



AI Powered Smart Search

Datasheet v4.5

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Contents

INTRODUCTION

SYSTEM REQUIREMENTS.....

TECHNICAL HIGHLIGHTS

INTEGRATION FLEXIBILITY.....

Federated Architecture

Redundancy / Failover.....

ALLGOVISION GUI

2

3

4

5

6

7

8

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INTRODUCTION

Smart Search: The Smart Search feature uses a range of configurable parameters to rapidly search videos for detecting suspicious activities. This feature enables users to search for multiple object types with specific properties in one or more cameras. Users can search for the type of vehicles, using vehicle colour, type, and similar other parameters. Or user can search for a person through specific attributes like upper or lower dress colour, wearing a coat / hat etc. By enabling users to search for incidents by setting specific parameters, the tool enhances the speed and efficiency of your existing surveillance solution.

Deep Learning: A subset of Artificial Intelligence, Deep Learning technology exposes machines to high volumes of tagged data. The machine is then tasked to 'learn', 'analyse', and 'detect' the same information in new datasets which ensures more proficient detection and identification of objects. Since Deep Learning technology is also powered by robust hardware infrastructure, the analytic output is better and faster.

Use of Deep Learning in Smart Search: The use of Deep Learning for Smart Search Detection brings it closer to human perception. Advanced Deep Learning methods can assess large datasets of different object types and the layered filters can take the minutest details into account. This increases the degree of accuracy in generating accurate results for Smart Search. Thanks to the technology's improved processing performance and superior object classification capabilities, it can efficiently detect and identify multiple object types with low visual biasing and false alarms.

SYSTEM REQUIREMENTS

AllGoVision analytics has the following system hardware and software requirements.

CATEGORY	REQUIREMENT
Operating System	Ubuntu server 18.4, Windows Server 2016, Windows Server 2019
Network	Ethernet, 1GB or higher recommended
Hardware Requirements	x86_64 Platform, AVX 2 Support 6 th Gen and above + Nvidia GPU
Frame Rate	Frame Rate > 10 fps
Database	Maria DB (X64) 10.3.13.0
Stand Alone version camera support	Camera Models from Axis, Pelco, Bosch, Hikvision, Honeywell, IQinvision, Sony, Dahua, Panasonic, Brickcom, Indigovision, Cisco, Samsung, Acti, Digital Watchdog, and others (ONVIF Cameras).
VMS Support	Honeywell DVM, Honeywell Maxpro, Milestone, Genetec, IndigoVision, ExacqVision, Cognyte (Verint), Bosch, Network Optix Note: With VMS all cameras supported by VMS will be supported
Reporting & Analysis Software	AllGoVision Alarm Center

TECHNICAL HIGHLIGHTS

- ✓ Smart Search feature works based on meta data collected during Video Analytics running on live cameras.
- ✓ The smart search basic package includes search based on attributes for a Person - upper / lower body clothing colour and Vehicle - vehicle colour, vehicle type.
- ✓ Advanced search for a person, vehicle and objects are possible with the respective advanced feature licenses.
- ✓ A person can be searched based on the following **attributes**:
 - Upper / lower body clothing colour
 - Wearing a coat
 - Wearing a hat or cap
 - Carrying baggage or backpack*
- ✓ **Vehicle search** based on vehicle colour, vehicle type
- ✓ Search using the uploaded image of a vehicle or a person*
- ✓ Ability to progressively narrow down the search criteria
- ✓ Ability to order results based on **confidence, time**
- ✓ Supports searching of **recorded metadata** using different rules later for forensic purposes
- ✓ Supports **multiple queries** at a time
- ✓ Output is linked to recorded video from VMS and recorded video is played back by clicking on video (available for select VMSes)
- ✓ Provides the user with a view of search results captured in multiple cameras such that the result is displayed graphically (with camera scene) in a time series.

