VIVOTEK

VAST 2

Change the Way
You Experience VMS

Smart Search II Enhancement • Smart Tracking • OSM Transportation Integration •
LPR Solution Integration • Cybersecurity Management Solution • Watermark

New Features

· Add NVR Substation from VIVOCloud

· Customized Alarm Notifications

· Data Magnet Quick Search

· New Integration of Access Control Solution – SOYAL

Key Features

· License Plate Recognition Solution

· Cybersecurity Management Solution

· Smart VCA Integration: Improved Accuracy for People & Object Detection in VIVOTEK Cameras

· System Overview Dashboard

· Matrix for Video Wall Solution

· Evidence Lock: Automatically Bookmark Related Recordings

· Evidence Export: Manually Export Video Recordings or Alarm Clips

· Multiple Fisheye Dewarp Modes

· Multi-Sensor Display Modes

· Add-on Solutions: CMS/Substations Failover, Transportation, Transaction and Data Magnet

What's New

Add NVR Substation from VIVOCloud

To provide full functionality of NVR managed by VIVOCloud, VIVOCloud users can now both add VIVOTEK's ND series NVRs to VAST 2 via their VIVOCloud account and also operate the NVR on VAST 2 as a substation. This allows users to enjoy the comprehensive functions of the VMS system.
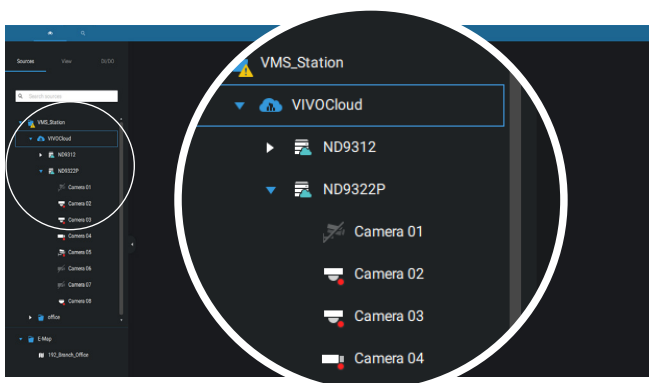

Customized Alarm Notifications

Individual users of the VAST 2 client can configure which kinds of alarms they want to be notified of, reducing the distraction of irrelevant alarm notifications. This configuration can be retained across each of the client's computers.
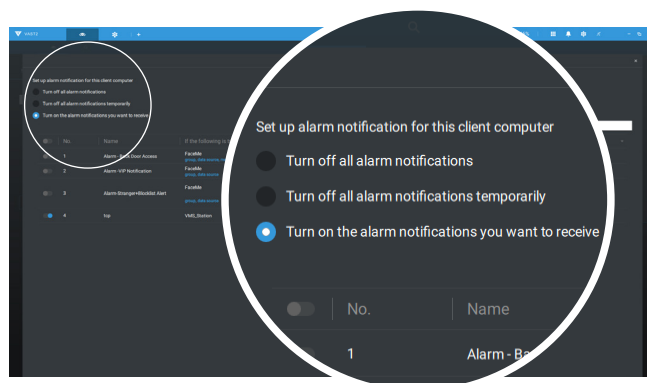

Data Magnet Quick Search

To improve the usability of the Data Magnet integrated application, users can click on any of the Data Magnet source data shown on live view. VAST 2 will then search for related events automatically, providing quick and easy search results for the user.
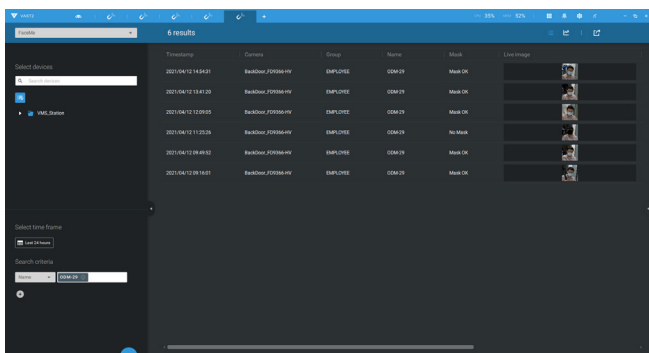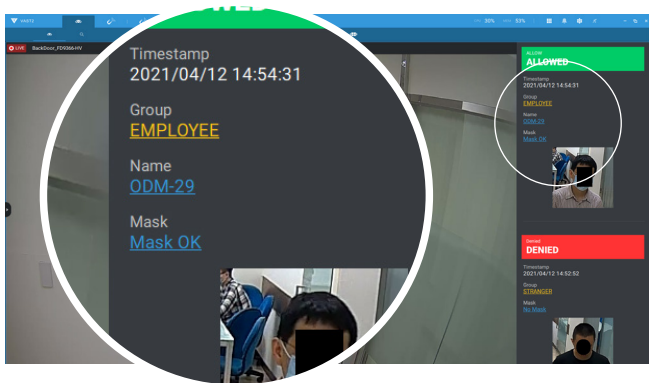
New Integration of Access Control Solution – SOYAL

