VIVOTEK
A Delta Group Company

VAST 2
Change the Way
You Experience VMS

Smart Search II • OSM Transportation Integration • LPR Solution Integration • Cybersecurity Management Solution • Network Audio Solution

New Features

- Network Audio Solution - Group broadcast and schedule broadcast
- Simplified License Key Activation
- LiveView Virtual Trigger

Key Features

- Password Protected Video Clips
- Smart Search II – People/Vehicle Search
- Multi Factor Authentication for Access Control
- Data Magnet Integration
- Video Content Analysis Integration
- 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

Solutions

- License Plate Recognition Solution
- Cybersecurity Management Solution
- Transportation Solutions (License Required)
- CMS/Substations Failover Solutions (License Required)
- Transaction Solutions (License Required)
- Network Audio Solution (License Required)
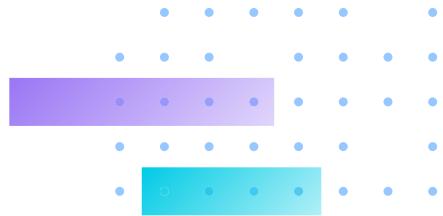
What's New

## Network Audio Solution - Group and Schedule Broadcast

Broadcast tailor made content in the right place, at the right time. Operators can coordinate multiple network audio speakers in the same group, enabling announcements to be delivered to their target audience in unison. Additionally, broadcasting schedules could also be managed. Plan and configure schedules with just a few clicks, and enjoy the benefits of automation.
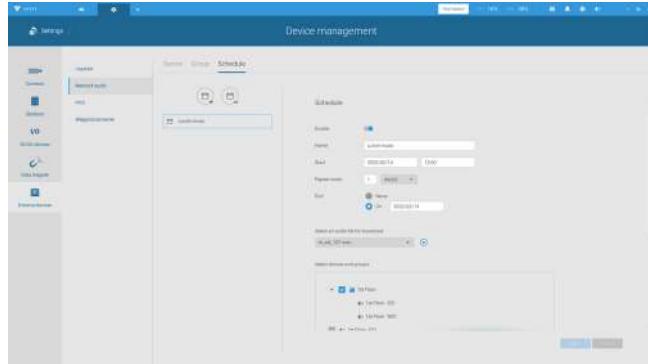

Simplified License Key Activation

Streamline the licensing activation process with paired license key, which simplifies the procedure by automatically mapping credentials at both the installation and server ends. Input a purchased license key and VAST 2 will activate your license automatically over the internet. Faster, more convenient and intuitive.
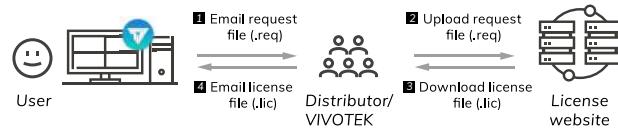
LiveView Virtual Trigger

Users can now define and add a virtual trigger button (a hotkey that activates alarm actions) on their screens. When monitoring live videos, users can hit the virtual trigger button to execute defined actions (e.g., commanding cameras towards preset positions, adding bookmarks on the footage, playing audio warnings with network audio devices, sending HTTP Request to third party systems, and more.)
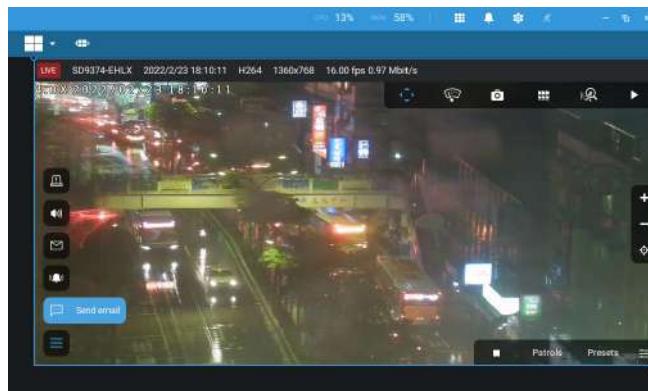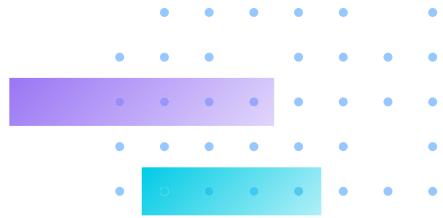
Key Features

