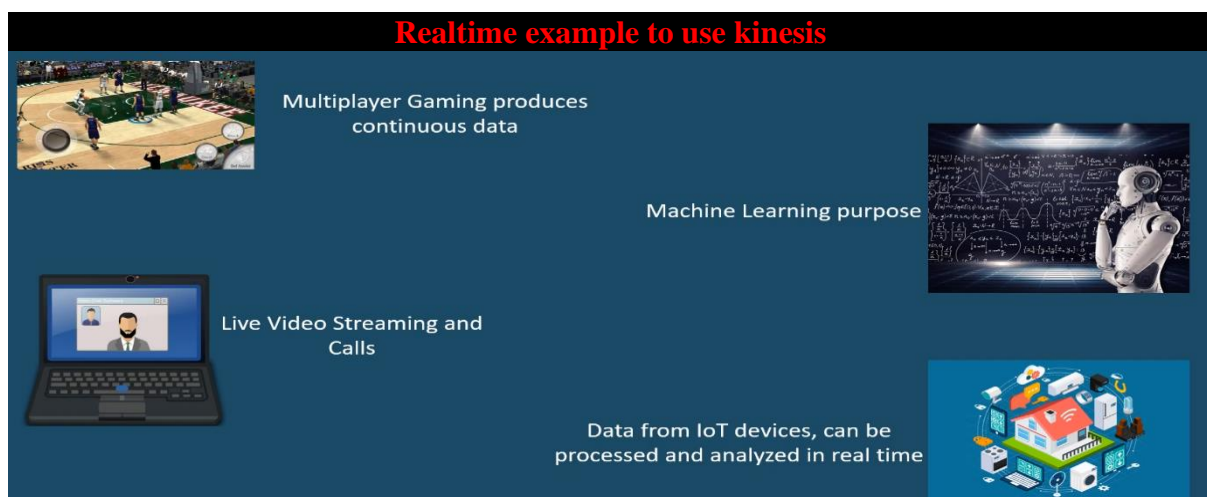


Kinesis

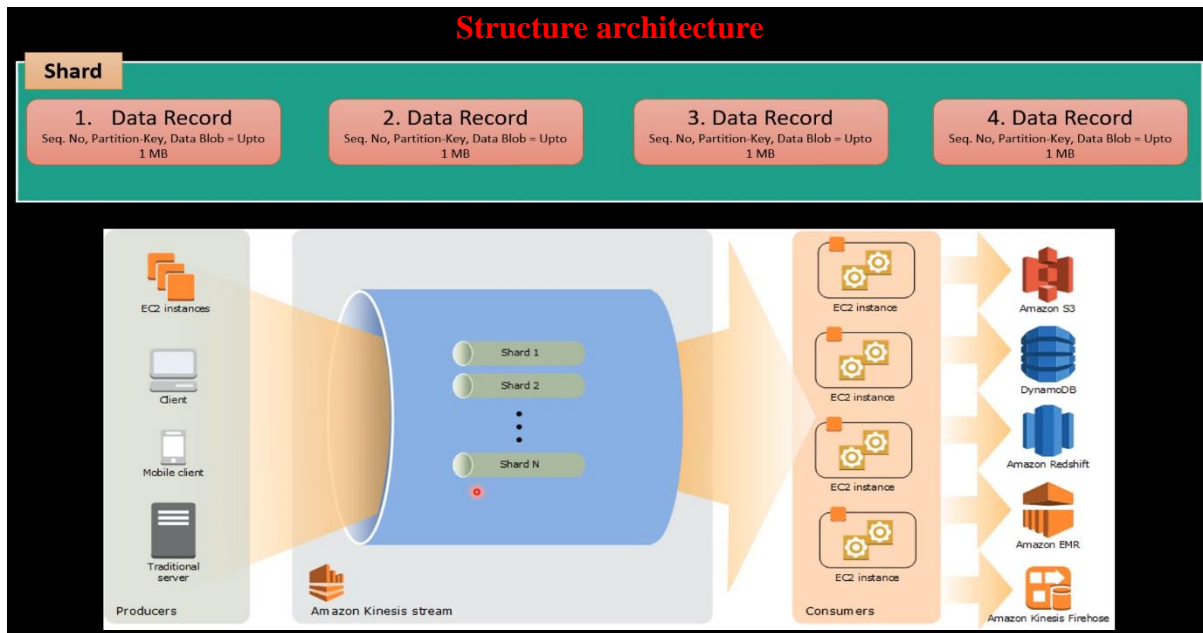
- Streaming of data means data that is generated and sent continuously from a large number (1000 or hundreds of 1000's) of data sources, where data is sent in small size (usually in Kbytes or Mbytes)
- Kinesis is as a platform for streaming data on AWS (used for IOT & Bigdata analytics)
- It offers powerful services to make it easy to load and analyse streaming data.
- It can continuously capture and store TBs of data per hour from 100's of thousands of sources like
 - IOT sensors data
 - Log files from customers of mobile application and web apps
 - In-game player activities
 - Financial trading floors and stock markets.



