HONEYWELL
ADVANCE ANALYTICS

SYSTEM OVERVIEW

Honeywell has the widest offering of Artificial Intelligence (AI) and Deep Learning-based Advanced Video Analytics products in the market today. Honeywell Advance Analytics (HAA) suite is a Video Analytics solution for actionable intelligence, enhanced security and surveillance installation. It automatically monitors video for specific people, vehicles, objects, and their associated behavior within a camera view.

Honeywell Advance Analytics (HAA) can provide real time alarms based on the user defined rules to detect abnormal or suspicious behavior without human supervision. This powerful capability enhances both manned and unmanned operations around the clock. This in-turn reduces the amount of video data that operators must review and enables a high level monitoring for any size of video system.

NEXT GEN SOLUTION
HAA is one of the few solutions using AI powered analytics which uses Deep Learning in its Video Analytics features. Deep Learning in Video Analytics involves the use of layered filters which enhance the detection rate of objects and rule violations. Firstly with the use of layers of filters, the accuracy of detecting the right object becomes high and there will be minimal false detections. The second step is to find out the activities being done by the detected objects, as these activities can be rule violations. For example, a person (object) can loiter (activity) around in a restricted zone. The detection of such activities is enhanced through the layered filters of Deep Learning. Similarly, the third step which is tracking the objects activity post rule-violation is also improved.

HAA software is accurate, high perform-ing and is capable of monitoring/ana-lyzing the behavior of an object in a camera view, for both indoor and outdoor views. HAA boasts a set of advanced, automated video analysis tools that is designed for immediate detection/extraction of events and valuable data from surveillance footage. This replaces the manually employed and traditionally time-consuming tasks of monitoring live video feeds through recorded video. By deploying HAA, users can make optimal use of their surveil-lance systems and allocate their time and attention in a more effective manner. This helps in increasing the return on investment in the surveillance system, while improving overall security, safety, and business operations.
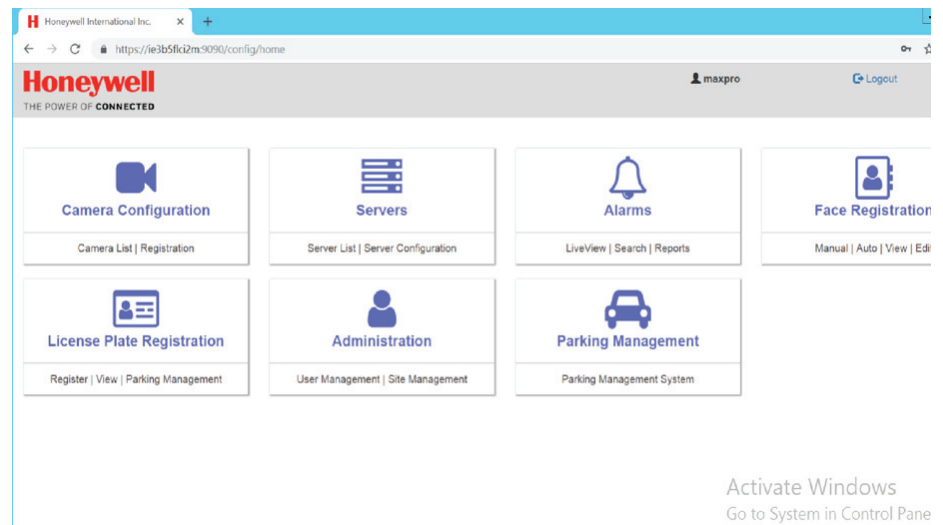
HIGHLIGHTS

- **Scalability:** You can run video analytics functionality up to a maximum of 100 cameras per server
- **Robustness:** Delivers superior results in complex environments, such as indoor and outdoor scenes including varying weather conditions
- **Pure Software Solution:** Runs on COTS hardware

- **Flexibility:** Enables you to deploy any combination of video analytics applications on every camera

- **Accuracy:** Leverages a proven technology for a decade to provide high probability of detection and low false alarm rate