Password Protected Video Clips

This feature supports encrypting videos by adding a customized password to secure the trail of evidence and protect video content from being viewed by unauthorized people. The encrypted video can only be played by the included standalone player with the required password.
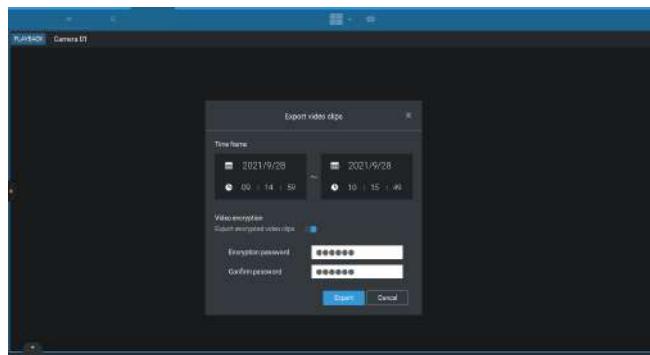
Smart Search II - People/Vehicle Search

Users can quickly sort through large amounts of footage to find people and/or vehicle related motion in video recordings. People and vehicles appearing in the user-defined area can serve as search criteria. This provides for quicker search times and the video clips can then be exported.
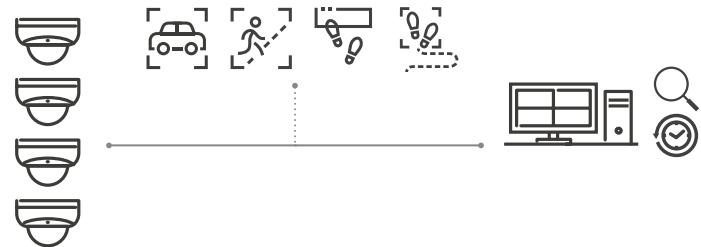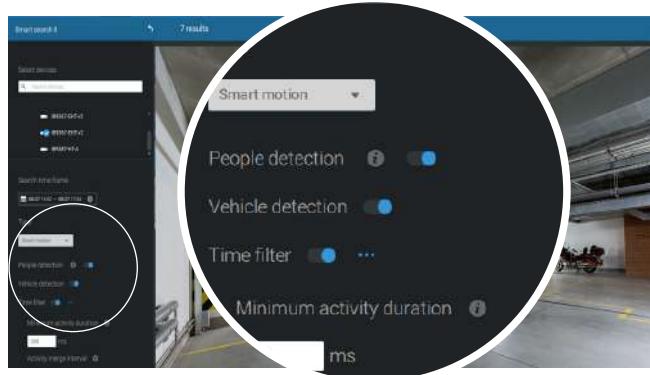
Multi-Factor Authentication for Access Control

This feature combines multiple data magnet sources such as license plate recognition, face recognition, and access control reader information in VAST 2 as trigger sources. When these data sets are confirmed matches, it will trigger the access control system to open the gate/door/barrier.
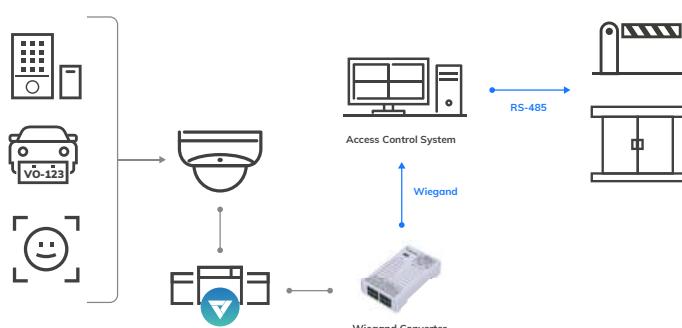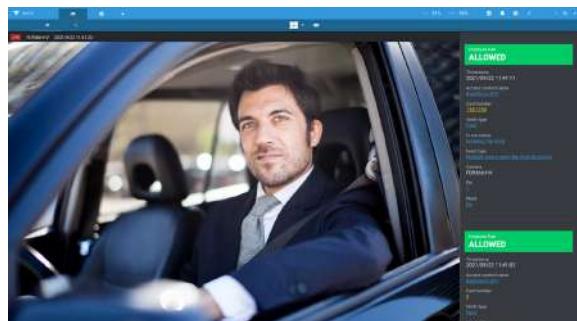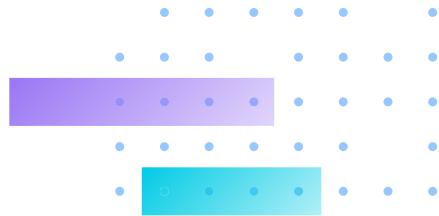
Key Features

Data Magnet Integration

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.


