

Dell Technologies and NVIDIA Metropolis with SenSen Networks

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Solution Overview

Abstract

NVIDIA has partnered with Dell Technologies to develop the Metropolis video analytics platform. This solution enables SenSen Networks 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

- [Solution overview](#) 4
- [Scope](#) 4
- [Metropolis platform design](#) 4
- [SenSen Networks](#) 5
- [Summary](#) 6

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 SenSen Networks.

Scope

This guide provides information for SenSen 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 SenSen 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



SenSen Networks

SenSen provides Video-IoT data analytic software solutions targeted at increasing revenue and reducing the cost of operations of customers. SenSen software can process and fuse data from cameras and other sensors like GPS, Radar, and Lidar in real time for parking guidance, parking enforcement, speed enforcement, traffic data analytics, and road safety applications. Casinos use

SenSen solutions for table game analytic solutions and customer analytics. SenSen solutions are also used in retail, security, and tolling applications.



Automate parking enforcement operations. Solution is a combination of fixed pole-mounted cameras and cameras mounted on mobile vehicles.

Key solutions

- Automatic parking management
- Casino Table Game Analytics

Benefits

Parking management:

- Parking violations are automatically sent to cities
- Use geofence information of parking zones from cities
- Accurate to centimeter accuracy

Table game analytics:

- Helps facilitate future demand
- Real-time information
- Granular level

Customer successes

- Brisbane City Council in Australia
- Singapore
- Copenhagen in Denmark
- City of Calgary Canada
- Crown Casino Melbourne on over 200 tables

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 SenSen Networks video analytics applications.