VAST 2 now adds new access control solutions by third-party partner – SOYAL. The access control solutions provide simple and effective operations via the Data Magnet function for complete protection in highly security-sensitive scenarios. Users can choose either the third-party partner, Chiyu or SOYAL, as their requirements demand. Access control events can then be displayed and annotated along with related video clips to easily manage detailed visitor data.
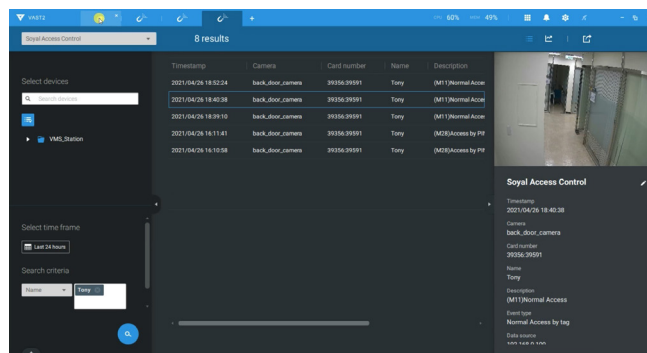
Key Features

License Plate Recognition Solution

VAST 2 can link license plate information with live streaming and recordings via integration with VIVOTEK's License Plate Recognition cameras (such as IB9387-LPR). Users can search and analyze historical data and display the number of recognized license plates data in line graphs, export search results or display live streaming video data from alarm event-triggering cameras when license plate information matches preset alarm criteria.
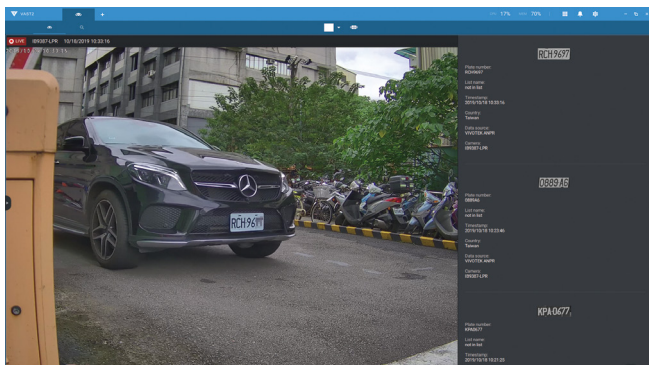
Cybersecurity Management Solution

Integrate cybersecurity attack events from VIVOTEK cameras and NVR to VAST 2 alarm management. In addition to alarm action and notification, VAST 2 becomes the central management site to recognize attack trends and status, as well as acquire attack information.
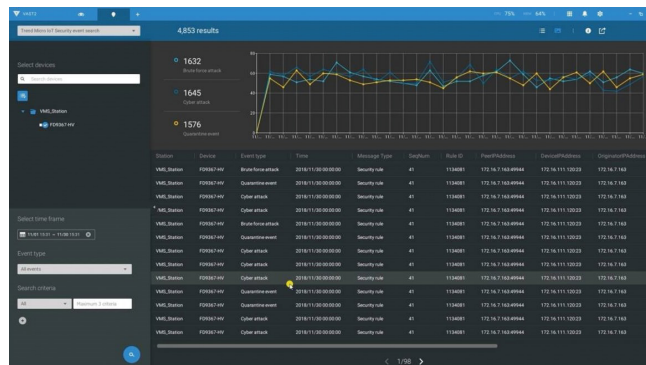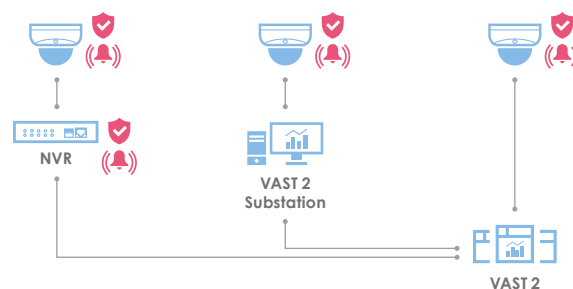
Smart VCA Integration