Video Content Analysis Integration

Integrate Video Content Analysis Technology (Smart Motion Smart Motion Detection/Smart VCA/Parking Violation/ Restricted Zone Detection) 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.
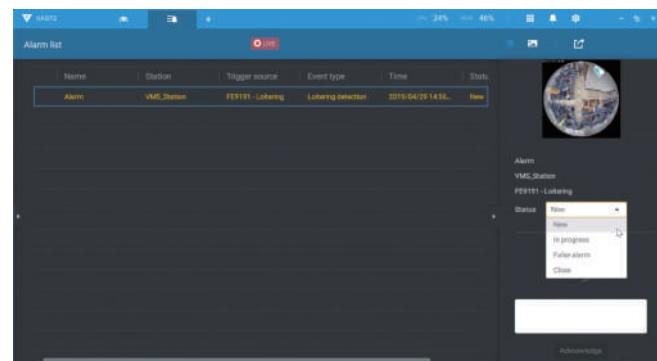
System Overview Dashboard

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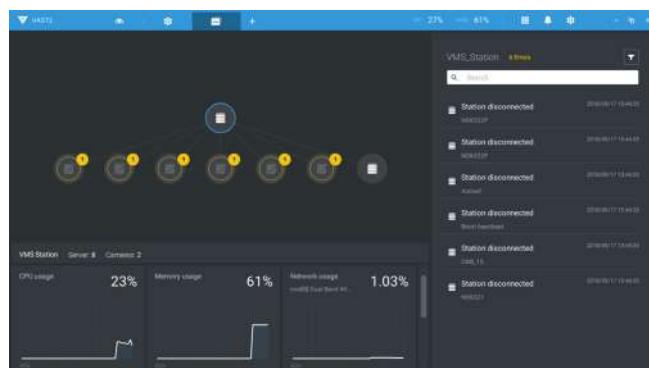
Matrix for Video Wall Solution

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.
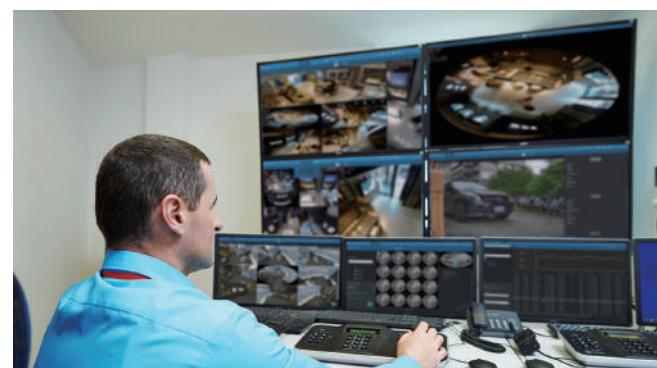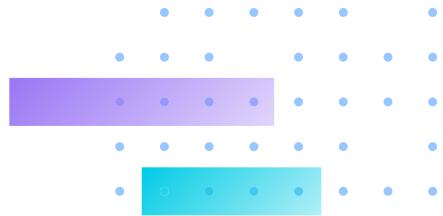
Key Features

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.
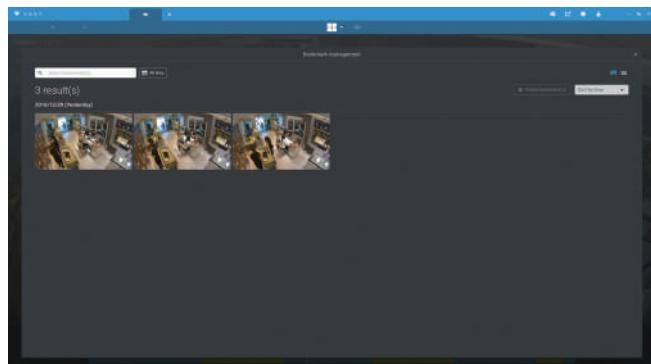
Evidence Export