- **Enterprise Grade:** Provides redun-dancy and fault tolerance to ensure continuous operation
- **Cost-Effective:** Reveals the true potential of the surveillance system for only a fraction of the entire systems cost
- **Secure & Efficient:** Improves security, increases productivity and efficiency of the security professionals
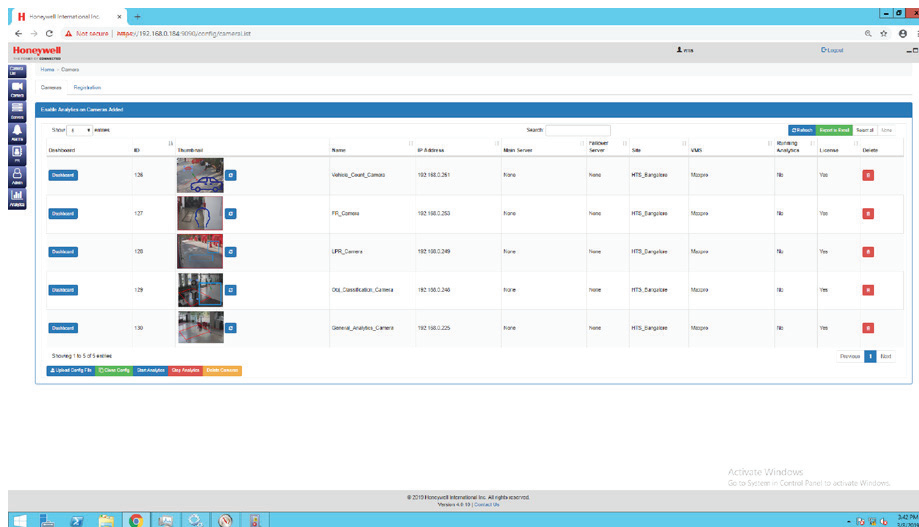
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FEATURES

- Powerful AI based technology to recognize Face, Age & Gender with higher accuracy
- Powerful visualization tools like, Heat Map, Flow Map & Count Map to have quick view of activities happening in certain area or camera. These algorithm are included as basic feature of HAA
- HAA include algorithm which can be also used as Parking Management / Availability software, it sends an alarm when the parking is full.
- Dedicated Thin Client UI for easier live alarm monitoring and flexible reporting. Access Thin Client from any workstation in the network
- Administrator Login
- Scheduler to enable scheduling of Analytics

- Fail over server
- ONVIF streaming of analytics overlaid video, video stabilization
- Alarm video creation & Snapshot creation
- False Alarm Minimization with Deep Learning
- Direct Camera Connection
- Supports video analytics configuration on locked preset with PTZ camera
- People/Object/Vehicle counting report generation
- Save, Export and Restore options for Analytics Settings with each Camera
- Real-time scene analysis and alarms based on user definable rules
- Rich set of detectable events and behaviors to suit a broad set of system requirements

- Accurate indoor and outdoor applications with technology to reduce false alarms
- Powerful on-site configuration capabilities
- Powerful search tools for instantaneous retrieval of incidents
- Full integration ensures alarm handling and transmission is consistent with the platform's capabilities
- Up to 8 zones or directional zones per channel
- One-person setup
- Fast and easy commissioning with simple region of interest detection
- Flexible detection within the same scene by criteria per detection zone
- Powerful advanced parameters for improved detection probability and false alarm reduction

INTUITIVE GRAPHICAL USER INTERFACE

Executable setup is available via web based graphical user interface (GUI). The intuitive GUI guides you through the configuration and provides all the necessary tools to set up HAA and to specify detection or counting tasks. Within the configurator, object properties such as sensitive area, size, speed, perspective, etc including movement direction can be set. These properties are visualized exemplarily as overlays for intuitive configuration and feedback. The pick object functionality configuration can be initiated by just clicking on an object of interest in the live scene. All specific information regarding size, speed, direction, aspect ratio, and color are automatically set for task configuration. Up to eight independent tasks can be selected and combined in the scene to build sophisticated detection rules. However, each

task is individualized with its own parameters. This allows the detection of multiple object states in parallel while generating separate triggers that can be handled independently or in combination. The interface allows a flexible selection of detection areas through polygons with up to 16 corner points. When a movement is detected, the object is outlined in yellow on the display and its motion is displayed as a green trajectory. If an object and its motion matches with the rule condi-tions defined for one of the detector tasks then an alarm is triggered and the object outlines are turned to red.