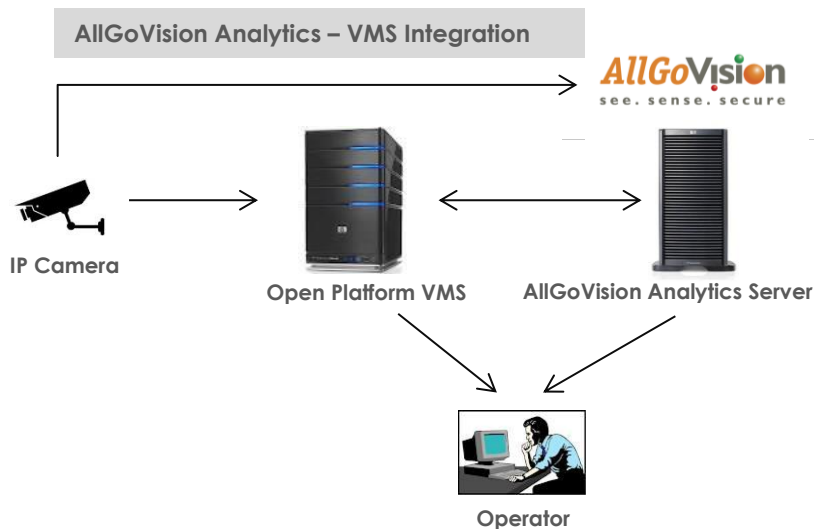
**Under development*

INTEGRATION FLEXIBILITY

AGV Smart Search will work with AGV VA as below. AGV Smart Search is a separate application from AGV VA. It works in conjunction with the VA and can be installed in a server or workstation where the operator will sit and do the search.

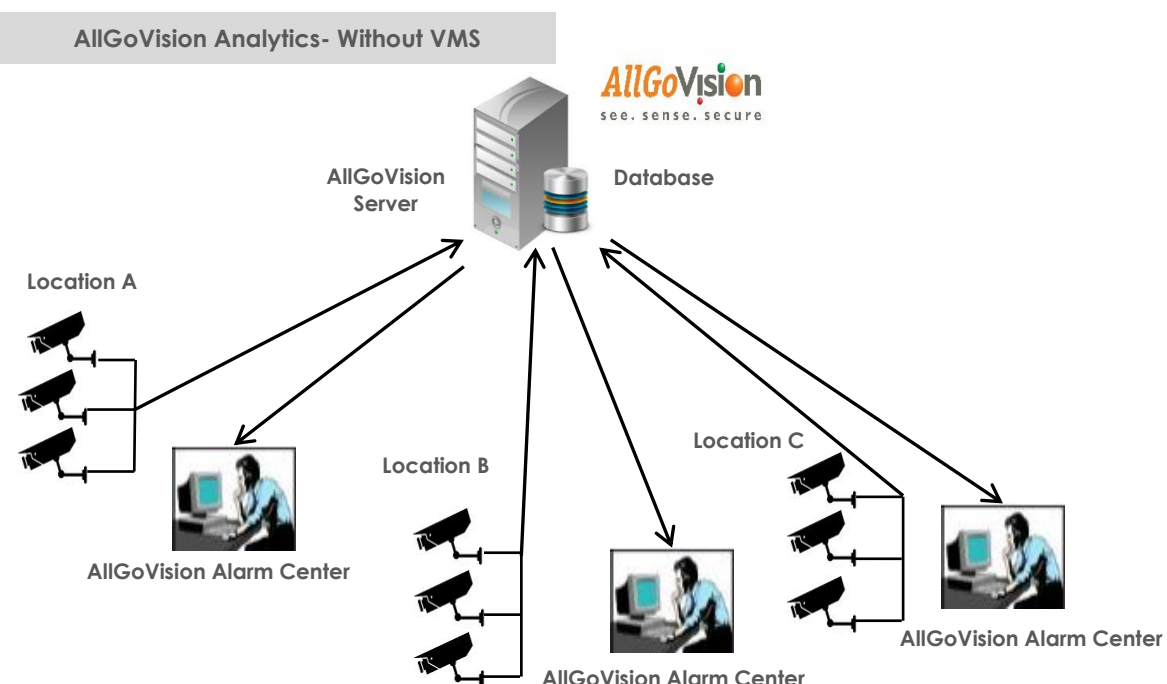
With VMS:

AllGoVision application is based on Open Platform Standards. It is integrated with many open platform VMS.



