



Intelligent Video

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Mar 2020



Overview

Test Drive Summary

A method to capture and process images for content analysis in a secure, open-architecture for cross-industry use cases for quality assurance, situational monitoring, behavioral analysis and compliance verification.

Leaders

- NetApp

Test Drive Contact

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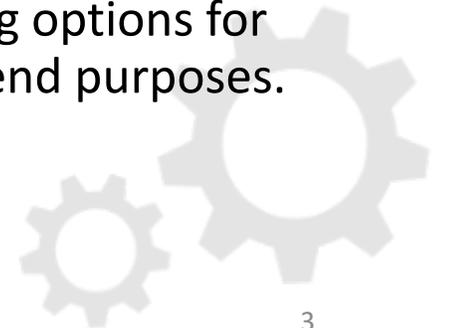


Market Segments

- Manufacturing
- Retail
- Energy & Utilities
- Mining & Metals
- Public Safety

Description of prior deployments

- Implementations of the video intelligence platform have been deployed in marine waterway management. By implementing different video inspection analytics, and adding options for enhanced security, the platform can be adapted to other industries and other end purposes.





Requirements for a Smart Edge

Cross-Industry Horizontal IOT Application Platform

- Forward Deployed
- Enterprise Datacenter Software Capabilities in Scope – Edge in Scale
- Flexible Configurations – Small, Medium, Large / Good, Better, Best
- Scalable Resiliency – Clustering
- Efficient – Edge Centric Hardware
- Manageable – Ease of Deployment & Support
- Automated Management at Scale
- Economic – Pay as you grow
- Open-Systems Design - Adaptable





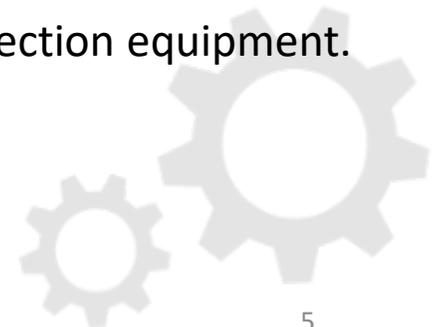
Use Cases

Deployment benefits of platform:

- Ease of use in configuring and deploying video capture and analytics: 100's to 1000's of units at a time.
- Guard against cyber attacks:
 - device spoofing to gain access to IoT trusted networks. Provide trusted source for firmware and software updates.
 - Protection of video data in-transit, and resultant meta-data from analytics.
- Platform scale flexibility to enable varying degrees of IT resource needs: compute, storage, networking.
- Ecosystem for AI/ML video analytic model updating and edge deployment

