

# Dell Technologies and NVIDIA Metropolis with Irvine Sensors

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## Solution Overview

### Abstract

NVIDIA has partnered with Dell Technologies to develop the Metropolis video analytics platform. This solution enables Irvine Sensors video analytics applications to co-reside on a single server in a containerized manner, making it easy to deploy, manage, and scale. Intelligent Video Analytics is key to turning this data into insights.



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Dell EMC  
Hopkinton, Massachusetts 01748-9103  
1-508-435-1000 In North America 1-866-464-7381  
[www.DellEMC.com](http://www.DellEMC.com)

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## Solution overview

The video analytics market has seen the emergence of new sensors, higher resolutions, and longer retention times—generating massive streams of data that need analysis. Approximately 94% of video goes unreviewed, and companies struggle to support and scale their present infrastructure to maintain basic levels of service. Intelligent Video Analytics is key to turning this data into insights.

The purpose of this guide is to help you understand the benefits of implementing the Metropolis video analytics platform with leading Irvine Sensors.

## Scope

This guide provides information for Irvine using NVIDIA Metropolis for Intelligent Video Analytics.

This guide is intended for use by internal Dell EMC sales and presales personnel, and partners.

It includes the following design considerations:

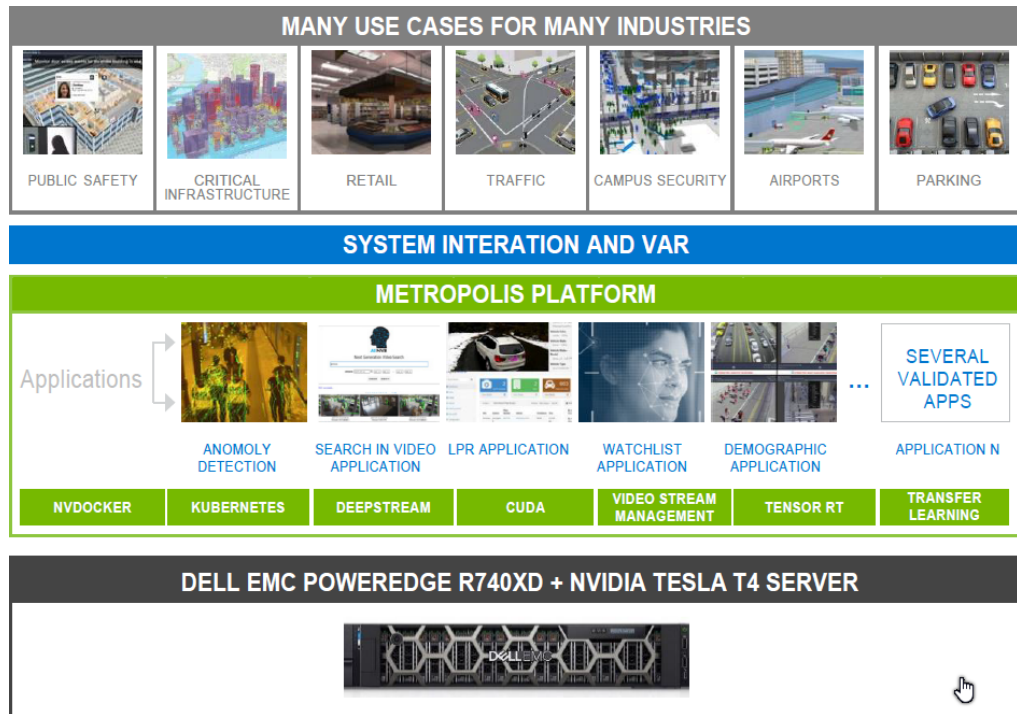
- Design overview of NVIDIA Metropolis
- Verified Irvine software vendors

## Metropolis platform design

Video analytics solutions are a combination of processing hardware and video analytics applications from Independent Software Vendors (ISVs). These analytics solutions must be designed, sized, integrated, and configured. This can be a complex challenge that can result in increased capital and operating expenses.

Partnering with Dell Technologies, NVIDIA has developed the Metropolis video analytics platform. The combination of an integrated and tested solution based on the Dell EMC PowerEdge R740xd server and NVIDIA T4 GPUs enables multiple video analytics applications to coexist on a single server in a containerized manner. This solution makes it easy to deploy, manage, and scale.

**Figure 1** Metropolis architecture

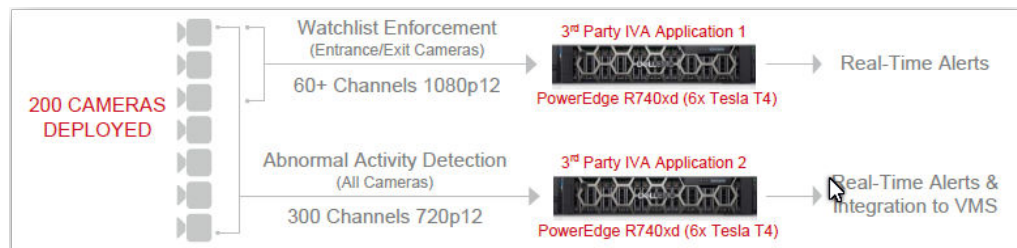


The Metropolis platform provides the following benefits over existing analytics architectures:

- A modular, future-proof, scalable platform for real-time insights
- A proven edge to cloud solution tested with multiple applications on predefined servers configuration
- Containerized applications for ease of installation, deployment, and management
- Ability to augment staff, reduce operational costs and increase operational effectiveness
- Improved ROI on video infrastructure by delivering actionable insights that impact safety and revenue

The Metropolis platform enables multiple video analytics applications to coreside on a single server in a containerized manner.

**Figure 2** Metropolis sample deployment



# Irvine Sensors

Accurate cognitive-inspired processing techniques, including Deep Learning AI, for classifying and tracking of people, vehicles, and objects using the ALERT GPU-powered processing platform. An experience team custom engineer results to solve complex problems.



Alert provides detection of a bag that is left behind, a perimeter or zone intrusion, a wrong-way, a thrown object and its velocity, fare-evasion, people, vehicles, and objects.

## Key solutions

- Object detection
- Search in Video

## Benefits

- Fast-Split Second Classification and Tracking
- Key events and actions based on customizable parameters and behaviors of the tracked objects
- Annotate key events in the video stream

## Customer successes

- Bay Area Rapid Transport (BART)
- John-Wayne Airport – Orange County
- NASA
- DARPA
- DIA

# Summary

The NVIDIA Metropolis video analytics platform, combined with Dell EMC PowerEdge R740xd servers, makes Intelligent Video Analytics easy to deploy, manage, and scale. Customers can deploy multiple IVA algorithms on a single server with as many GPUs as needed.

This video analytics solution successfully integrates the Metropolis processing hardware with Irvine Sensors video analytics applications.