



Live Video Analytics with Clouidian

More than ever in today's security, safety, and analytics-driven climate — businesses and governments have become increasingly aware that time represents money and sometimes even lives.



[Stream It, Inc.](#), a leader in real-time analytics, has successfully utilized a key technology provider -- Clouidian Object Storage -- to achieve significant performance with imaging, AI (artificial intelligence), analytics management, and search. Stream It provides the underlying real-time communications foundation, video management, and edge appliances to hyper-fast high-resolution cameras and Clouidian Storage.

The Problem Domain

Imagine a public transit bus with live access to eight video cameras and a variety of other sensors and devices including an access control system and a panic button for the bus driver. What's missing is a unified method of capturing and reporting analytics from these advanced vision sensors and devices in a unified manner that more fully leverages the capabilities that these powerful technologies make possible.

[Stream It](#) provides intelligent cameras that support many [Internet of Recognition](#) (IoR) properties and an integrated ability to sense and report what they see. These cameras can be configured to provide a broad array of machine-vision intelligence for activities including safety and security, customer demographics, and real-time movement analytics.

[Cloutian's](#) file and object storage provides unfettered scalability and management with limitless capacity to create data fabrics for IoR events and surveillance recordings. From snapshot images of important activities to vast collections of video segments, the Cloutian Object Store is able to capture and manage millions of surveillance artifacts in from Stream It's SlipStream real-time analytics pipelines with limitless meta-tagging and rapid retrieval.

Both of these complementary products possess very high technical ceilings that few businesses and government agencies are ever able to experience because no single solution provider—*except Stream It and Cloutian*—has aligned them in a unified real-time architecture.

Integration Challenges

Typically, systems integrators approach this problem with a collection of independent “point” solutions that individually attempt to address modern surveillance and safety requirements, such as:

- Video recording and storage
- Snapshot imaging and storage
- Access control logging and reporting
- Alerting and notifications
- Safety monitoring and loss prevention
- Performance and optimization analytics
- Safety incident documentation
- People counting and demographics
- Video and imaging search

Addressing these key requirements in a siloed approach results in an expensive and cumbersome collection of systems and software that were never intended to work together, and fail to benefit from the synergies that are possible in a unified architecture.

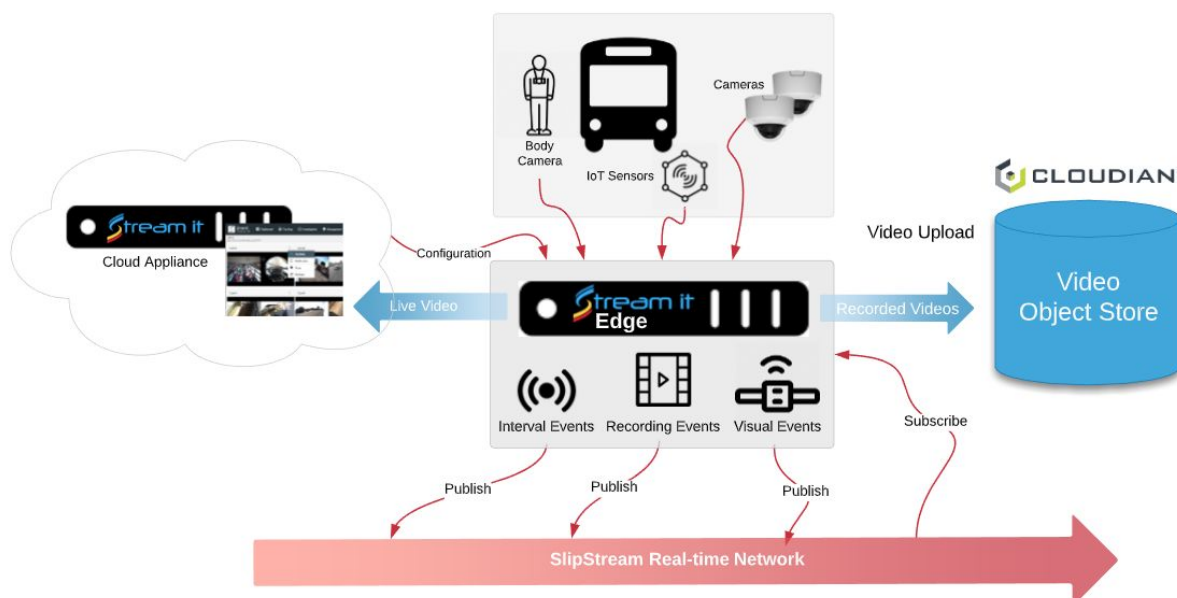
This problem domain demands an autonomous orchestrator—an *edge appliance*—capable of unifying device listening and network messaging, and one that seamlessly integrates with modern streaming data systems and services.

Stream It's *Edge* appliance provides exactly what the problem domain begs for.

Unified Architecture

Stream It: Edge Appliance is a good listener; it has to be. In today's event-driven technology climate, listening is equally important to collecting, analyzing, and taking action based on intelligent process logic.

