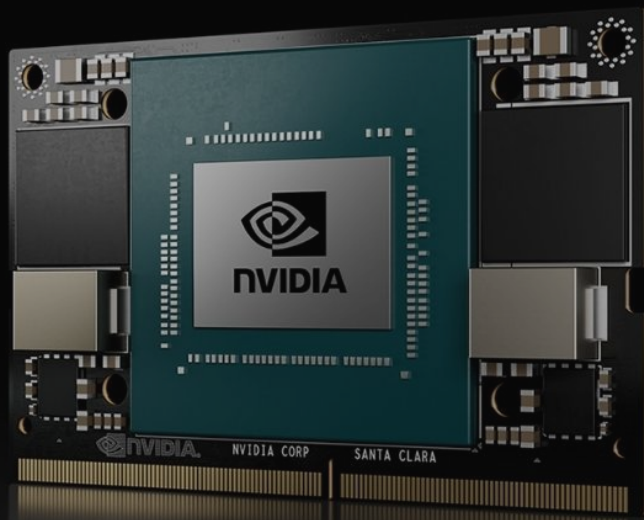# PipeRunner™

Edge AI Media Platform

NVAI

Convert Video Into an Event-Driven Dataset

Trigger

- Real-time pattern detection
- Take action at the edge
- Automate IoT workflows

Search

- AI detects and tracks context
- Metadata injects into stream
- Search it like Google Images™

Hardware & Clusterware for the AI Processing of Media

PipeRunner is an edge AI media platform that accelerates media decoding and AI execution while embedding the results into the streaming Object MP4 format.

It's clusterable design is used by leading AI integrators as the most scalable and cost effective edge AI hardware platform.
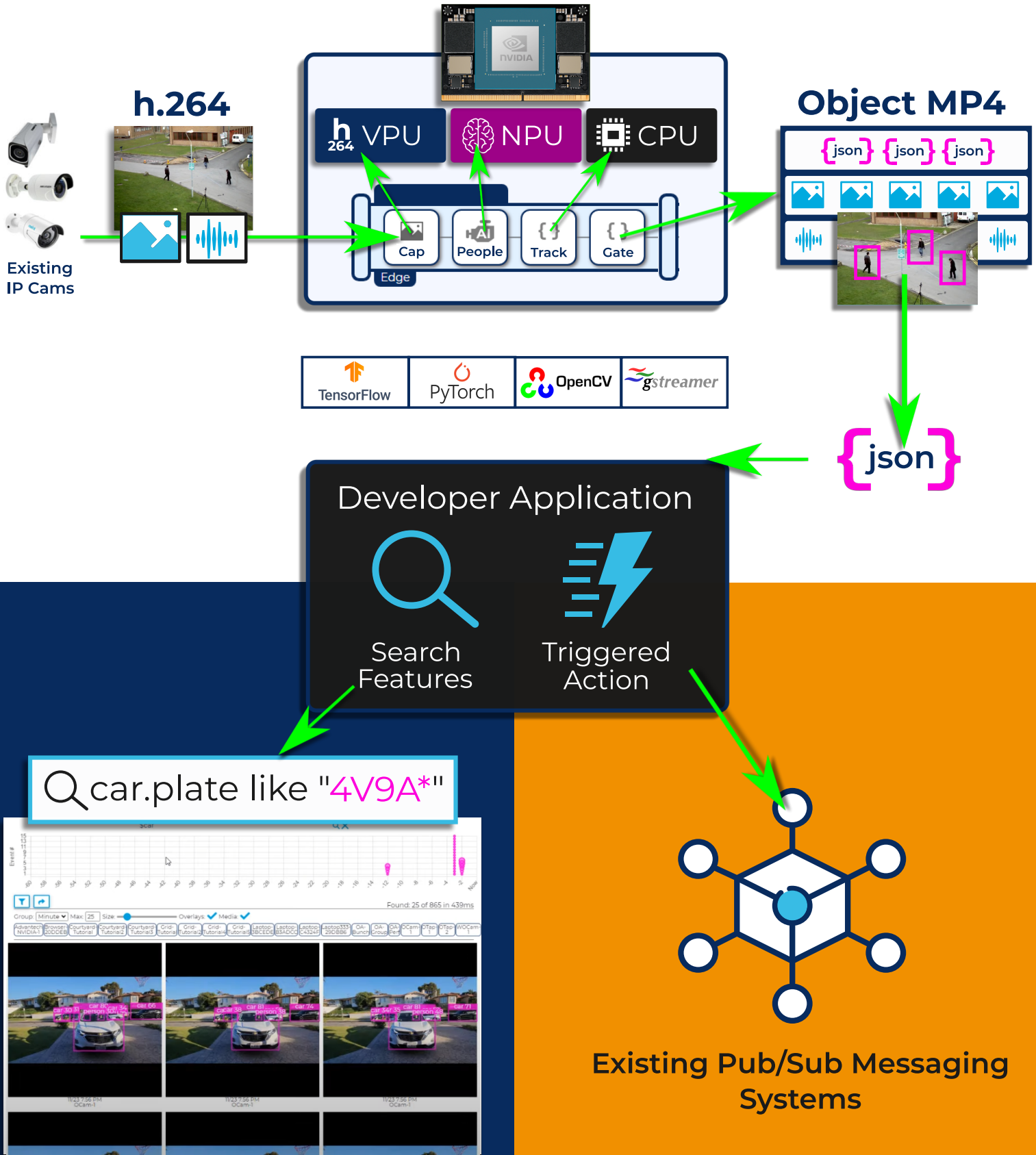
3 to 800 TOPS Starting at $100