Integrate Video Content Analysis Technology (Smart VCA/Smart 360 VCA) from VIVOTEK's cameras, making VAST 2 able to support display of VCA rules in liveview, bounding box on detected objects, alarm management and event-search functions. Provide improved accuracy for people and object detection, while reducing false alarms.
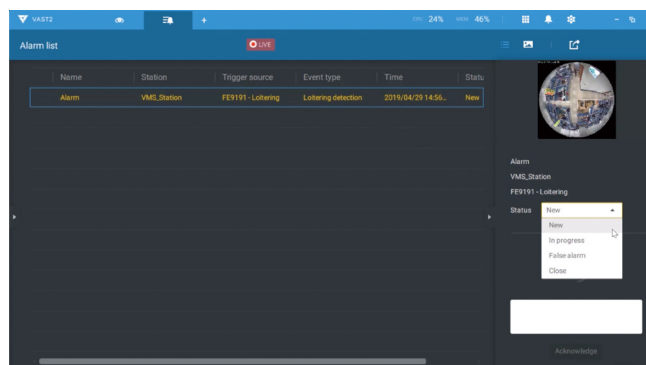
Key Features

System Overview Dashboard

Monitor the system status including CPU, memory, and network usage of VAST 2 servers. Review error reports from the notification bar. Easily check the system overview via the dashboard.
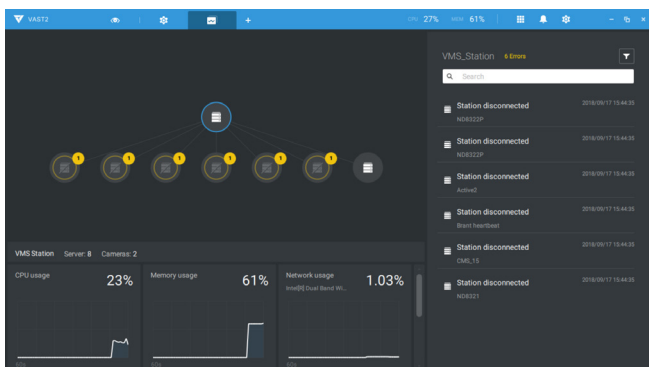
Matrix for Video Wall Solution

Matrix provides a video wall feature to view cameras streaming from a VAST 2 server. Users can manage the matrix client(s) directly through the VAST 2 server.

Evidence Lock

Automatically bookmark related recordings when alarm triggered or manually extend the retention time for video recording and manage a high number of investigation scenarios.
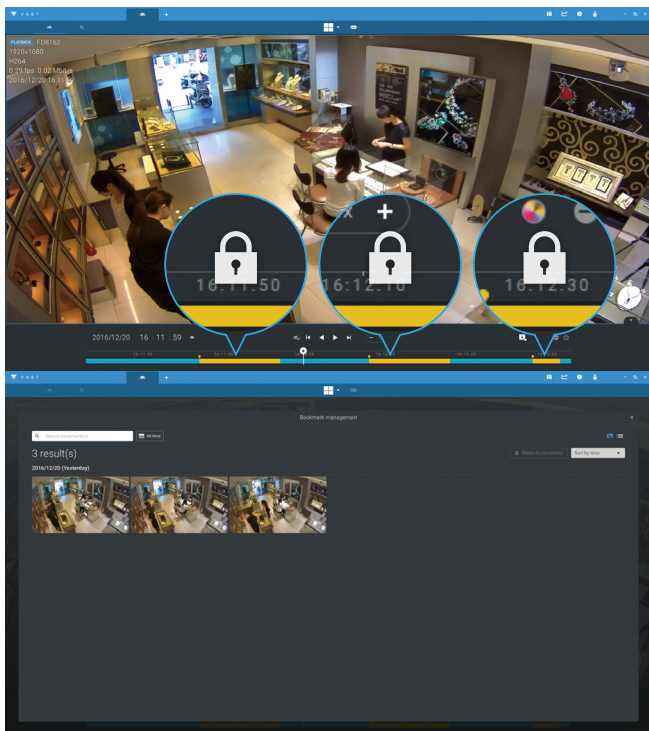
Evidence Export

