



NVMe Use Case: Surveillance Video Processing

August 8, 2019

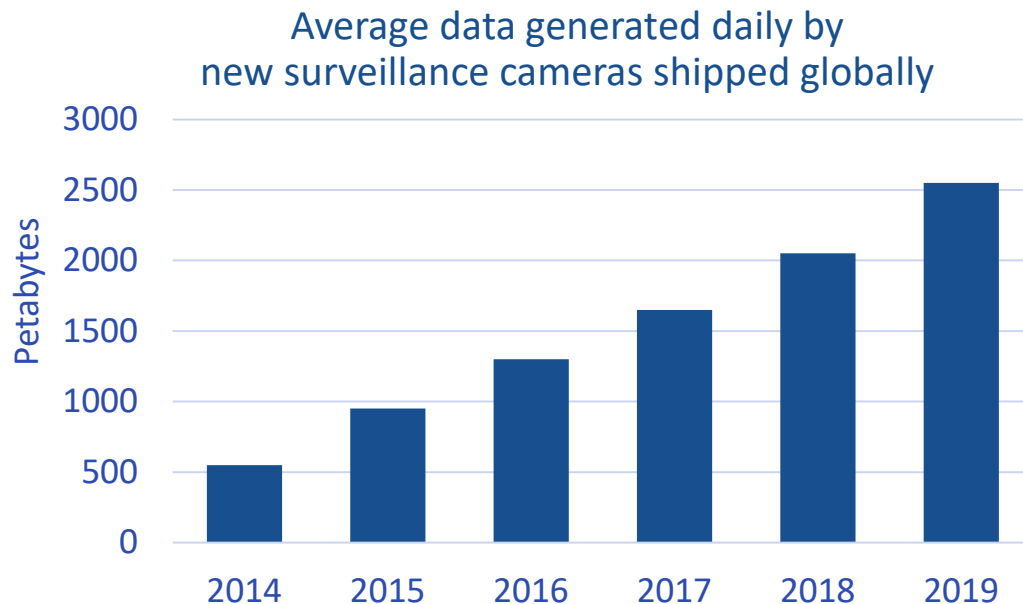


Flash Memory Summit

Tao Zhong

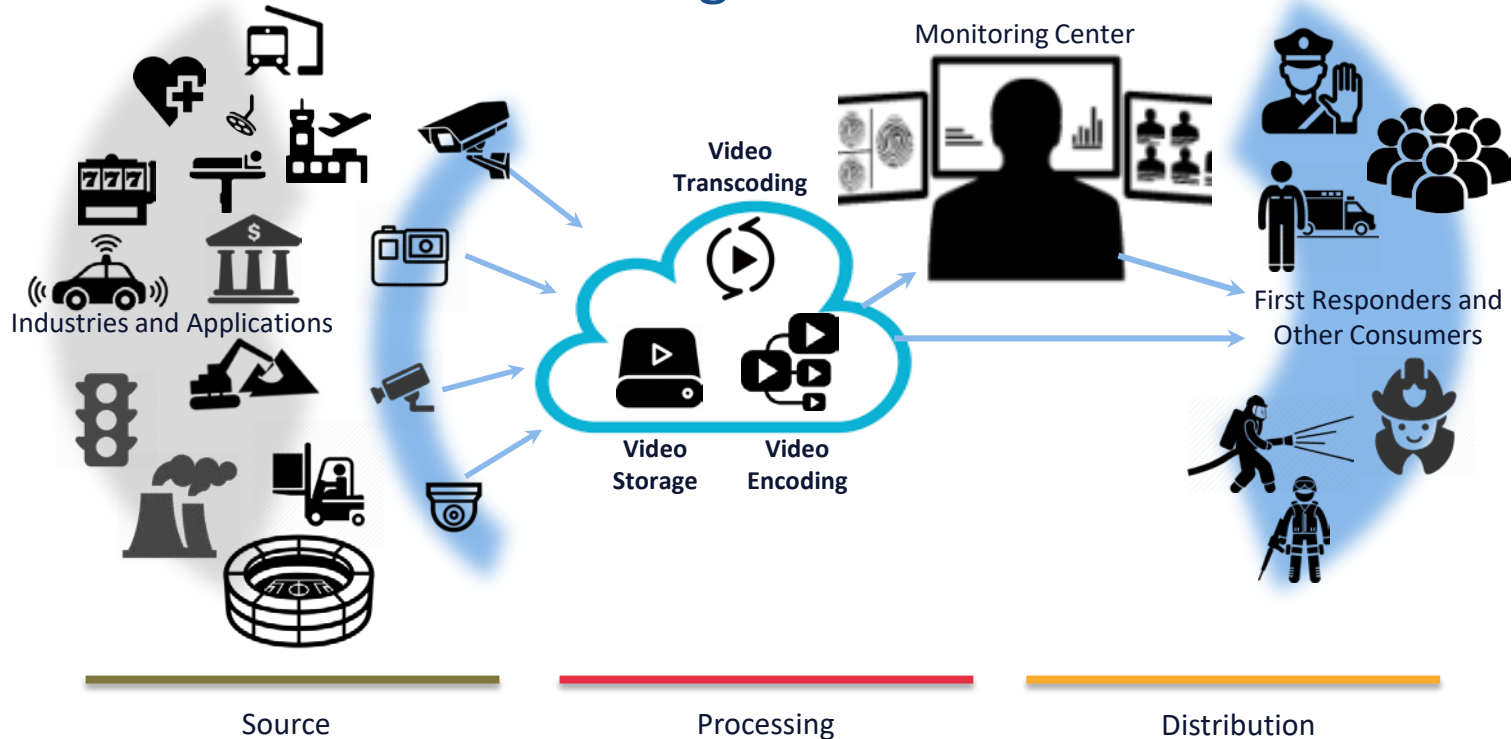
CTO and CEO
NETINT Technologies

Surveillance video volumes are growing



Source: IHS, but found at <https://www.securityinfowatch.com/video-surveillance/news/12160483/data-generated-by-new-surveillance-cameras-to-increase-exponentially-in-the-coming-years>

Surveillance Video Processing and Distribution



Surveillance applications are pervasive and expanding

Trends in Video Surveillance

- Internet Video Surveillance is growing faster than overall video surveillance market