Object MP4 Out

h.264 Video In

Street Cam   1/26 11:25:00a

OStream™
The Foundation for Physical World AI

ostream.com

TensorFlow   PyTorch   OpenCV   gstreamer

PipeRunner™
NVAI

Scalable, Software Pipelining System Handles the Complex

NVAI Hardware + Physico Software
GStreamer Pipeline Elements Automatically Run on Hardware Accelerators

h.264

Existing
IP Cams

VPU | NPU | CPU

Cap | People | Track | Gate

Edge

TensorFlow | PyTorch | OpenCV | gstreamer

Object MP4

{json} {json} {json}

{json}

Developer Application

Search Features | Triggered Action

car.plate like "4V9A*"

Event # 15 13 11 9 7 5 3 1

Group: Minute | Max: 25 | Size: | Overlays ✓ Media ✓ | Found: 25 of 865 in 439ms

Existing Pub/Sub Messaging Systems

1. **Introduction**

   1.1. PipeRunner NVAI, is an edge AI media processing board that can run as a standalone or part of a cluster. NVAI is a carrier board for the NVIDIA Jetson Orin NX / Nano system on modules. This scalable, clusterable solution spans from 20 to 800 TOPS per appliance. Physico software comes onboard as does GStreamer, OpenCV and a pre-integrated set of AI computer vision stacks. NVAIs integrate to a free Physico Server instance that allows for configuration, AI pipeline execution and routing of the resulting ObjectMP4 to 3rd party systems and applications. All PipeRunner boards using Physico software automatically leverage hardware acceleration without any need to wrestle with hardware.

2. **Features**

   2.1. Microprocessor

   - Based on NVIDIA Jetson Orin SOM you choose

   2.2. Neural Process Unit

   - Based on NVIDIA Jetson Orin SOM you choose

   2.3. On Chip Memory

   - Based on NVIDIA Jetson Orin SOM you choose

   2.4. External Memory / Storage

   - NVME-SSD

3. **Interfaces & Peripherals**
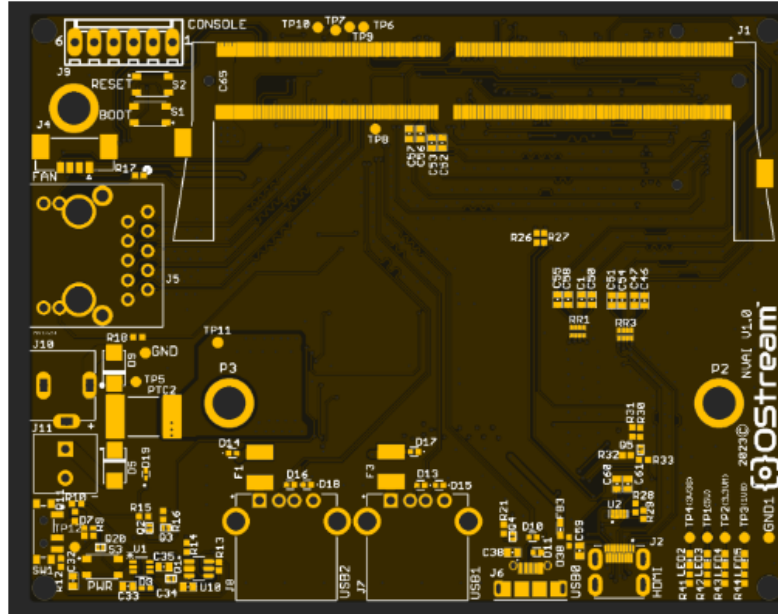
   3.1. Components

   - 1x Gig Ethernet port
   - 1x 4 Lane MIPI camera interface
   - 3x USB 2.0 via external header

   3.2. Connectivity

   - 1Gig Ethernet
   - USB

4. **Software**

   - Mature Ubuntu 20.04 LTS operating system
   - Actively developed and maintained
     - Recent Linux kernel support
     - Stable and well supported userland

5. Mechanical Specification

6. Electrical Specification

6.1. Stresses above these requirements may cause permanent damage to the device. This is a stress rating only; functional operation of the device under these or any other conditions above those listed in the operational sections of this specification is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

6.2. Power Requirements
- PipeRunner Rack contains the proper power
- Barrel connector power 20V @ 3A

7. Temperature Range and Thermals

7.1. The recommended range of operating temperature is 0 to 85 degrees Celsius.

7.2. No other external cooling is required.

8. Availability

8.1. Guaranteed availability of units through at least Jan 2026.

9. Support

9.1. For support please see go to the website ostream.com or email support@ostream.com