Easily export of multiple video recording with custom layouts in a specific time period or instant snapshot with a fast click.
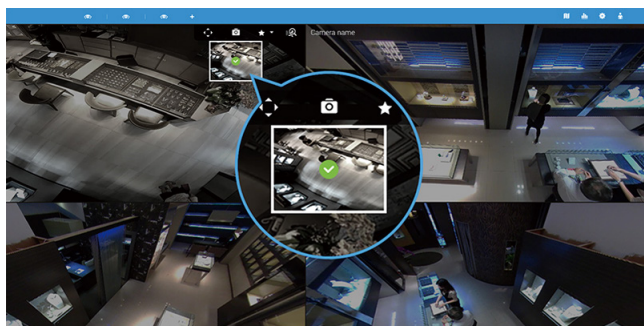
Snapshot
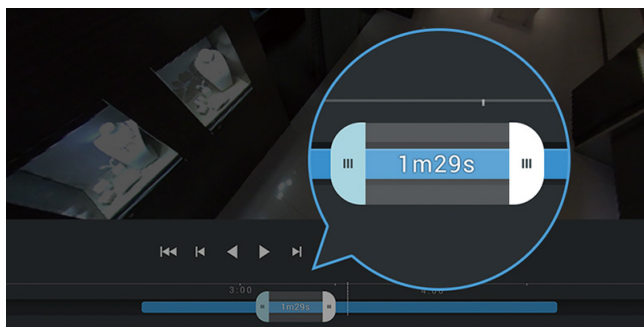
Video

Key Features

Multiple Fisheye Dewarp Modes

VAST 2 provides multiple fisheye de-warp display modes for VIVOTEK Fisheye cameras, including 1O, 1P, 1R, 1O3R, and 1O8R. By using different dewarp modes, users can monitor any angle, and enjoy precise detailed images for a total surveillance experience.
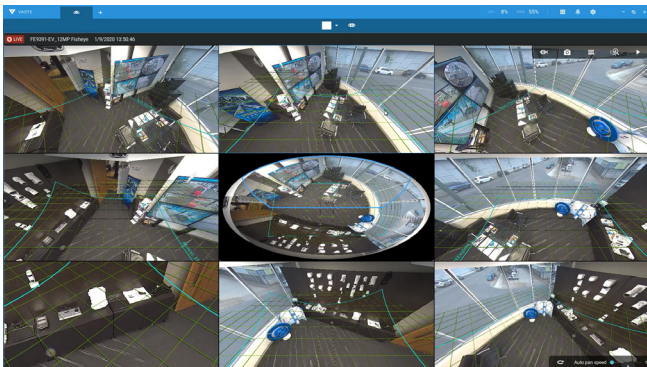
Multi-Sensor Display Modes

To maximize the high-resolution characteristic of multi-sensor cameras, VAST 2 provides multiple display modes for VIVOTEK's multi-sensor cameras: 1P, 1R, 1P2R, 1P3R. It allows users to monitor video details in several fields of view simultaneously.
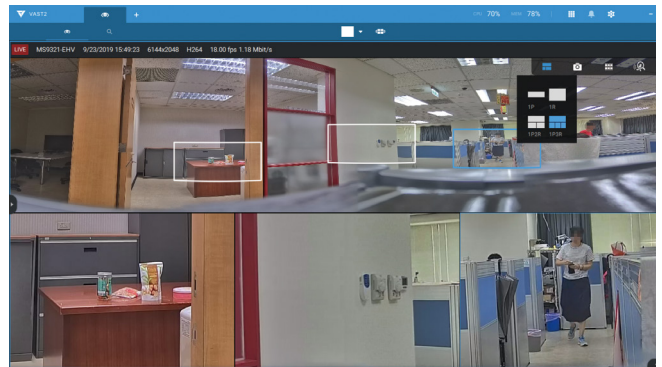
Add-on Solutions

Substations Failover Solution

Reliable backup system designed to transfer recording tasks from N sites to M sites upon the rare occurrence of disk or other malfunction.
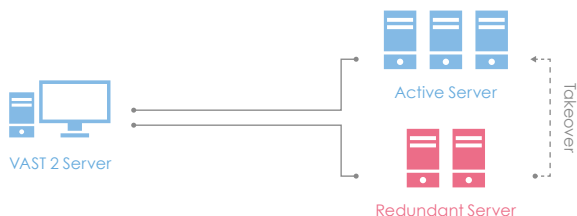
CMS Failover Solution

Provide 1+1 Redundancy for Central Management System. In case if CMS service becomes unavailable, recording and management tasks will be transferred from CMS to a CMS redundant server.
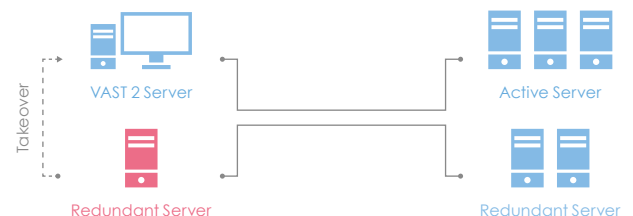
Add-on Solutions

Transportation Solution

VAST 2 can trace vehicles through information provided from GPS receivers, track vehicles' real-time location, and playback videos with recorded routes.