 - Internet video surveillance traffic will grow seven fold in 5 years (CISCO VNI)
- Video content analysis
- Video Surveillance as a Service (VSaaS)



Video surveillance applications are migrating to the cloud

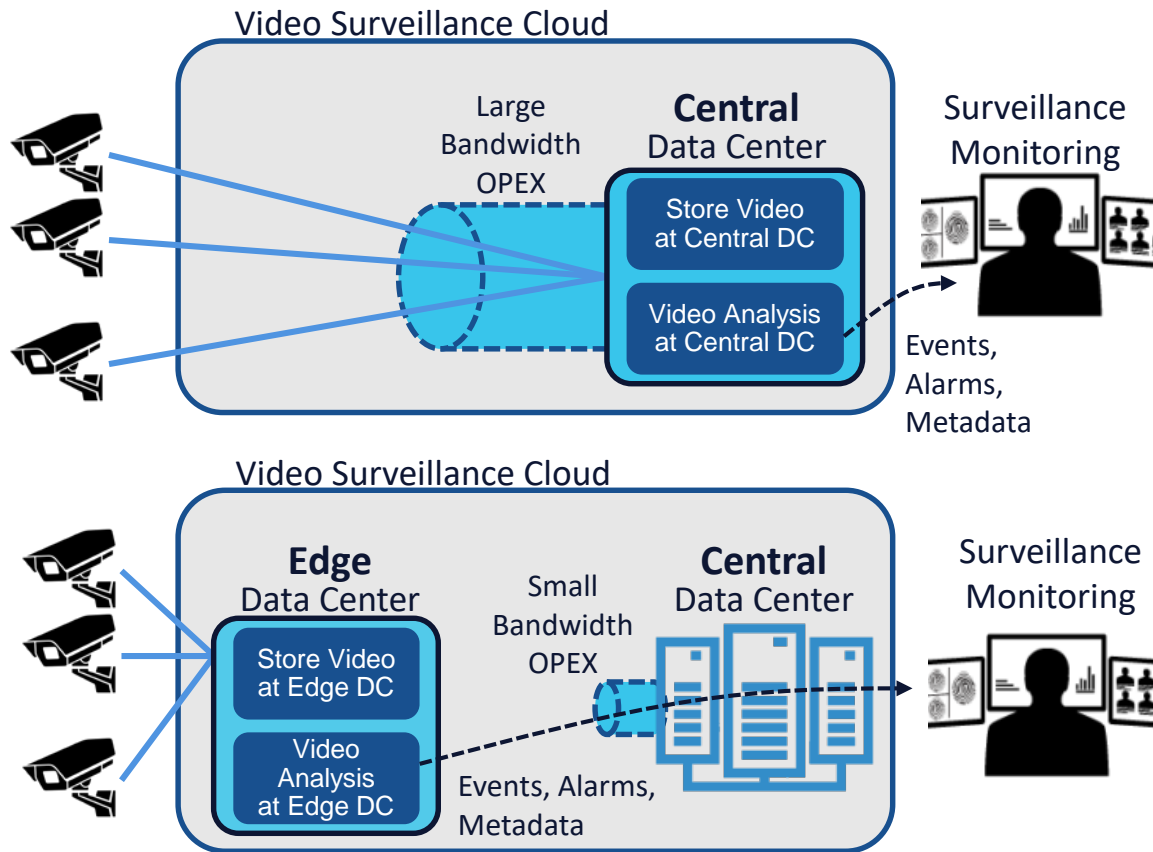
Video surveillance is moving to the cloud

- Why?
 - Reduced monitoring staff costs
 - Easier to share surveillance video and data
 - Enhanced privacy and compliance to data protection regulations
 - Reduced CAPEX costs and IT infrastructure
 - Enhanced control of security footage.
- Security outsourced to cloud monitoring service
 - Cloud equipment consolidation simplifies maintenance.
 - Economies of scale to outsourcing

