VIVOTEK’s VAST 2 is an easy to use IP video management software (VMS). To meet the real-world needs of users, it comes with exciting advancements such as easy operation on single or multiple monitors, custom layout to accommodate both corridor and panorama orientations, rapid export of multi-channel video and the acquisition of VCA analytics & cybersecurity attack events from VIVOTEK cameras and substations (such as NVRs) in a hierarchical system structure.

VAST 2 is integrated with VIVOTEK’s Cybersecurity Management Solution, Smart VCA and Smart Search II. Cybersecurity attack and Smart VCA events can be searched and replayed in Event Search and be set as triggers in Alarm Management. In addition, Smart Search II allows users to search for specific object or people related videos. It also provides the option to draw a custom zone to focus on any critical area. To efficiently solve users’ problems and system bugs, VAST 2 provides an automatic problem feedback mechanism to directly connect to VIVOTEK’s FAE system. Any feedback will be handled instantly.

Utilizing automatic configuration wizards, VAST 2 can significantly reduce the time and cost of installing multiple camera surveillance systems. With more advanced setup features such as logical tree, camera configuration, archive management and recording schedule backup solutions, VAST 2 provides easy and intuitive UI with rich functionality to meet the needs of any customer. For efficient video management, VAST 2 also provides multi-layered, interactive 2.5D maps, and sophisticated alarm management. Furthermore, VAST 2’s add-on solutions include failover protection, a transportation solution with GPS coordinates, transaction solutions with POS integration and Data Magnet integration solutions. All of these features combine to make VAST 2 the perfect VMS for use in retail, banking, transportation, and industrial applications.
Highlight Features

Intuitive UI Design
Custom layout adjustment and fisheye ROI control for better security management experience.

Auto Setup
Easy configuration through a fully automated process, saving users’ time and cost to install surveillance devices.

Problem Feedback Mechanism
Quickly detect system problem and feedback to VIVOTEK Technical Support via automatic popup or manual operation.

Multi-Monitor & Tabs
Manage unlimited tasks with multiple screens for intuitive and easy surveillance.
Highlight Features

Thumbnail Search
Efficiently search suspicious video and specific events with thumbnail view.

Evidence Lock
Manually extend the retention time for video recordings and manage a high number of investigation scenarios.

2.5D Visualization eMap
Multiple layers and camera FOV views allow users to instantly pinpoint a selected camera and the location on the map.
Highlight Features

Evidence Export
Easily export multiple video recordings with custom layouts in a specific time period or instant snapshot with a fast click.

Scheduled Backup
Automatically back-up of the recorded video clip to another network storage device.
Highlight Features

Data Magnet
Data Magnet offers the capability to integrate third-party data source into VAST 2, which provides quick access to data along with video. This supports simultaneous display with live event monitoring. All events will be stored for later searches.

All New Matrix
New 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.

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 Search II
Allow users to search for objects or people related videos according to the VCA (Video Content Analysis) metadata from camera videos. Users can quickly sort through large amounts of evidence to find precisely what is needed.
Add-on Solutions

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.

Transportation Solution
VAST 2 can trace vehicles through information provided from GPS receivers, track vehicles’ real-time location, and playback videos with recorded visited paths.

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.

<table>
<thead>
<tr>
<th>Name</th>
<th>Unit</th>
<th>Subtotal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tomato</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Banana</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>Drink</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>Cookies</td>
<td>4</td>
<td>28</td>
</tr>
</tbody>
</table>

Total: 72
### Technical Specifications

**Version**
2.5

**General**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Wizard</td>
<td>Plug &amp; Play Auto Setup</td>
</tr>
<tr>
<td>Max. Number of Cameras*</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Max. Number of Servers*</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Max. Number of Clients</td>
<td>Unlimited</td>
</tr>
</tbody>
</table>

**Supported OS**
- Windows 10, 7
- macOS Mojave 10.14 (Client Only)

**Supported Mobile App**
iViewer (iOS/Android)

**Virtual Matrix**
Supported (VAST 2 Matrix)

**Tabbed Browsing**
Supported

**Devices Pack**
Ver. 5.9.250

**LiveView (Local Display)**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Channels*</td>
<td>64-channel per monitor (Supports up to 8 Monitors)</td>
</tr>
</tbody>
</table>

**Layout**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
</table>
| 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

**Video**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video Format</td>
<td>MJPEG, MPEG4, H.264 AVC, H.264 SVC, H.265</td>
</tr>
<tr>
<td>Video Resolution</td>
<td>Up to 12 Megapixels</td>
</tr>
</tbody>
</table>