COMPREHENSIVE & INTEGRATED ANALYTICS

HAA is based on distributed architecture and robust to weather changes, lighting changes, tree swaying and other background distractions. HAA is seamlessly integrated with Honeywell's Flagship Video Surveillance platform MAXPRO® VMS. It allows you to access all the alarms processed in HAA through MAXPRO® VMS client for unified alarm management. You can also generate customized and detailed reports from MAXPRO® VMS for all the HAA supported alarms.
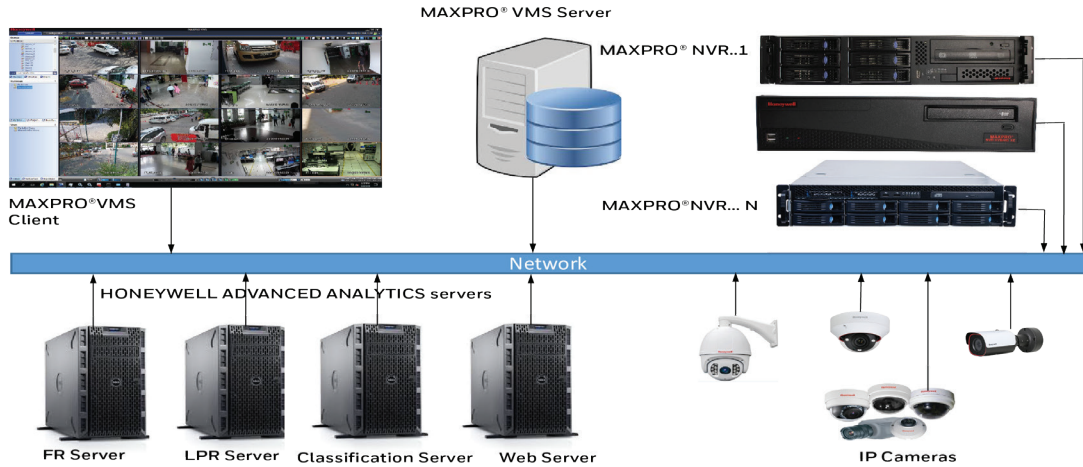
Technical Specifications	
OPERATING SYSTEM	Workstation: Windows 10 Server: Windows Server 2012 R2 and Windows Server 2016
NETWORK	Ethernet, 1 Gbit or higher recommended
HARDWARE REQUIREMENT	x86 Platform, 64 bit, AVX support
SERVER REQUIREMENT (FOR QVGA RESOLUTION)	Xeon 6 core, 3 GHz, 8 GB RAM for up to 15 channels Xeon 12 core, 3 GHz, 16 GB RAM for up to 30 channels (approximately. 2.5 channels per core, suitable to add multiple CPUs in a single server) Supports Nvidia GPU acceleration for Face Capture and Recognition (approximately. 1 channel per 2 cores for Face Recognition based features
FRAME RATE REQUIREMENT	>8 fps for Security Analytics (Perimeter Protection/Intrusion) and License Plate Recognition (LPR) >6 fps for Face Recognition (FR) and Face Detection >15 fps for PTZ Analytics, People counting, Traffic features
SYSTEM REQUIREMENT FOR MAXPRO® VMS & NVR	
OPERATING SYSTEM	Workstation: Windows 10 Server: Windows Server 2012 R2 and Windows Server 2016
NETWORK	Ethernet, 1 Gbit or higher recommended
HARDWARE REQUIREMENT	Workstation: Windows 10 Server: Windows Server 2012 R2 and Windows Server 2016
SERVER REQUIREMENT	Xeon 8 core 3.70 GHz, 16 GB RAM

NOTE: Contact Honeywell representative for detailed information about system requirement and design