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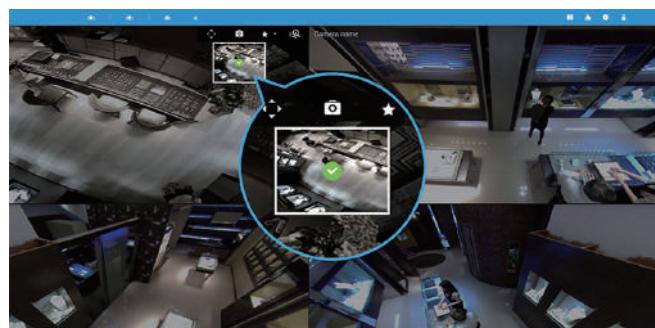
Snapshot
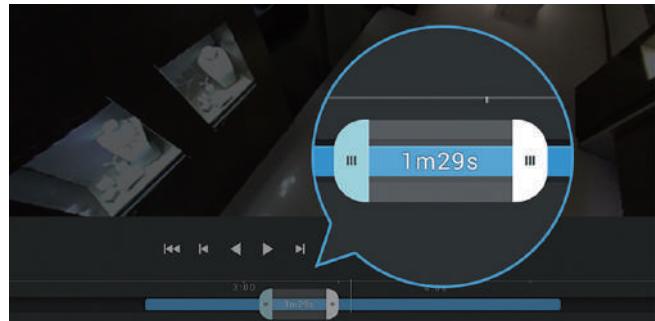
Video

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.
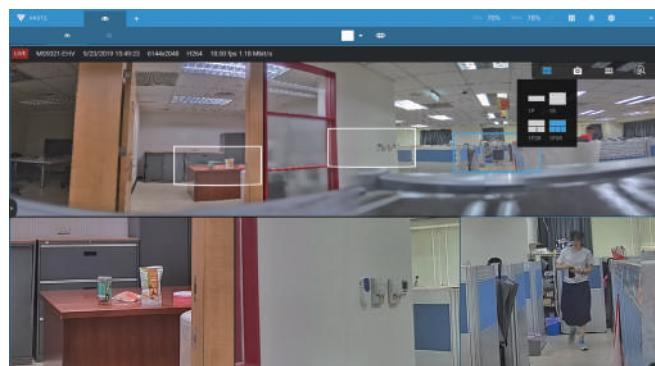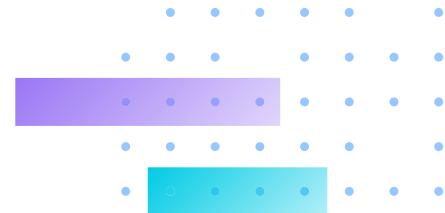
Key Features

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.
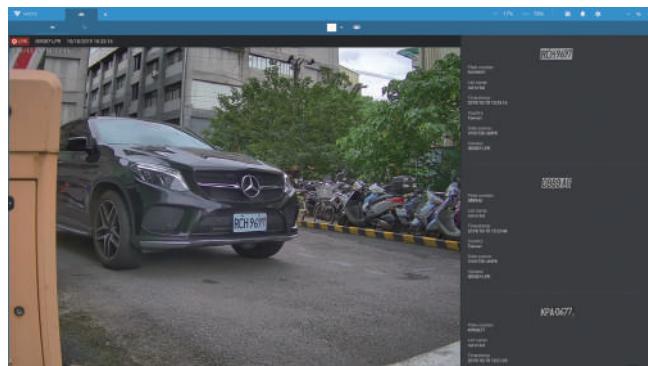
Cybersecurity Management Solution

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.
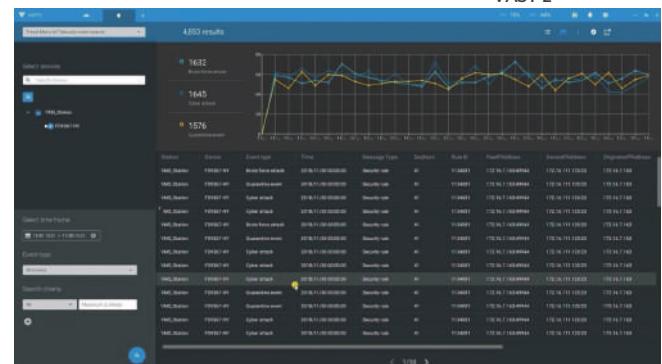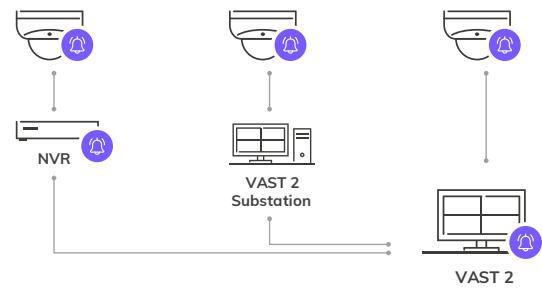
Transportation Solution