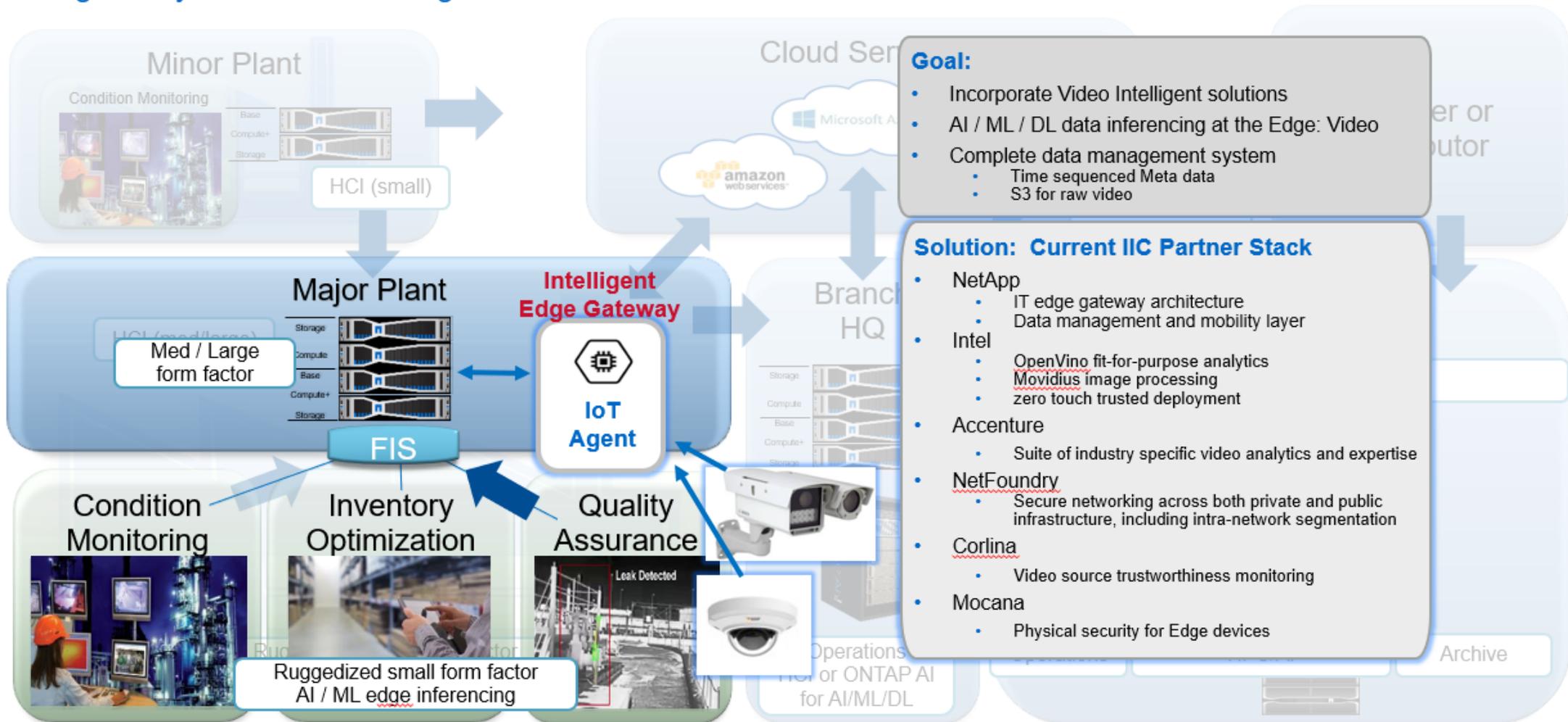
Use Cases:

- **Quality assurance** investigation that surpass human abilities in batch manufacturing and fabrication.
- Customer **sentiment analysis** in retail.
- Continuous site **security surveillance**: detection of intruders.
- Monitored **health & safety** of factory workers: working safely, proper use of personal protection equipment.
- Patient **condition monitoring** in health care.