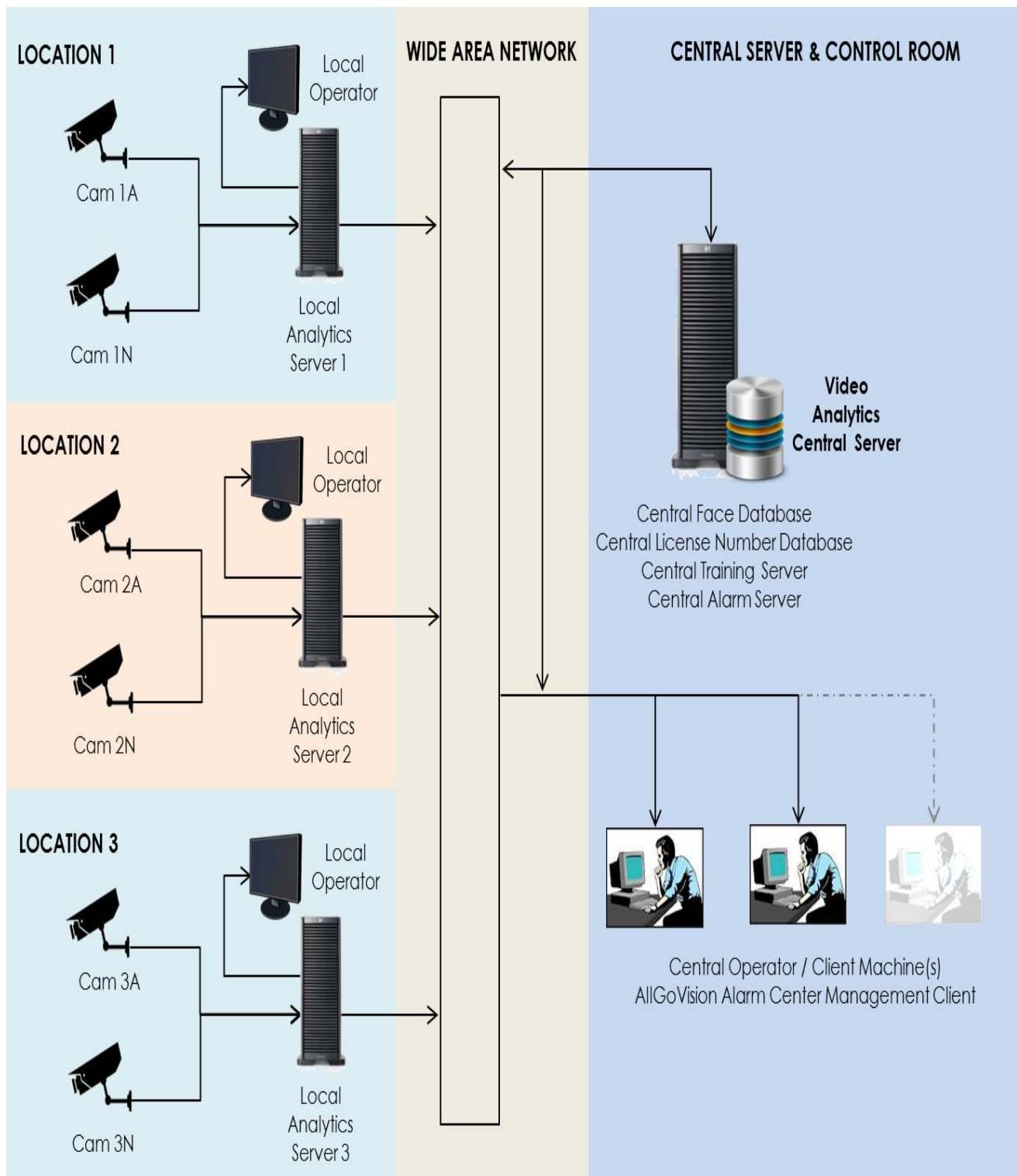
Without VMS:

- It is a standalone application.
- Directly takes the video feed from camera.
- The alarms and reports are seen in AllGoVision Alarm Center.