**Audio**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio Format</td>
<td>G.711, G.726, AMR, AAC</td>
</tr>
<tr>
<td>Audio Capability</td>
<td>Two-way Audio</td>
</tr>
<tr>
<td>Audio Control</td>
<td>Mute</td>
</tr>
</tbody>
</table>

**Record**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional Recording</td>
<td>Pre-Record: 3-15, Post-Record: 10-60</td>
</tr>
<tr>
<td>Time for Event Recording (sec.)</td>
<td></td>
</tr>
</tbody>
</table>

**Recording Stream Type**
Unicast

**Recording Stream**
Single

**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**
3GP

**External Storage Recording**
NAS (SMB & CIFS)

**Alarm Management**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alarm Period (sec.)</td>
<td>Max. 30</td>
</tr>
<tr>
<td>Alarm Filter</td>
<td>Time, Trigger Type (Camera/Substation/System), Status, Name, Trigger Source</td>
</tr>
<tr>
<td>Alarm Setting</td>
<td>Realtime System Notification</td>
</tr>
<tr>
<td>Schedule Type</td>
<td>Continuous, Schedule</td>
</tr>
</tbody>
</table>
## Technical Specifications

**Camera Source**
- **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
- **Smart VCA:** Line crossing detection, Intrusion detection, Loitering detection, Face detection, Missing object detection, Unattended object detection, Crowd detection, Zone detection
- **Trend Micro IoT Security:** Brute force attack, Cyber attack, Quarantine event

**Substation Source**
- **NV Series NVR:** Abnormal G-sensor Motion, Speeding, GPS Disconnected
- **ND Series NVR:** Fan Status, Network Disconnected, Storage Failure, Storage Full, Number of remaining people, Brute force attack, Cyber attack, Quarantine event
- **NR Series NVR:** Network Disconnected, Storage Failure, Storage Full

**External Devices Event DI/O (with I/O Box), TCP Message**
- **DI/O:** 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
- **DI/O (with I/O Box):** 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
- **TCP Message:** 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

**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**
- **Pre-Triggered:** 1~10; **Post-Triggered:** 1~60

**Alarm Result Display**
- List, Thumbnail

**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

**Event Search**
- **Type:** General, Smart VCA, Trend Micro IoT Security events
- **Event Search Result Display:** List, Chart

**Event Search Result Export**
- .csv file

**eMap**
- Source: Import Picture & Folder
- Adjustment: Vertical Angle Adjustment
- Marked: Add, Remove, Direction Control, PTZ Control, FOV Control, LiveView & Playback
- Event Notification: One or More Live Streaming
- 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

**Export**
- **Snapshot:** PNG & JPEG
- **Export File:** 3GP & EXE

**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**
- Schedule: NAS (SMB & CIFS)

**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

<table>
<thead>
<tr>
<th>Device Integration</th>
<th>Camera Integration</th>
<th>Advanced Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VIVOTEK’s Camera</strong></td>
<td><strong>Camera Insert</strong></td>
<td><strong>Panoramic PTZ</strong></td>
</tr>
<tr>
<td>8000 &amp; 9000 Series</td>
<td>Manual &amp; Search</td>
<td><strong>Seamless Recording</strong></td>
</tr>
<tr>
<td><strong>VIVOTEK’s NVR</strong></td>
<td><strong>Refresh Devices</strong></td>
<td><strong>Activity Adaptive Stream</strong></td>
</tr>
<tr>
<td>ND &amp; NR &amp; NV Series (ND8321 excluded)</td>
<td>Manual</td>
<td><strong>Smart Search II</strong></td>
</tr>
<tr>
<td><strong>VIVOTEK’s Software</strong></td>
<td><strong>Video Source</strong></td>
<td><strong>Smart VCA Integration</strong></td>
</tr>
<tr>
<td>VAST 2</td>
<td>VIVOTEK, ONVIF &amp; RTSP Streaming</td>
<td><strong>Cybersecurity Management Solution</strong></td>
</tr>
<tr>
<td><strong>Joystick</strong></td>
<td><strong>Basic Setting</strong></td>
<td><strong>Integration</strong></td>
</tr>
<tr>
<td>VIVOTEK Joystick AJ002</td>
<td>User Name, Password &amp; Camera Model Detection</td>
<td><strong>Solution</strong></td>
</tr>
<tr>
<td><strong>I/O Box</strong></td>
<td><strong>Connection Setting</strong></td>
<td><strong>TCP Trigger</strong></td>
</tr>
<tr>
<td><strong>POS (Add-ons)</strong></td>
<td><strong>Video Setting</strong></td>
<td><strong>N x M System Structure</strong></td>
</tr>
<tr>
<td>POSNET Lafesh Allsense (Implement in NVR, Searchable in VAST 2)</td>
<td>Video stream, codec, resolution, maximum frame rate, I-frame period, video quality, FPS, Maximum bit rate</td>
<td><strong>TCP Message, Data Magnet</strong></td>
</tr>
<tr>
<td><strong>Motion Detection Setting</strong></td>
<td><strong>Image Setting</strong></td>
<td><strong>Transportation Solution</strong></td>
</tr>
<tr>
<td>Supported</td>
<td>Time stamp, Video title, Video orientation, Mount type (fisheye only), Color, Power line-frequency</td>
<td><strong>Google Map and User-Defined Maps Support, Vehicle GPS Tracking, Tracks Playback</strong></td>
</tr>
<tr>
<td><strong>ONVIF Profile</strong></td>
<td><strong>ONVIF Stream</strong></td>
<td><strong>Transaction Solution</strong></td>
</tr>
<tr>
<td>Profile S</td>
<td>Video (H.264, MPEG4 &amp; MJPEG) &amp; Audio (G.711, One-way)</td>
<td><strong>POS Terminal Integration (Serial or Network Ports), Live Printing of Transactional Data, Transaction Corresponding Video Search</strong></td>
</tr>
<tr>
<td><strong>ONVIF Control</strong></td>
<td><strong>ONVIF Discovery</strong></td>
<td><strong>Integration Solution</strong></td>
</tr>
<tr>
<td>PTZ Control (Up, Down, Left, Right &amp; Zoom In/Out)</td>
<td>Supported</td>
<td><strong>TCP Trigger</strong></td>
</tr>
</tbody>
</table>