Solution Overview

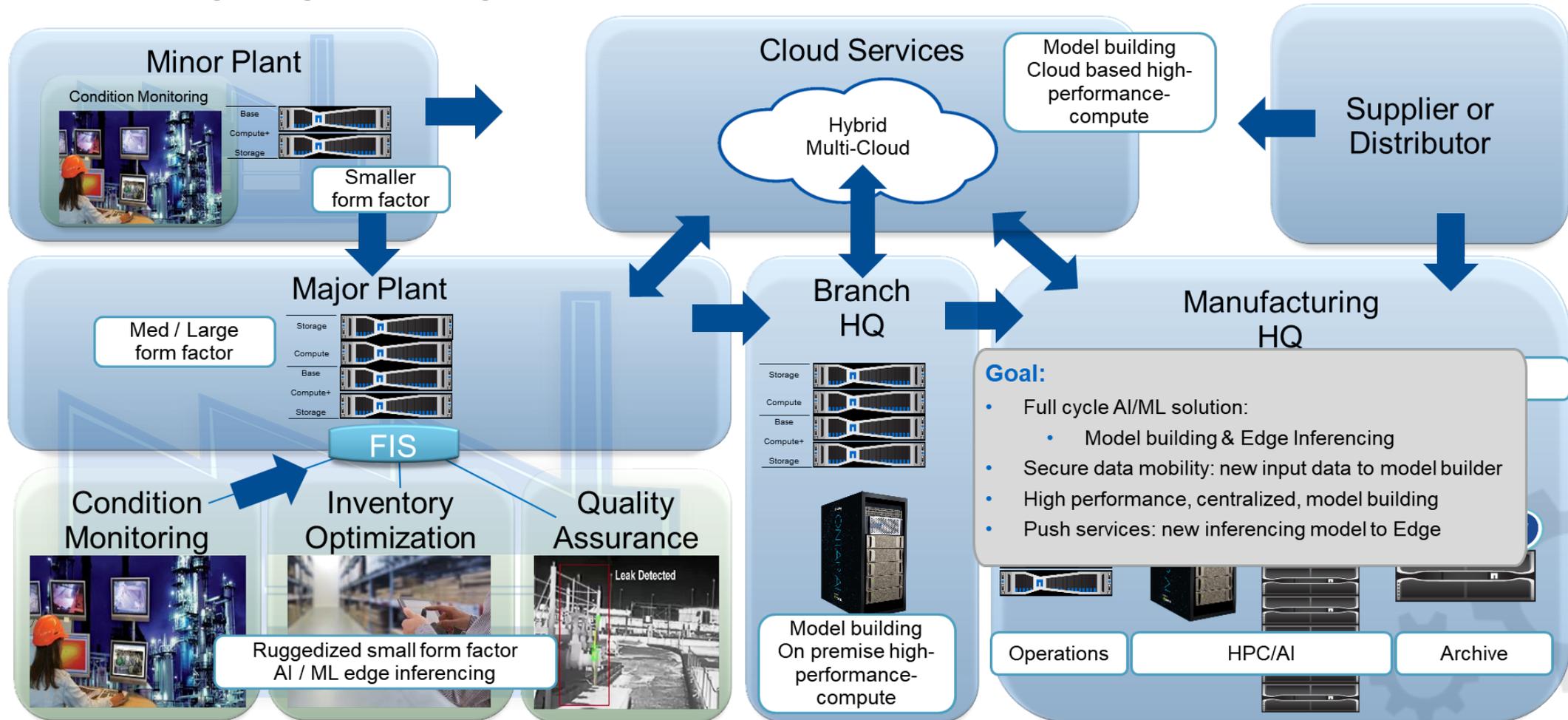
Video Intelligence Image analytics and inferencing



