

AI-enabled offline video analysis

The increasing reliance on video data across various industries has driven the demand for sophisticated video analytics tools. The need for local processing capabilities arises due to a combination of factors, including data sovereignty concerns, regulatory compliance, low-latency requirements, and the sheer volume of video content being generated. Balancing innovation with strict regulations can be a challenge.

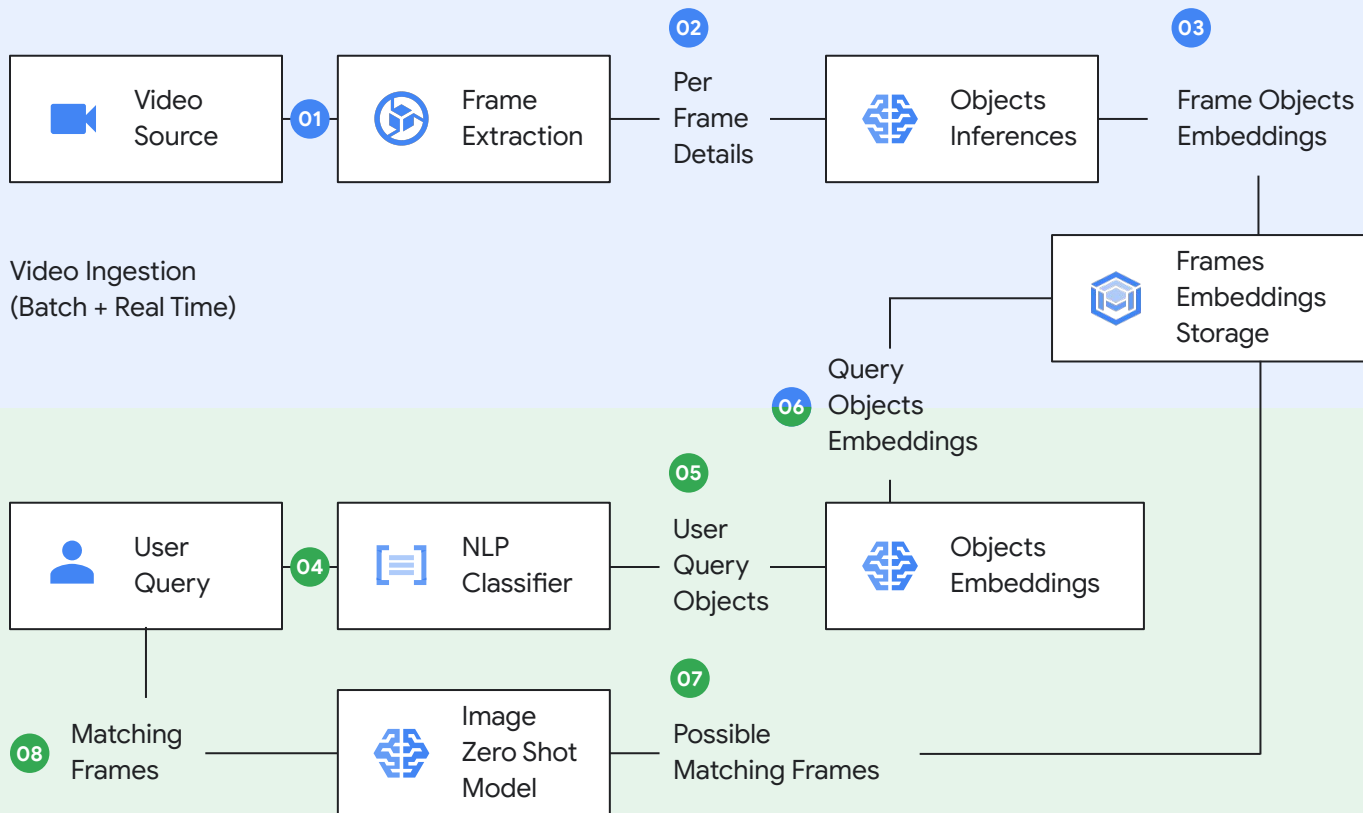
Google Distributed Cloud (GDC) air-gapped brings the power of on-premises cloud computing with artificial intelligence (AI) at the heart of it. The platform delivers a fully managed hardware and software stack, along with multiple solutions and use cases ready to fully utilize the platform and help customers to innovate and build future AI workloads at ease.

GDC AI-enabled offline video analysis

The traditional methods of video analysis involve labor-intensive manual processing, where human operators spend countless hours sifting through footage to identify critical events or objects. This process is not only time-consuming but also prone to human error.

GDC air-gapped, powered with the latest innovative technologies from Google, addresses this challenge head-on, by automating the analysis of a large repository of footage, video content, and real time streams. The solution enables users to efficiently search, identify, and extract specific information from video content simply.

Offline video analysis architecture



01

Video feeds (batch and/or realtime) are ingested to the solution via UI

02

All feeds are extracted frame by frame with the major details sent to the chosen model for labeling interface

03

Identified objects are embedded into vectors and stored in vector database

04

User submits a query through the interface

05

Query main parameters (objects to search for, coloring, ..ect.) are classified via NLP Classifier

06

Extracted query objects are embedded into vectors and matched against the vector database

07

Retrieved frames information are ingested to zero shot model verification

08

Resulting frames are presented to the user

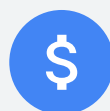
With this solution, you get a ready-to-deploy end-to-end video analysis platform that features **AI-powered search** using natural language, **intelligent video ingestion** that supports both batch uploads and real-time streams supporting the majority video and stream types, and an **advanced model repository** not only serving Google's latest models, but also open source and custom models. It also comes with a fully **automated workflow management system** that orchestrates the full solution lifecycle, and extensive reporting and **metrics capabilities** to deliver full visibility on the solution components.

Benefits across industries

GDC's offline video analysis solution offers benefits that cater to the needs of diverse sectors:



Enhanced decision-making: Rapid and precise video analysis empowers safety personnel, analysts, and decision-makers to respond swiftly to critical events, improving situational awareness and incident response.



Cost-effectiveness: Automation significantly reduces operational costs associated with manual video processing, allowing organizations to allocate resources more efficiently.



Scalability: The platform is designed to handle the ever-growing scale of video data, accommodating large repositories and real-time streams without compromising performance.



Privacy and security: With flexible deployment options, including on-premises or network edge, the platform prioritizes data privacy, residency, and sovereignty, aligning with stringent security requirements.

To learn more and get access to this solution, please connect with your account team.