Support:
- GIS Maps: Google Maps, Open Street Map (OSM)
- User-Defined Maps Support
- Vehicle GPS Tracking
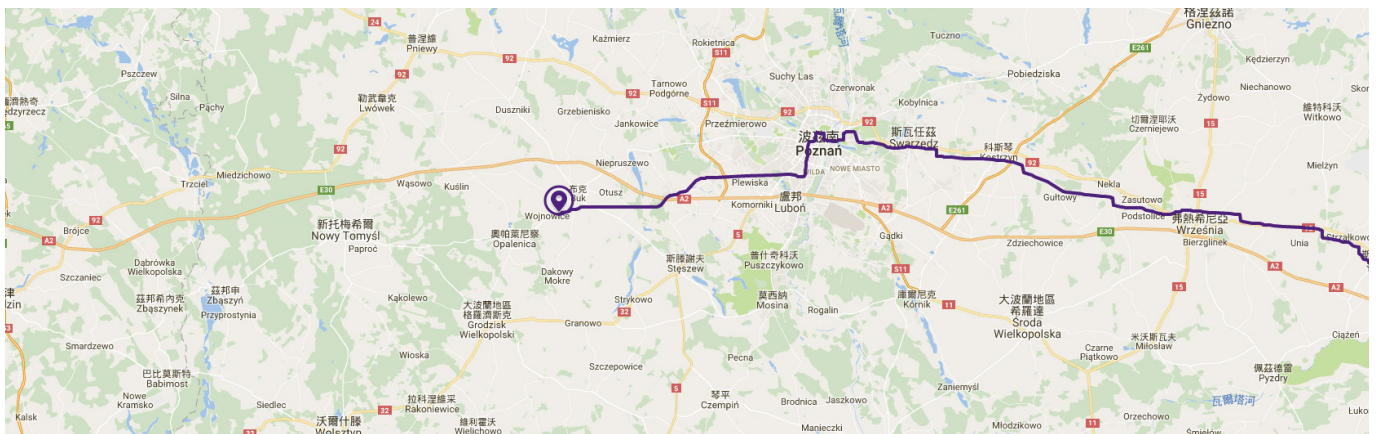
Transaction Solution

Retains all transaction details including not only POS data but also associated video footage to create deeper POS knowledge. Enter search conditions to filter transactions more easily.
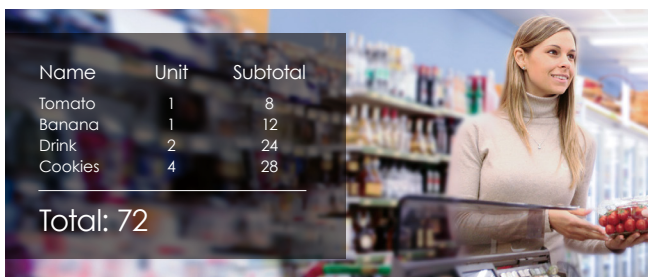
Data Magnet

Data Magnet enables VIVOTEK's License Plate Recognition cameras or third-party data sources to integrate into VAST 2, providing rapid access to recording data and supporting simultaneous data display during live streaming. Additionally, users can also utilize Data Magnet's alarm management to customize alarm triggering rules and actions, enabling users to receive alarm notifications immediately upon preset alarm criteria triggering.