The *Stream It: Edge* appliance anticipates and supports advanced GSML camera capabilities through its universal SlipStream™ real-time integration gateway. With edge-based AI, Stream It's advanced cameras can inject accurate event data directly into the real-time network in milliseconds.



SlipStream™, the real-time communications network, carries the events and meta-data from Edge appliances to Clouidian storage in seconds. Stream It Search provide access to edge events using a patent-pending findability algorithm that makes it possible to locate video and imagery objects even before they've reached Clouidian's object store. Only Stream It is able to deliver sub-second access to future video and image objects - true real-time performance.

SlipStream™

The SlipStream™ real-time communications layer provides a proven and well-tested environment to insert business logic into data streams. Customers are able to leverage and extend SlipStream's essential building blocks to create custom real-time analytics and reporting applications with far less effort compared to other IoT or database platforms. SlipStream™ also supports the integration of new types of data from external sources that can be injected into the real-time data stream. For example, you could add weather data for the precise position of a bus to learn if weather affects ridership.

IoR Success Formula

Creating successful Internet of Recognition (IoR) solutions requires new approaches in event design and the ways we align, convey, and manage video, image, and data artifacts. SlipStream™ provides a common communications pipeline to efficiently facilitate the collection, enhancement, and interpretation of information generated by modern vision sensors.














Powerful features in Stream It GMSL cameras and fast video retrieval from Clouidian storage combines with Stream It's SlipStream™ real-time architecture to achieve real-time insight and situational awareness. The outcome is dramatic increases in safety, security, customer satisfaction, and cost savings with vastly more data.

$$(\text{Stream It: Edge} + \text{Clouidian})^{\text{SlipStream}} = \text{Hyper Innovation}$$

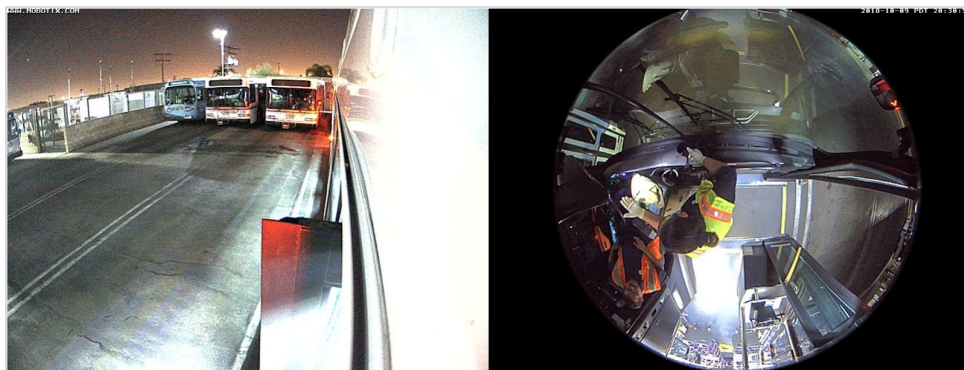
Because we are able to collect and classify video and image analytics from intelligent cameras and drive those event observations as data analytics through to Cloudfian and ElasticSearch in about one second, it is possible to introduce search and analytics capabilities that exceed the speed of thought.

The Modern Dashboard

Surveillance and security dashboards have been around for decades, but most have used on-premise Windows servers that require regular maintenance and administration. In contrast, Stream It use thoroughly modern web-scale technology integrated with it's real-time network to provide more timely information anywhere it's needed—including mobile devices like cell phones and tablets.

Events		
	1605 Badge Swipe Today at 8:23 PM	 
	1605 Badge Swipe Today at 8:00 PM	 
	1605 Panic Button Today at 6:42 PM	  
1605   		

Stream It: Cloud provides an interface that is intimately aware of all camera-generated events in real time.



For example, with Cloudfian's high-performance image retrieval, pictures from all cameras are instantly accessible after a panic button has been pressed by a bus driver. Well in advance of the video recording making its way into the Cloudfian object store, *Stream It: Cloud* is able to calibrate the origin of the event and pinpoint the location in the recording video on the Edge appliance.

A single click renders the live video to dispatch and law enforcement personnel as it is being recorded. From panic event to video, to snapshot images and into the data

stores—no other safety and surveillance solution connects the dots in real time the way Stream It does.

About Cloudian.

Cloudian, Inc. is a US enterprise data storage company headquartered in San Mateo, California, with offices in Europe and Asia. It produces Amazon S3-compatible object storage software, scale-out file services software, and pre-configured hardware appliances. For more information, contact sales@cloudian.com or call 650.227.2380.

About Stream It, Inc.

Located in Henderson, NV, Stream It provides an edge-first real-time video surveillance and analytics platform enabling customers to use powerful artificial intelligence algorithms in real-time to enhance security and improve safety for mobile and stationary environments. For more information, contact sales@streamit.live or call 888.815.9790.