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
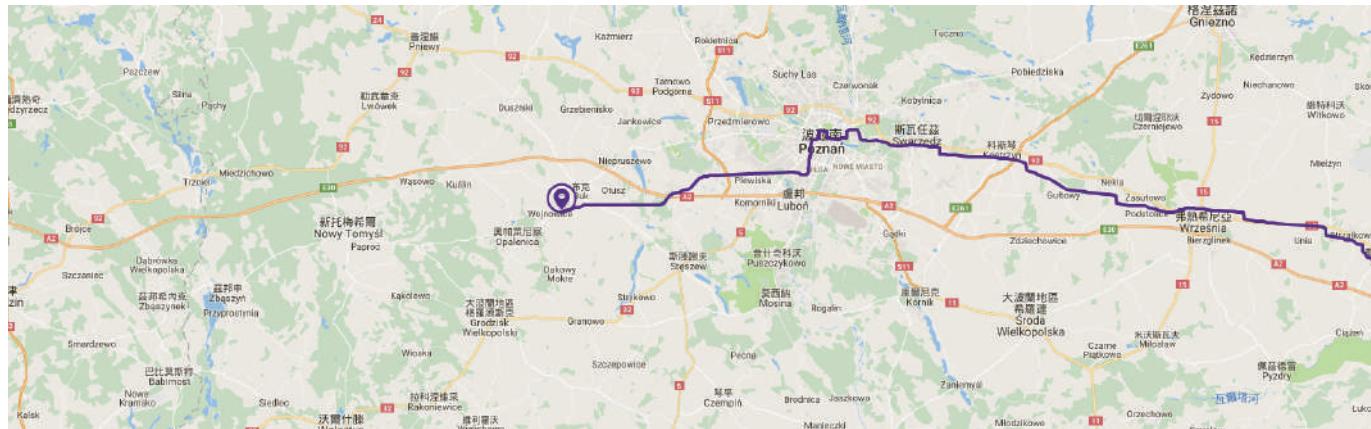
Solutions

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.

VAST 2 Server

Active Server

Takeover
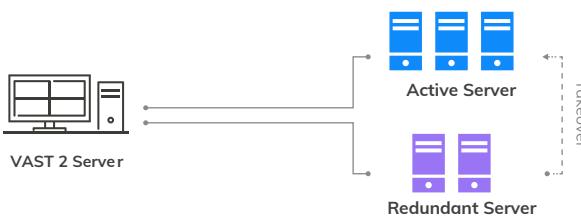
Redundant Server

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.

Takeover

VAST 2 Server

Active Server

Redundant Server

Redundant Server
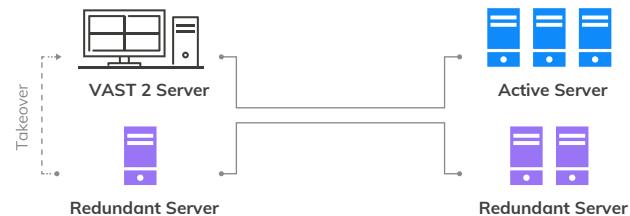
Transaction Solution

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.

Name	Unit	Subtotal
Tomato	1	8
Banana	1	12
Drink	2	24
Cookies	4	28

Total: 72

Network Audio Solution

VIVOTEK Network Audio Solution integration with VAST 2, users can set specific video analytic detection events from integrated cameras and synchronize VIVOTEK audio devices via VAST 2. This can apply to many situations to improve property security. Restricted zones can automatically trigger recorded announcements or users can speak live directly, providing an intelligent surveillance solution that helps reduce management costs.
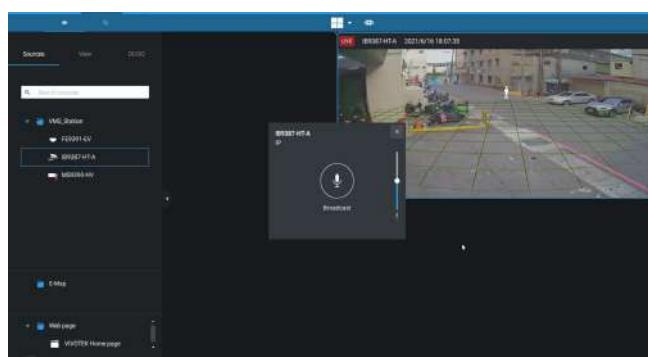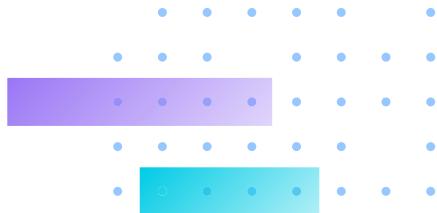
Technical Specifications