Technical Specifications

Model	VAST 2
Series	Change the Way You Experience VMS
Software	VAST 2
Version	2.11

General

Auto Wizard	Plug & Play Auto Setup
Maximum Number of Cameras*	256
Maximum Number of Servers*	200
Maximum Number of Clients	Unlimited
Supported OS	Windows 10, 7 Windows Server 2012, 2016, 2019 (Server Core installation type is not supported) macOS 10.15 Catalina (Client Only)
Supported Mobile App	iViewer (iOS/Android)
Virtual Matrix*	Supported (VAST 2 Matrix)
Tabbed Browsing*	Supported
Devices Pack	Ver. 5.9.356

LiveView (Local Display)

Max. Channels*	64-channel per Monitor (the max. number of monitors supported depends on the capability of your system)
Layout	Equal: 1x1, 2x2, 3x3, 4x4, 5x5, 6x6, 7x7, 8x8 Panorama: 1P+6, 2P, 2P+3, 3P Focus: 1+12, 1+16, 1+3, 1+5, 1+7, 1+9, 2+8 Vertical: 1V+6, 2V+2, 2V+3, 3V, 3V+4, 4V, 4V+4, 5V Single Layout display
Custom Layout	Supported
Layout Configuration Saving	Supported
Tour	Supported (Camera tour mode / Audio tour mode)
Stream Application	Stream Selection & Auto Streaming Size
Multicasting of Live Streams	Supported (from Server to Client)
View Application	E-Map Embedded Drag & Drop Remote I/O Control PiP (Digital Zoom) Instant Playback Video Display Mode (Aspect Ratio & Camera information) Metadata Display (VCA, POS and Data Magnet) Remote Focus
Fisheye Dewarp Mode	1O, 1P, 1R, 1O3R, 4R, 2P, 4R Pro, 1O8R
Fisheye Auto-Pan	Supported
Multi-Sensor Display Mode	1P, 1R, 1P2R, 1P3R
Display Watermark	Supported

Playback

Technical Specifications

Max. Channels*	64-channel per Monitor (the max. number of monitors supported depends on the decoding capability of your system)
Layout	Equal: 1x1, 2x2, 3x3, 4x4, 5x5, 6x6, 7x7, 8x8 Panorama: 1P+6, 2P, 2P+3, 3P Focus: 1+12, 1+16, 1+3, 1+5, 1+7, 1+9, 2+8 Vertical: 1V+6, 2V+2, 2V+3, 3V, 3V+4, 4V, 4V+4, 5V Single Layout Display
Custom Layout	Supported
Playback Mode	Asynchronous & Synchronous
Playback Control	Play, Rewind, Pause, Stop, Next/Previous Frame, 1/64X ~ 64X Speed Control, Bookmark
Playback Timeline	Scale Adjustment Event Timeline Interval Display
Search Mode	Calendar, Event, Alarm, Bookmark, Thumbnail, Smart Search II, Transaction (POS), Data Magnet, Log
Evidence Lock	Supported
Display Watermark	Supported

Video

Video Format	MJPEG, MPEG4, H.264 AVC,H.264 SVC, H.265
Video Resolution	Up to 12 Megapixels

Audio

Audio Format	G.711, G.726, AMR, AAC
Audio Capability	Two-Way Audio
Audio Control	Mute

Record

Additional Recording Time for Event Recording (sec.)	Pre-Record: 3-15, Post-Record: 10-60
Recording Stream Type	Unicast
Recording Stream	Single
Max. Number of Recording Channels	256 Channels per Recording Group (Please refer to system requirement when designing your surveillance deployments.)
Recording Mode	Continuous, Event, Customized Schedule, Activity Adaptive Streaming
Recycle Options	Recycling time depends on the remaining storage space or the set number of days
Recording File Format	3 GP
External Storage Recording	NAS (SMB/CIFS), iSCSI

Alarm Management

Alarm Period (sec.)	Max. 30
Alarm Filter	Time, Trigger Type (Camera/Substation/System), Status, Name, Trigger Source
Alarm Setting	Realtime System Notification (Enable/Disable/Disable for a time period)
Schedule Type	Continuous, Schedule

