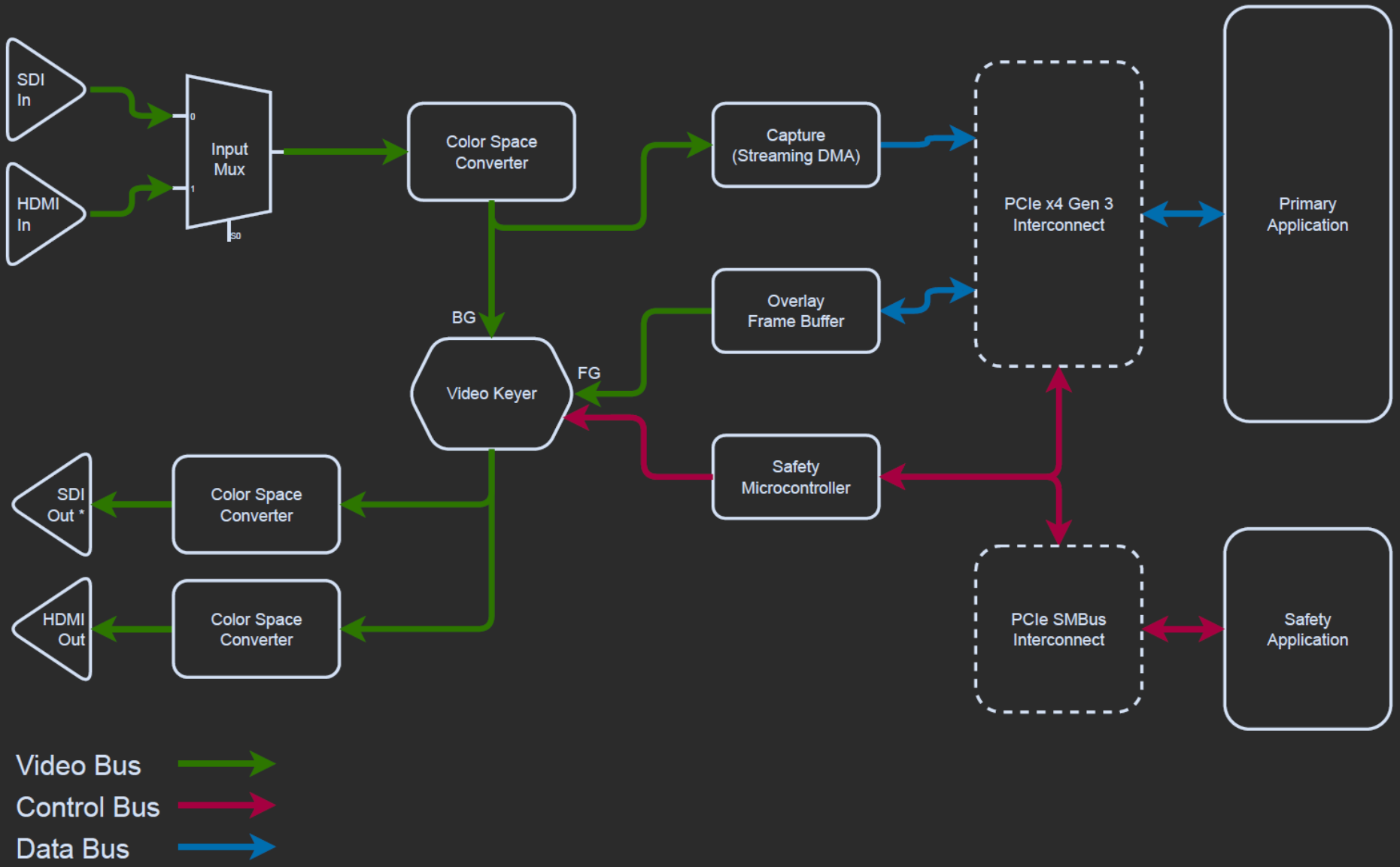
intel tiber Edge Platform

intel

Streaming DMA

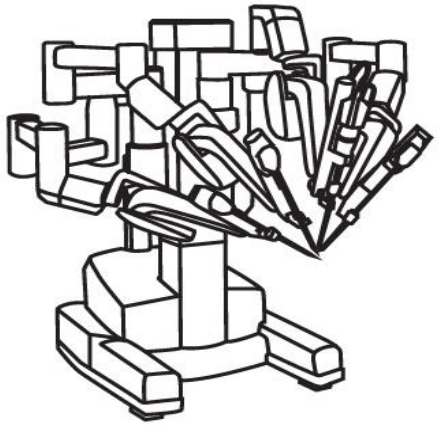


Typical Augmented Reality Application

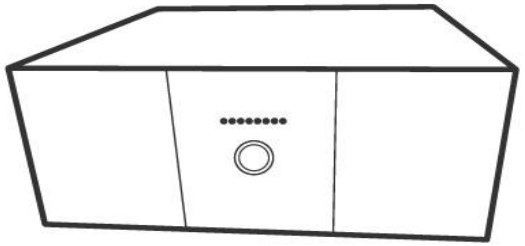


Medical Application Example

PTZ Camera
Operating Theater View



Medical Device
Robotic Camera Feed



Medical Computer System

PCIe PCIe

HDMI 2.0

12G-SDI

HDMI 2.0

Remote Surgical Station
with Augmented Reality Feed

Our Product: Introducing

- Continuous
- Adhesive
- Ultrasound
- Imaging

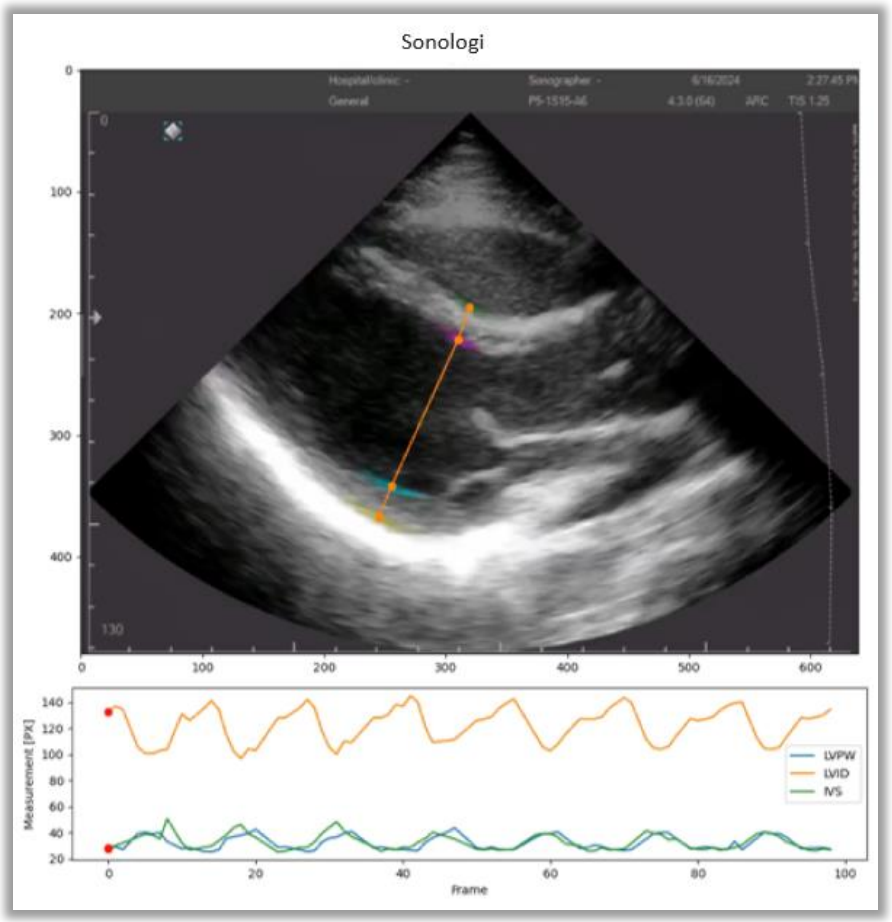
Enabled by A.I. and edge computing:

Building clinical awareness by combining multimodal continuous data locally

Continuous Patient Monitoring Platform

A new era of healthcare:

Every monitored patient bed will have a miniaturized ultrasound device and patients at home will have personal ultrasound monitors.



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Enabled by A.I. and edge computing: Summarize and prepare preliminary note of patient status and findings

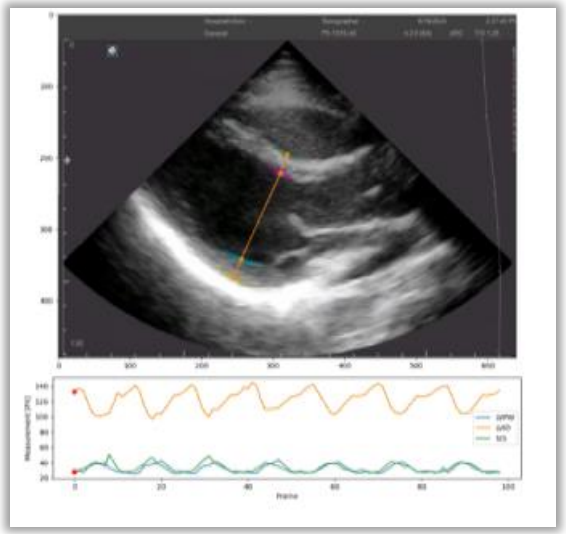
AI and Edge computing:

Interpret the continuous data stream in real time (EF, CO, etc)

Add all vital signs for comprehensive analysis (building clinical awareness)

Mark important event and prioritization

Prediction of upcoming physiological crises