- ❖ **Producers:** puts record into amazon kinesis steams
- ❖ **Consumers:** get records from amazon kinesis streams and process them
- ❖ **Kinesis stream application:** is a consumer of a stream that commonly runs on a fleet of EC2 instances
- ❖ **Shard:** is a uniquely identified group of data records in a stream. A stream is composed of one or more shards.
- ❖ **Retention Period:**
 - The time for which data records will be kept and made accessible to kinesis streams application.
 - default is 24 hours (1 day)
 - can be extended to 7 days (168 hr) for additional charges.

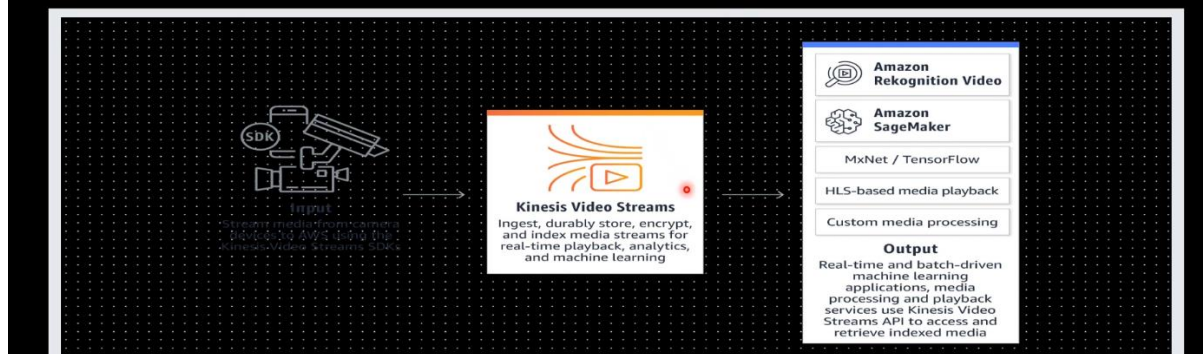


Structure architecture

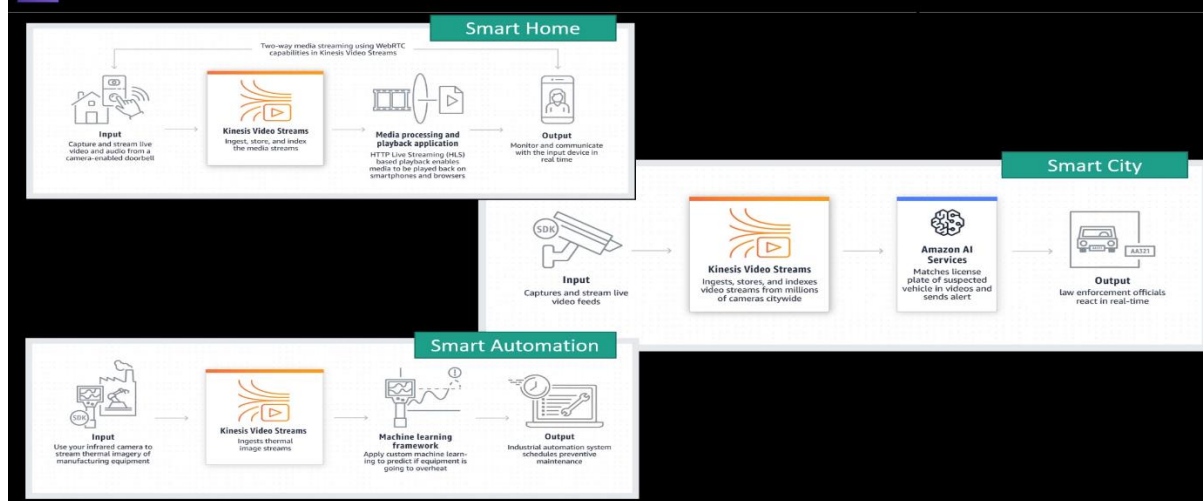


KINESIS VIDEO STREAM

- Securely stream videos from devices to AWS for Analytics, ML and Other Processing.
- Automatically Provisions & scales the infrastructure to ingest video data from millions of devices.
- Stores, Encrypts and Indexes video data in your streams, and can be accessed using APIs.
- No infrastructure to be managed.
- Example – Live on YouTube, Videos calls etc..
- Kinesis Video Streams can ingest data from edge devices, smartphones, security cameras, and other data sources such as RADARs, LIDARs, drones, satellites, dash cams, and depth-sensors.

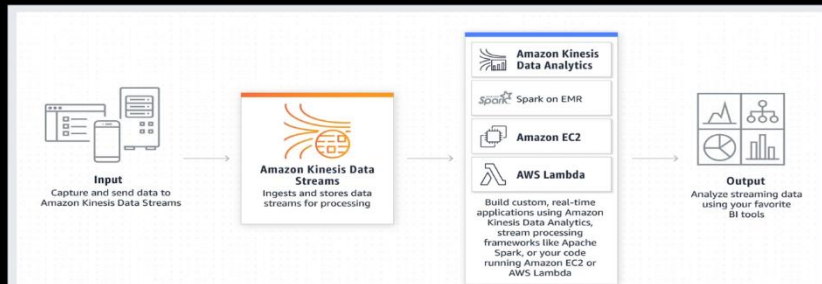


Kinesis Video Stream Use cases



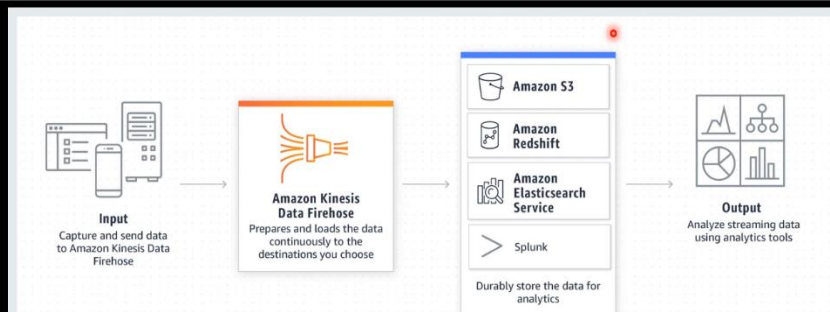
KINESIS DATA STREAM

- Scalable & Durable real-time data streaming service that can continuously capture Gigabytes of data per second from thousands of sources.
- Continuously capture gigabytes of data per second from hundreds of thousands of sources such as website clickstreams, database event streams, financial transactions, social media feeds, IT logs, and location-tracking events.
- The **data collected is available in milliseconds** to enable real-time analytics use cases such as real-time dashboards, real-time anomaly detection, dynamic pricing, and more.



KINESIS DATA FIREHOSE

- Load streaming data into data lakes, data stores, and analytics services.
- It can capture, transform, and deliver streaming data to Amazon S3, Amazon Redshift, Amazon Elasticsearch Service, generic HTTP endpoints, and service providers like Datadog, New Relic, MongoDB, and Splunk.
- It loads new data into your destinations within **60 seconds** after the data is sent to the service.
- Pay as you go model and its fully AWS Managed.
- Use-Case - IoT Analytics, Clickstream Analytics, Log Analytics, Security monitoring



KINESIS DATA ANALYTICS

- Amazon Kinesis Data Analytics is the easiest way to transform and analyze streaming data in real time with Apache Flink.
- Apache Flink is an open source framework and engine for processing data streams