Cloud video surveillance processing is moving to the edge

Premise:

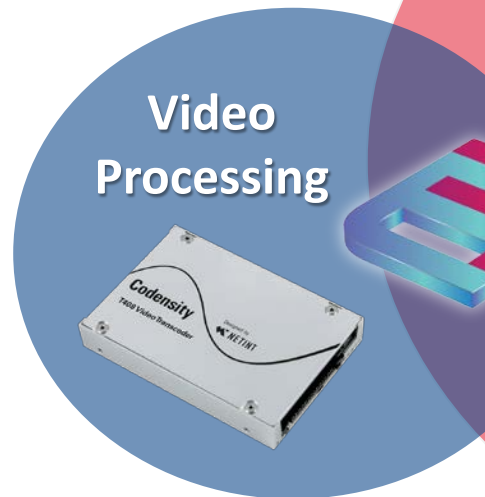
- Surveillance Video is generated at Edge, so process at Edge.
- Saves long-haul bandwidth and OPEX costs



Summary of Edge Data Center Requirements for Video Surveillance

- Video storage
 - Compressed video saves storage space
- Video Analysis
 - To generate alarms or metadata
- Video encode and transcode
 - To generate lower bitrate versions of video for situational awareness or ABR streaming
- Challenges:
the edge data center is:
 - Space Constrained
 - Power Limited

Computational Storage: Video Processing with SSD

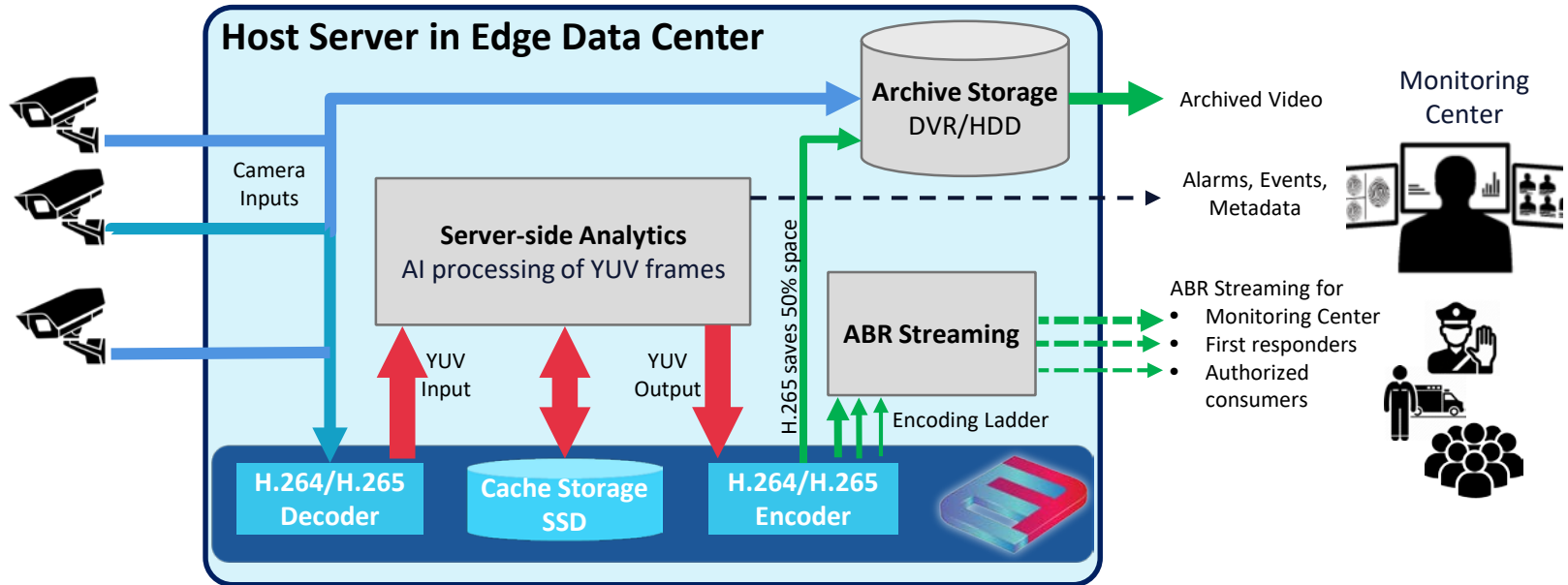


SSD Storage



The fusion of:
SSD Storage combined with
Video Processing into a
Low-power compact module, designed for
Edge Deployment in the
Video Cloud.

Video Surveillance Workflows



Summary

- Surveillance cameras generating increasing volumes of video data
- Trends are moving video surveillance from customer premise to cloud
- Processing at cloud edge minimizes video distribution OPEX
- Codensity EdgeFusion provides SSD and video transcoding for surveillance video processing at the Edge



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Questions?

Visit our booth#724 during FMS 2019,
or www.netint.ca for more information

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