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Clinical Progress Note (AI-Generated Preliminary Draft for Clinical Team to Edit, Confirm, and Finalize):
Patient ID: XXXXXX
Date: [MM/DD/YYYY]
Monitoring Period: 24 hours

Vital Signs Overview:
•**Heart Rate (EKG):** Mean HR of 82 bpm (range: 62–115 bpm). Brief tachycardia episodes noted between 11:30 AM and 12:15 PM (peak HR 115 bpm). Sinus rhythm maintained throughout with no ectopy or arrhythmias.
•**Oxygen Saturation (SpO2):** Averaged 97% (range: 94–99%) with brief desaturation to 91% at 2:42 AM, resolved within 5 minutes.
•**Blood Pressure:** Mean arterial pressure (MAP) 78 mmHg (range: 65–95 mmHg). Hypotensive episode at 3:15 AM with MAP dropping to 65 mmHg. Blood pressure recovered within 15 minutes after 1L fluid resuscitation.
•**Non-invasive Blood Pressure Readings:** NIBP checks every 4 hours; values consistent with continuous arterial line readings.

Ultrasound Findings – Left Ventricle Dynamics:
•**LV Volume Status:** Ventricle size remained stable throughout the day. End-diastolic area (EDA) averaged 14.8 cm^2 (range: 13.5–16 cm^2). No significant variation in preload noted.
•**LV Contractility:** Fractional shortening (FS) of LV consistently within normal limits, averaging 35%. Intermittent reduction to 30% FS during hypotensive episode correlates with temporary preload reduction.

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