Technical Specifications

Camera Event	General: Motion detection, Camera DI, Camera DO, IR (Infrared), PIR (Passive infrared), Tampering Detection, Temperature, Camera Disconnected, Recording Error, Stop Recording, Video Loss (Video server only), SD Card Life Expectancy Detection, Audio Detection, Shock Detection Video Content Analysis: Intrusion Detection, Loitering Detection, Line Crossing Detection, Unattended Object Detection, Missing Object Detection, Face Detection, Crowd Detection, Zone Detection, Smart Tracking Trend Micro IoT Security: Brute Force Attack, Cyberattack, Quarantine Event
System Event	NV Series NVR: Abnormal G-sensor Motion, Speeding, GPS Disconnected, Storage Failure, Storage Full, Network Disconnected ND Series NVR: Fan Status, Network Disconnected, Storage Failure, Storage Full, Brute Force Attack, Cyber Attack, Quarantine Event NR Series NVR: Network Disconnected, Storage Failure, Storage Full Counting Camera: Number of Remaining People (Require appropriate configuration on the counting camera and VCA Report)
External Devices Event	DI/DO Device DI, DI/DO Device DO, TCP Message, Data Magnet
Action	Start to record videos, Set DO status, Go to camera presets, Send HTTP requests, Send live streaming, Send email with snapshot of assigned camera(s), Go to E-Map, Sound the alarm and Add bookmark
Alarm Result Display	List View, Thumbnail View; Group Mode
Alarm Status	New, In Progress, False alarm and Close
Alarm Result Export	.csv / .3gp file
Additional Time for Exported Alarm Clip (min.)	Pre-Triggered: 1~10; Post-Triggered: 1~60
Data Magnet	
Data Source Type	VIVOTEK License Plate Recognition, Third party data source, POS Machine, Access Control
Data Display	Separate data section or data overlay on screen
Display Support	LiveView, Playback
Timeout for Data Overlay	Supported
Highlight Keyword or Value	Supported (case insensitive)
Search Result Display	List View, Chart View
Search Result Export	.csv / .png file
eMap	
Source	Import Picture & Folder
Supported Image Format	BMP, GIF, JPG, PNG, SVG
Supported Items	Camera, Camera DI/DO, DI/DO Device (includes NVR DI/DO), Regional map
Adjustment	Vertical Angle Adjustment
Marked	Add, Remove, Direction Control, PTZ Control, FOV Control, LiveView & Playback
Event Notification	One or more Live Streaming
PTZ	
PTZ Control	Mouse Draw & Drag Control
PTZ Operation	Direction Control, Home, Zoom, Focus, Preset, Patrol (Group), Tracking, Pan, Stop, Speed

Technical Specifications

PTZ Operation Mode	Click to Move & Continuous Move
Track Mode	Smart Tracking, Auto Tracking
Automatically Enable Smart Tracking	Supported (when camera idles)
Wiper Blade Control	Supported

Export

Snapshot	PNG & JPEG
Export File	3GP & EXE
Display Watermark	Supported
Digital Watermark	Supported

Player

Layout	Single & Multiple Layout Display
Custom Layout	According to playback export layout configuration
Drag to Play	Supported (VIVOTEK 3GP & MP4 files)
Playlist	Drag & drop, Play selected videos, Play all videos, Delete selected videos, Delete all videos
Playback Mode	Asynchronous & Synchronous
Playback Control	Play, Rewind, Pause, Stop, Next/Previous Frame, 1/64X ~ 64X Speed Control
Playback Timeline	Scale Adjustment Event Timeline Interval Display
Snapshot	PNG & JPEG Snapshot for Dewarped Fisheye Camera
Export Video	3GP

Backup

External Storage Backup	NAS (SMB/CIFS), iSCSI

User Management

Authentication	Basic Account/Windows AD Account
User Level	Administrator, Customized User
User Control	Client Permission (Operation & Configuration) & Camera Permission

System

Dashboard	Supported
System Error List	Supported
Server System Status Display	CPU/Memory/Network
Client System Status Display	CPU/Memory
Date & Time	Sync PC
Network	SMTP & HTTPS

Technical Specifications

Language	English, Portuguese, Czech, Spanish, Japanese, German, French, Italian, Simplified Chinese, Traditional Chinese, Russian, Korean, Persian, Thai, Arabic, Polish, Vietnamese, Turkish
Diagnostic Service	Supported
Log Management	Supported
macOS Client	Supported* * Limitations of macOS Client: 1. Video can only be exported in 3GP format. 2. AD login cannot be setup in macOS client. 3. macOS client only supports the joystick AJ-001. 4. macOS client only supports one-way audio.

Device Integration

VIVOTEK's Camera	8000 & 9000 Series
VIVOTEK's NVR	ND & NR & NV Series (ND8321 excluded)
VIVOTEK's Software	VAST 2
Joystick	VIVOTEK Joystick AJ002
I/O Box	Advantech ADAM-6000 Series Chiyu CYT-133SC MOXA ioLogik E1210, E1211, E1212, and E1214
POS (Add-ons)	POSNET Lafresh Allsense (Implement in NVR, Searchable in VAST 2)
Access Control	Chiyu CSS-R11 (Expanded by CSS-A11) SOYAL AR-837 Series