SYSTEM ARCHITECTURE DIAGRAM

FEATURES & PACKAGES

Analyticsa Events Category	Description	SKU	HNMH AAB	HNMH AAS	HNMH AAP	HNMH ADDN	HNMH FRRG	HNMH ALPR	HNMH CSTM
Security & Suspicion	Tripwire/Line Crossing	HNMHAABASE	●	●	●	○	○	○	●
Security & Suspicion	Trespass/Zone Crossing	HNMHAABASE	●	●	●	○	○	○	●
Security & Suspicion	Camera Tampering	HNMHAABASE	●	●	●	○	○	○	●
Security & Suspicion	Left Object Detection	HNMHAALOD	●	●	●	○	○	○	●
Security & Suspicion	Missing Object Detection	HNMHAAMOD	●	●	●	○	○	○	●
Security & Suspicion	Auto Tracking PTZ/PTZ to PTZ Tracking	HNMHAACAPTZ	○	●	●	○	○	○	●
Security & Suspicion	Hand off PTZ	HNMHAAHOPTZ	○	○	●	○	○	○	●
Security & Suspicion	Pre-Set Analysis PTZ	HNMHAAPSAPTZ	○	●	●	○	○	○	●
Security & Suspicion	Loitering Detection	HNMHAALOITER	●	●	●	○	○	○	●
Security & Suspicion	Tailgating Detection	HNMHAATAILGATE	○	●	●	○	○	○	●
Safety & Operations	Crowding Detection	HNMHAACROWD	○	●	●	○	○	○	●
Safety & Operations	Crowd Counting	HNMHAACCOUNT	○	○	●	○	○	○	●
Safety & Operations	Crowd Counter Flow	HNMHAACFLOW	○	○	●	○	○	○	●
Safety & Operations	People Counting	HNMHAAPCOUNT	○	●	●	○	○	○	●
Safety & Operations	Queue Management	HNMHAAQMGMT	○	○	○	●	○	○	●
Safety & Operations	Slip & Fall Detection	HNMHAASLIPFALL	○	○	●	○	○	○	●
Safety & Operations	Video Smoke Detection	HNMHAASMOKE	○	○	○	●	○	○	●
Safety & Operations	Video Flame Detection	HNMHAAFLAME	○	○	○	●	○	○	●
Safety & Operations	Video Fog Detection	HNMHAAFOG	○	○	○	●	○	○	●
Safety & Operations	Count Map		○	○	●	○	○	○	●
Face Recognition	Face Capture/Detection	HNMHAAFRCAP	○	●	●	○	●	○	●
Face Recognition	Face Recognition	HNMHAAFRRG	○	○	○	●	○	○	●

FEATURES & PACKAGES

Analyticsa Events Category	Description	SKU	HNMH AAB	HNMH AAS	HNMH AAP	HNMH ADDN	HNMH FRRG	HNMH ALPR	HNMH CSTM
Traffic & Parking	Illegal Parking Detection without ANPR	HNMHAAVIPARK	O	O	●	O	O	O	●
Traffic & Parking	Speeding Detection without ANPR	HNMHAAVSPEED	O	O	●	O	O	O	●
Traffic & Parking	Wrong Way Detection without ANPR	HNMHAAVWWAY	O	O	●	O	O	O	●
Traffic & Parking	Illegal Parking Detection with ANPR	HNMHAAVIPARKLP	O	O	O	O	O	●	●
Traffic & Parking	Speeding Detection with ANPR	HNMHAAVSPEEDLP	O	O	O	O	O	●	●
Traffic & Parking	Wrong Way Detection with ANPR	HNMHAAVWWAYLP	O	O	O	O	O	●	●
Traffic & Parking	Congestion Detection	HNMHAACONG	O	O	●	O	O	O	●
Traffic & Parking	No Helmet Detection	HNMHAAHELMET	O	O	O	●	O	O	●
Traffic & Parking	Vehicle Counting	HNMHAAVCOUNT	O	●	●	O	O	O	●
Traffic & Parking	License Plate Detection	HNMHAALPDT	O	O	O	O	O	●	●
Traffic & Parking	License Plate Recognition	HNMHAALPR	O	O	O	O	O	●	●
Traffic & Parking	Vehicle Classification/ATCC	HNMHAAVCLASS	O	O	O	●	O	O	●

● - Supported O - Not Supported

Note: Contact Honeywell representative, for details on any feature and ordering for HNHMCSTM Package

ORDERING

Features	Description
HNMHAASETUP	Honeywell Advanced Analytics Setup CD/USB
HNMHAAB	Honeywell Advanced Analytics Base Package (single channel license)
HNMHAAS	Honeywell Advanced Analytics Standard Package (single channel license)
HNMHAAP	Honeywell Advanced Analytics Premium Package (single channel license)
HNMHADDN	Honeywell Advanced Analytics Add On Package (single channel license)
HNMHFRRG	Honeywell Advanced Analytics Face Recognition Package (single channel license)
HNMHALPR	Honeywell Advanced Analytics License Plate Recognition Package (single channel license)
HNMHCSTM	Honeywell Advanced Analytics Custom Package (single channel license)

Note: The license for each feature is per channel basis

For more information,
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