Model	VAST 2
Series	Change the Way You Experience VMS
Software	VAST 2
Version	2.13
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 11, 10, 7 Windows Server 2012, 2016, 2019 (Server Core installation type is not supported) macOS 11 Big Sur (Client Only)
Supported Mobile App	iViewer (iOS/Android)
Virtual Matrix*	Supported (VAST 2 Matrix)
Tabbed Browsing*	Supported
Devices Pack	Ver. 5.9.392
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
Third-Party Fisheye Dewarping	Supported
Multi-Sensor Display Mode	1P, 1R, 1P2R, 1P3R
Display Watermark	Supported
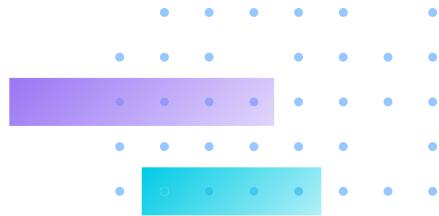
Technical Specifications

Playback

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)

Technical Specifications

|	
Schedule Type	Continuous, Schedule
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, Running Detection, Parking Violation Detection, Restricted Zone Detection **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, Virtual Trigger
Action	Start to record videos, Set DO status, Go to camera presets, Send HTTP requests (GET and POST method), Send live streaming, Send email with snapshot of assigned camera(s), Go to E-Map, Sound the alarm and Add bookmark, Play audio file with network audio device
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
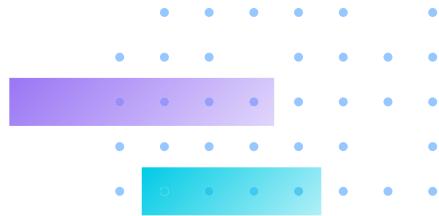
Technical Specifications

PTZ

PTZ Control	Mouse Draw & Drag Control
PTZ Operation	Direction Control, Home, Zoom, Focus, Preset, Patrol (Group), Tracking, Pan, Stop, Speed
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
Export File Encryption	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

Technical Specifications

|	
Server System Status Display	CPU/Memory/Network/Storage
Client System Status Display	CPU/Memory
Date & Time	Sync PC
Network	SMTP & HTTPS
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. 5. Does not support standalone player 6. Does not support third-party fisheye dewarping
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 (License Required)	POSNET Lafresh Allsense (Implement in NVR, Searchable in VAST 2) Gulfcoast ARCH
Access Control	Chiyu CSS-R11 (Expanded by CSS-A11) SOYAL AR-837 Series ZKTeco SpeedFace-V4L
Network Audio Device	VIVOTEK AU-001, AU-002
Wiegand Converter	VIVOTEK AO-20W
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

Technical Specifications

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, Running Detection, Parking Violation Detection, Restricted Zone Detection
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
License Required Feature**	
Substations Failover Solution	N x M System Structure
CMS Failover Solution	1+1 Redundancy
Third-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
Network Audio Solution	Trigger recorded announcements; Speak live directly; Group broadcast; Schedule broadcast

* Please refer to System Requirements Page (http://www.vivotek.com/vast2/#system)
* Maximum number of cameras is 128 when SmartVCA is enabled
** Advanced license is required. (Additional charges may apply)
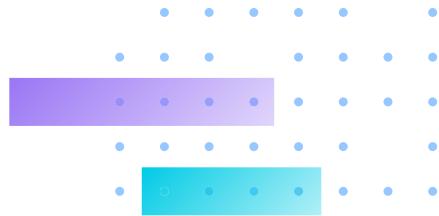
System Requirements

VAST 2 Server

Operating System	Windows 11, 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*
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.
* Throughput of each volume group must exceed the total bitrate of cameras recorded in that specific volume group.
** 256-CH without SmartVCA, 128-CH with SmartVCA enabled.
*** Please consider the throughput of viewing, recording and server's network bandwidth when designing your surveillance deployments.
**** Please use a dual-channel memory configuration.

VAST 2 LiveView & Playback

Operating System		Windows 11, 10, 7 Windows Server 2019, 2016, 2012 (Server Core installation type is not supported) * macOS 11 Big Sur		
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.

VIVOTEK