Camera Integration

Camera Insert	Manual & Search
Refresh Devices	Manual
Video Source	VIVOTEK, ONVIF & RTSP Streaming
Basic Setting	User Name, Password & Camera Model Detection
Connection Setting	Configuration Protocol: HTTP, HTTPS Streaming Protocol: TCP, UDP, HTTP, HTTPS
Video Setting	Video Stream, Codec, Resolution, Maximum frame rate, I-frame period, Video quality, FPS, Maximum bit rate
Image Setting	Timestamp, Video title, Video orientation, Mount type (fisheye only), Color, Power line-frequency
Motion Detection Setting	Supported
ONVIF Profile	Profile S
ONVIF Stream	Video (H.264, MPEG4 & MJPEG) & One-Way Audio (G.711, G726 & AAC)
ONVIF Control	PTZ Control (Up, Down, Left, Right & Zoom In/Out)
ONVIF Discovery	Supported
ONVIF Event	Motion Event, Camera DI, Camera DO, Video Lost (Video server only)

VCA Solution

Security Intelligence	Line Crossing Detection, Loitering Detection, Intrusion detection, Face detection, Missing object detection, Unattended object detection, Crowd detection, Smart Tracking, People Running Detection

Technical Specifications

Business Intelligence	People Counting, Zone Detection

Advanced Features

VIVOTEK Exclusives	Panoramic PTZ Seamless Recording Activity Adaptive Stream VCA Counting Report Smart Search II VIVOTEK VCA (Video Content Analysis) Cybersecurity Management Solution License Plate Recognition Solution Smart Tracking

Add-ons**

Substations Failover Solution	N x M System Structure
CMS Failover Solution	1+1 Redundancy
3rd Party Integration	TCP Message, Data Magnet
Transportation Solution	GIS Maps: Google Map & Open Street Map (OSM) User-Defined Maps Vehicle GPS Tracking Tracks Playback
Transaction Solution	POS Terminal Integration (Serial or Network Ports) Live Printing of Transactional Data Transaction Corresponding Video Search
Integration Solution	TCP Trigger

* Please refer to System Requirements Page (http://www.vivotek.com/vast2/#system)
** Advanced license is required. (Additional charges may apply)

System Requirements

VAST 2 Server

Operating System	Windows 10, 7 Windows Server 2019, 2016, 2012 (Server Core installation type is not supported)		
Server	Up to 64-CH	Up to 128-CH	Up to 256-CH
Desktop CPU	6th Generation Intel® Core™ i3 Processors or above		6th Generation Intel® Core™ i5 Processors or above
RAM	4 GB or above	8 GB or above	8 GB or above****
Hard Drive (Enterprise Model Only) Suggestion	1 Volume Group*	2 Volume Group*	4 Volume Group*
Recording Throughput	1 Volume Group: Max. 200 Mbps**		
Network Interface Card	Ethernet, 1Gbit recommended***		

[Note] The camera settings in the above table are testing by H.264, 1080P, CBR, 3Mbps for each channel; the actual situation depends on the users' system status.
* The size of the volume group depends on the total recording server throughput.
** The combined maximum bitrate of cameras cannot exceed the total recording throughput.
*** Please consider the throughput of viewing, recording and server's network bandwidth when designing your surveillance deployments.
**** Please use a dual-channel memory configuration.

System Requirements

VAST 2 LiveView & Playback

Operating System		Windows 10, 7 Windows Server 2019, 2016, 2012 (Server Core installation type is not supported) * macOS 10.15 Catalina		
Client (Display Channels)	H.264, 720P, 2Mbps for Each Channel**	8-CH	16-CH	32-CH
	H.264, 1080P, 4Mbps for Each Channel***	6-CH	10-CH	18-CH
	H.265, 1080P, 4Mbps for Each Channel	3-CH	5-CH	9-CH
Desktop CPU		6th Generation Intel® Core™ i3 Processors	6th Generation Intel® Core™ i5 Processors	6th Generation Intel® Core™ i7 Processors
RAM****		8 GB or above	8 GB or above	16 GB or above
Graphics Card*****		1GB RAM, with Direct3D acceleration		
Network Interface Card		Ethernet, 1Gbit recommended		

* Independent graphics card is necessary when using Windows Server OS.
** Display requirements of a 3MP fisheye camera is equal to a 720P camera.
*** Display requirements of a 5MP fisheye camera is equal to a 1080P camera.
**** Please use a dual-channel memory configuration.
***** Please update to the latest GPU driver.
If you plan to install both VAST 2 Server & Client on the same PC, please remember to consider the combined loading when evaluating system requirements.

* 60-day trial includes 256-channel camera license and all advanced license features.