**Language**
- Czech, English, French, German, Italian, Japanese, Korean, Persian, Portuguese, Russian, Spanish, Simplified Chinese, Traditional Chinese

**Diagnostic Service Supported**

**Log Management Supported**

**Mac Client Supported**
- Limitations of Mac Client
  1. Video can only be exported in 3GP format.
  2. AD login cannot be setup in Mac client.
  3. Mac client only supports the joystick AJ001.

**ONVIF Event**
- Motion Event, D/O, Video Lost/Restore

**VCA Solution**
- Line crossing detection, Loitering detection, Intrusion detection, Face detection, Missing object detection, Unattended object detection, Crowd detection, Zone detection

**VCA for Surveillance**
- People Counting

**VCA for Business Intelligence**

**Add-ons**
- **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

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Server (Recording Channels)</td>
<td>Up to 64-CH Up to 128-CH Up to 256-CH</td>
</tr>
<tr>
<td>CPU</td>
<td>6th Generation Intel® Core™ i3 Processors or above 6th Generation Intel® Core™ i5 Processors or above</td>
</tr>
<tr>
<td>RAM****</td>
<td>4 GB or above 8 GB or above 8 GB or above</td>
</tr>
<tr>
<td>Hard Drive (Enterprise Model Only) Suggestion</td>
<td>1 Volume Group* 2 Volume Group* 4 Volume Group*</td>
</tr>
<tr>
<td>Recording Throughput</td>
<td>1 Volume Group: Max. 200 Mbps**</td>
</tr>
<tr>
<td>Network Interface Card</td>
<td>Ethernet, 1Gbit recommended***</td>
</tr>
</tbody>
</table>

* The size of volume group depends on the total recording server throughput.  
** The combined maximum bitrate of cameras cannot exceed the total recording throughput.  
*** Please use a dual-channel memory configuration.

#### VAST 2 LiveView & Playback

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Client (Display Channels)</td>
<td>H.264, 720P, 2Mbps for Each Channel* 8-CH 16-CH 32-CH</td>
</tr>
<tr>
<td></td>
<td>H.264, 1080P, 4Mbps for Each Channel** 6-CH 10-CH 18-CH</td>
</tr>
<tr>
<td></td>
<td>H.265, 1080P, 4Mbps for Each Channel 3-CH 5-CH 9-CH</td>
</tr>
<tr>
<td>CPU</td>
<td>6th Generation Intel® Core™ i3 Processors 6th Generation Intel® Core™ i5 Processors 6th Generation Intel® Core™ i7 Processors</td>
</tr>
<tr>
<td>RAM****</td>
<td>8 GB or above 8 GB or above 16 GB or above</td>
</tr>
<tr>
<td>Graphics Card****</td>
<td>1GB RAM, with Direct3D acceleration</td>
</tr>
<tr>
<td>Network Interface Card</td>
<td>Ethernet, 1Gbit recommended***</td>
</tr>
</tbody>
</table>

* Each recording group can receive recordings for 60 channels.  
* 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.