Solution Overview

AI / ML

Model Building & Edge Inferencing Workflows

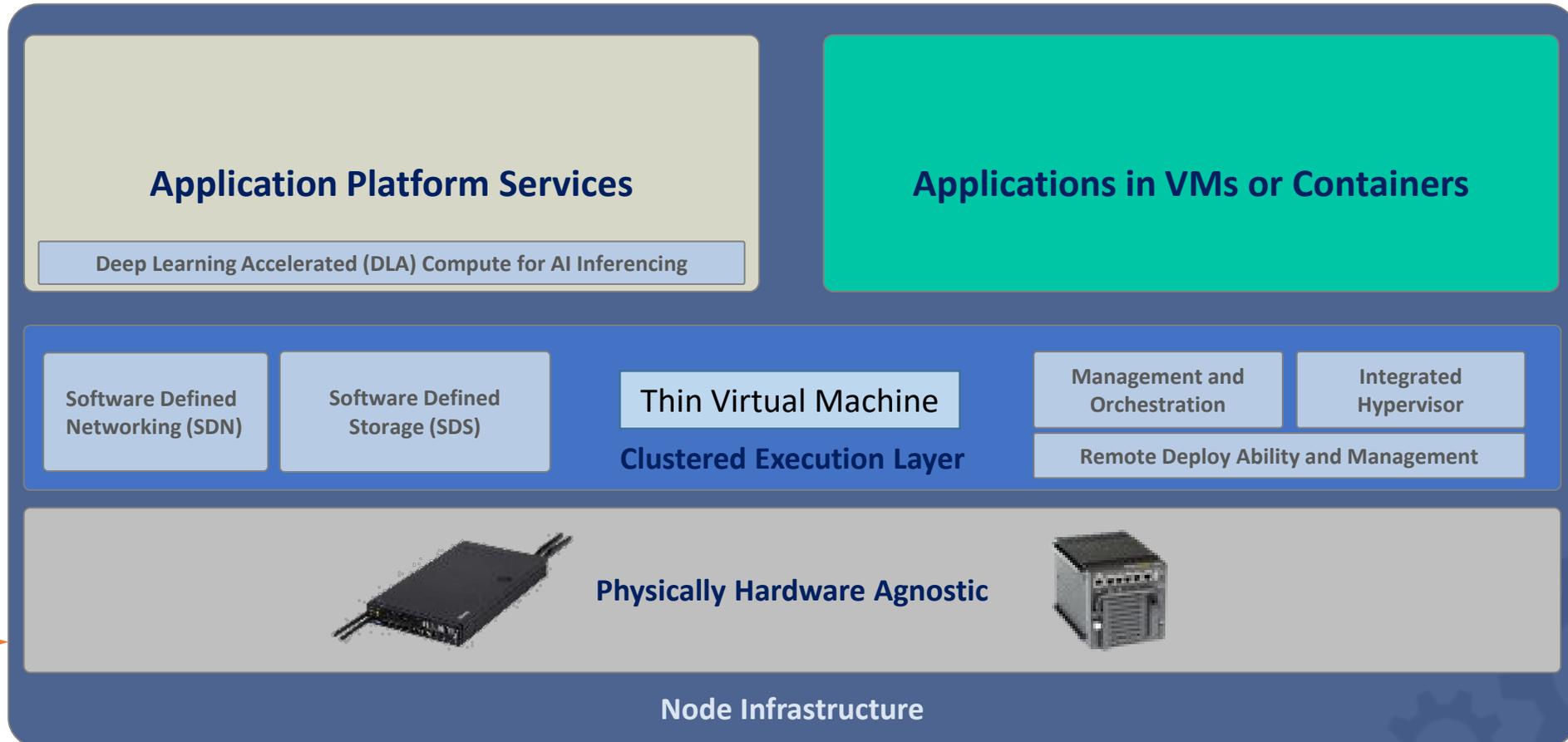


Solution Overview

Video and
Sensor Data
Acquisition



Solution Block Diagram - Intelligent Edge Platform



Zero Trust and Secure Data Transport



Trustworthiness

- Protection of camera's ports if deployed in unsecured / unmonitored locations
 - Ensure remote edge platform cannot be spoofed by external means
 - Only trusted source(s) are used for firmware & software updates
- Assurance of source video signal
 - Protect your devices from tampering and unexpected changes with instantaneous notifications of changes in connections, applications, or behavior.
 - Continuously track system attributes including operating state, connectivity, and applications.
- Protection of data in-flight
 - Raw video from source secured in transit from camera to point of analysis
 - Metadata derived from video analytic to data historian





ADDITIONAL DETAILS

Targeted initial POCs:

Automotive Parts Manufacturing:

- Quality assurance and defect root cause analysis in welding and metal forming
- Health and safety assurance in workers' behavior
- Deployment:
 - Customer engaged: use cases agreed upon. Creating SOW and commercial terms.
 - Timing goals: deployment upon successful POC before year end.

Retail:

- Customer sentiment / experience analysis
- Security threat analysis
- Deployment:
 - Major customers engaged: use cases agreed upon.
 - POCs in process

Food and Beverage:

- Health and safety assurance in workers' behavior
- Deployment:
 - Major customer engaged: use cases agreed upon.
 - POC was successful, negotiating deployment schedule and commercial terms.





“Video as an IoT sensor device offers new capabilities in condition monitoring. But we have to establish a secure and robust deployment platform.”

Video Intelligence Platform



The Problem

Video will become a mainstream IoT sensing platform as advanced analytics are proven to deliver business value. Currently there lacks the ability to deploy at scale, or to fully protect the device, or data in transit from cyber threats.

Our Solution

A method to capture and process images for content analysis in a secure, open-architecture for cross-industry use cases for quality assurance, situational monitoring, behavioral analysis and compliance verification.

Key Benefits

- Platform level security: devices and data
- Deployment and manageability at enterprise scale
- Built upon open standards
- Flexible deployment and configuration options

Team

- NetApp





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