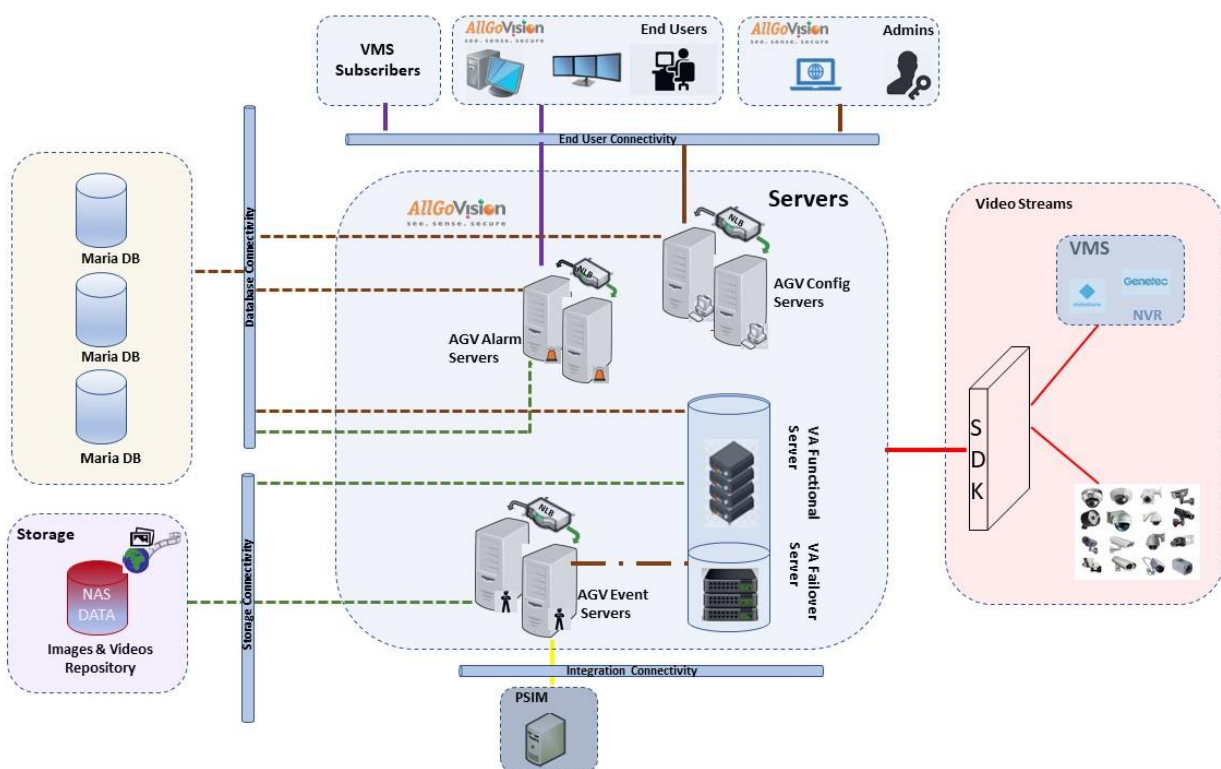
Federated Architecture

- With Federated Architecture, analytics can be done at local servers and viewed by local operators.
- A central server with a central operator can view all the alarms in the system generated by all the local servers.
- Alarms from different clients can be seen at the central Alarm Center and alarms are differentiated through Client IDs.

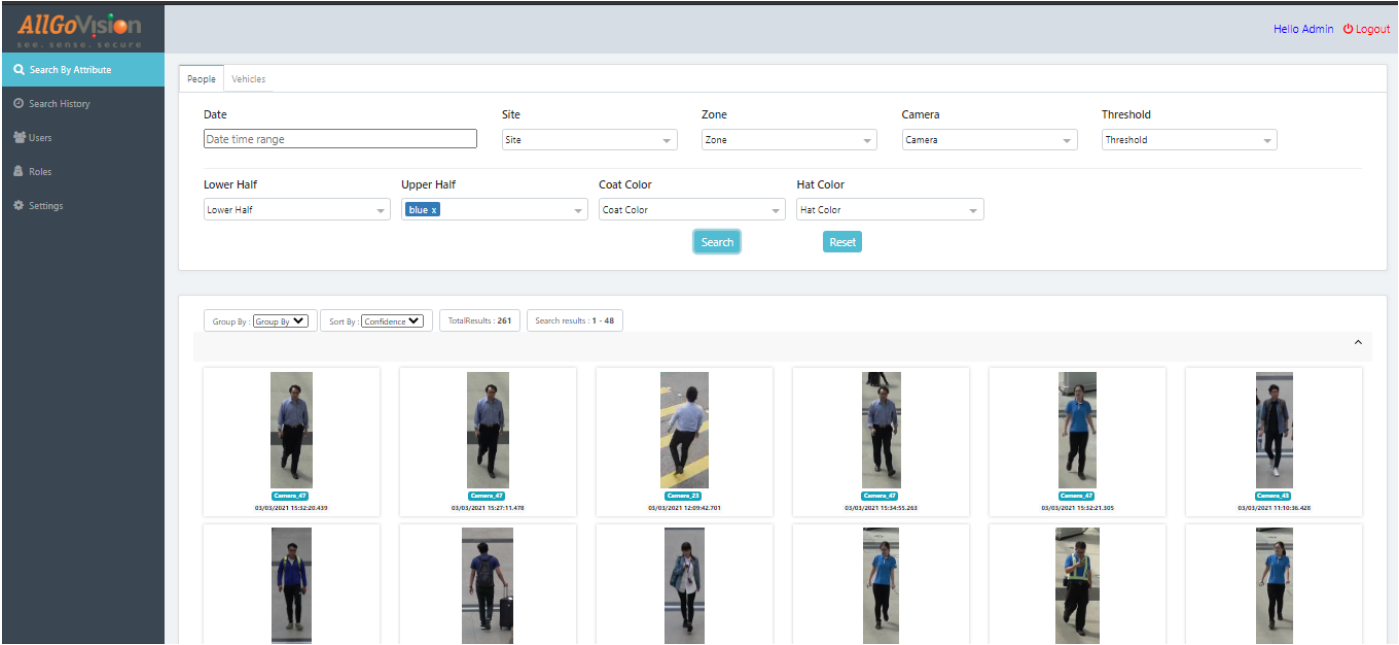


Redundancy / Failover

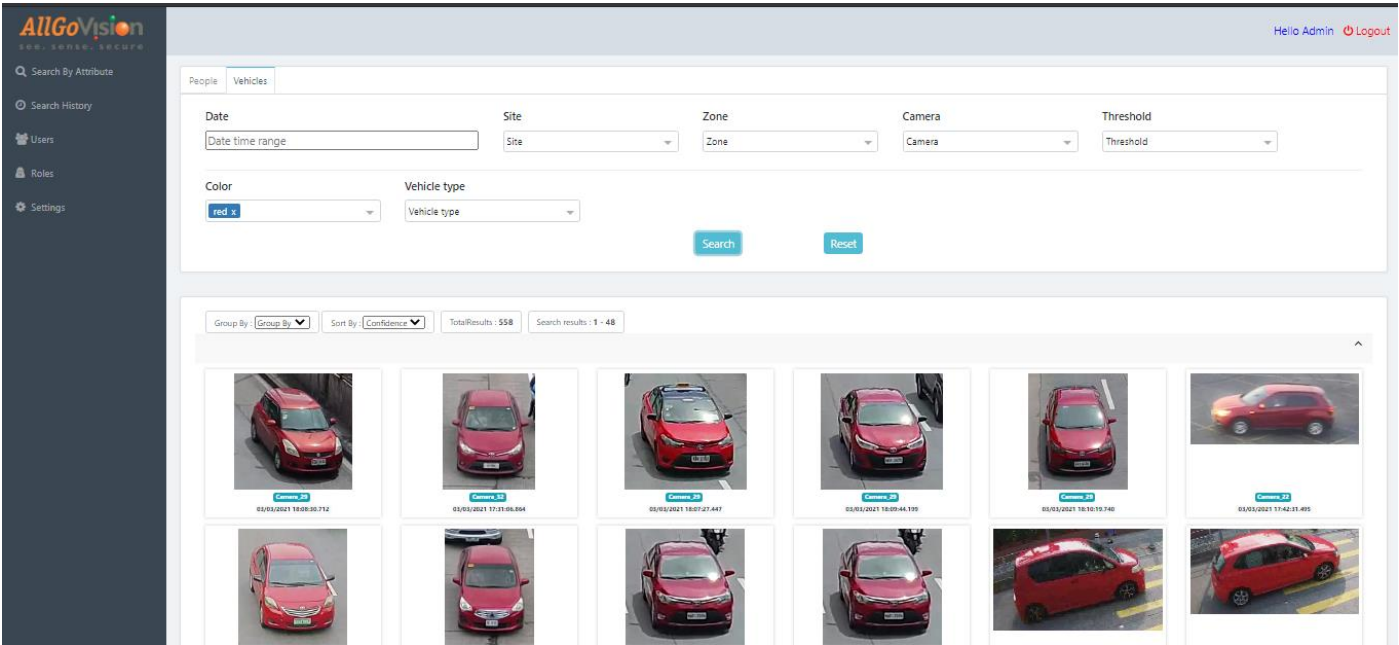
- Config Server can be setup for active/passive redundancy. NLB is used to manage the Active/Passive redundancy. When the active Config Server is up, all requests will be serviced by it. Only when it is down, requests are serviced by the passive Config Server.
- For video analytics, redundancy is achieved by having redundant server capacity for N:1 or 1:1 redundancy. When one or more VA Servers fail, the analytics pertaining to the cameras running in that server are re-assigned to a pre-designated set of servers.



ALLGOVISION GUI



Search by Attribute: People by Upper Half



Search by Attribute : Red coloured vehicles