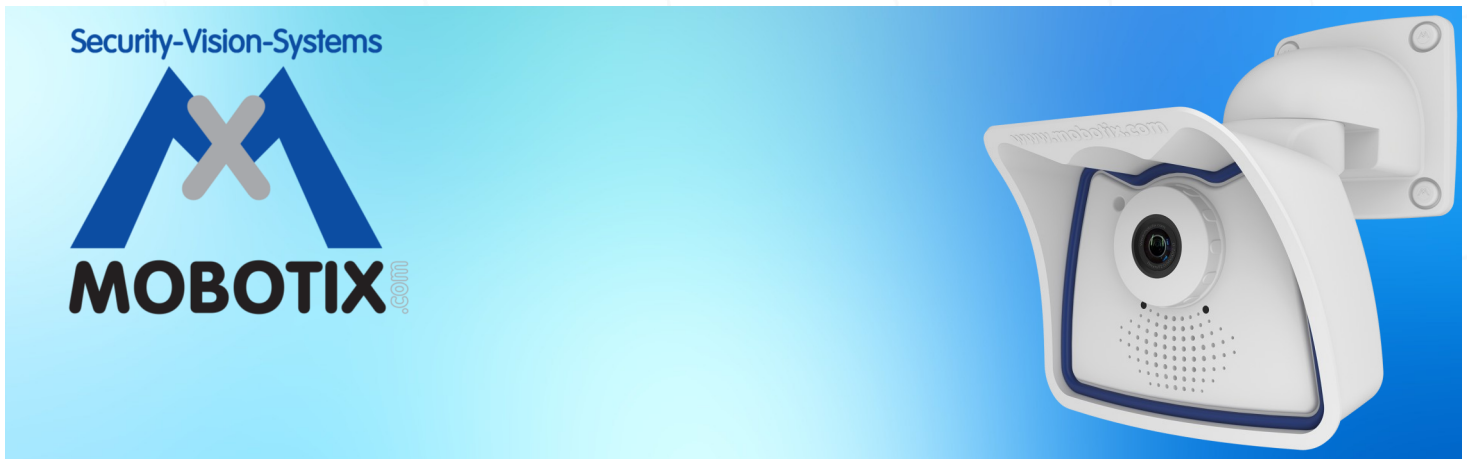


Mobotix & Wavestore

Close Integration



Wavestore has extended its support of the Mobotix technologies beyond the ability to support legacy and hybrid recording solutions; providing many new capabilities and the easy ability for customers to take advantage of these benefits quickly and reliably.

Latest Features and Capabilities

- The client de-warping of the Hemispheric Q24 and Q25 cameras enables the operator to track an individual around the field of view, in the same way as using a conventional PTZ camera, but in archive recordings as well as live data.
- Images from a hemispheric camera can be sequentially added to images from other cameras to create a video storyboard of an activity, which can be exported in one of a selection of industry standard formats.
- A metadata feature enables a broad range of alarm and event activities to be tagged and accessed quickly, which can be visualised on the display as required, along with the associated video.
- The powerful search capability enables whole or partial details of a car number plate to be searched for, or the name of an individual registered on a facial recognition database to be correlated and the positive results displayed.
- Wavestore version 6 is due to be released early in 2015 and will include many new features, including advanced RAID with the ability to spin down any hard drive that is not being accessed, in order to conserve power.
- Rapid integration of third party protocols is provided with the WaveSTAR (Sensing, Translation, Action and

Response) functionality, supporting many protocols and preconfigured with a wide range of responses.

Introduction

The Linux based server design delivers a high integrity and resilient recording platform, whilst the powerful client software can be operated from a Linux or Windows platform (32-bit and 64-bit versions). Regardless of whether it is a standalone application, or a server group configured in a centralised system or distributed over a wide area, an authorised user can log on from any location and access their unique profile.

Camera licensing is provided by a single unique license code that includes the number of camera channels purchased (including combinations of analogue and IP) – the unique details of the cameras being installed are not required to be registered, so enabling hassle free installs. Analogue camera recording is supported either through tightly integrated Stretch compression cards or using a wide range of video encoders.

“ The client de-warping function within Wavestore Video Management Software enables each to produce a range of custom virtual camera views ”

As a standard feature the Wavestore solution has the ability to record each video channel into 3 separate and independent video tracks enabling each channel to be recorded in different resolutions, compression values and frame rates onto different hard drives, even in different locations. Tracks can be independently configured as continuous, motion or alarm recording or can be configured to retain the data for different periods of time.

Support for multiple camera protocols simultaneously

Wavestore has committed to an Open Platform capability which enables analogue, network, IP, Megapixel and HD-SDI cameras to be recorded simultaneously; each camera using one or more video formats, including: H.264, M-JPEG, MPEG-4, JPEG2000 and MxPEG to be processed concurrently.

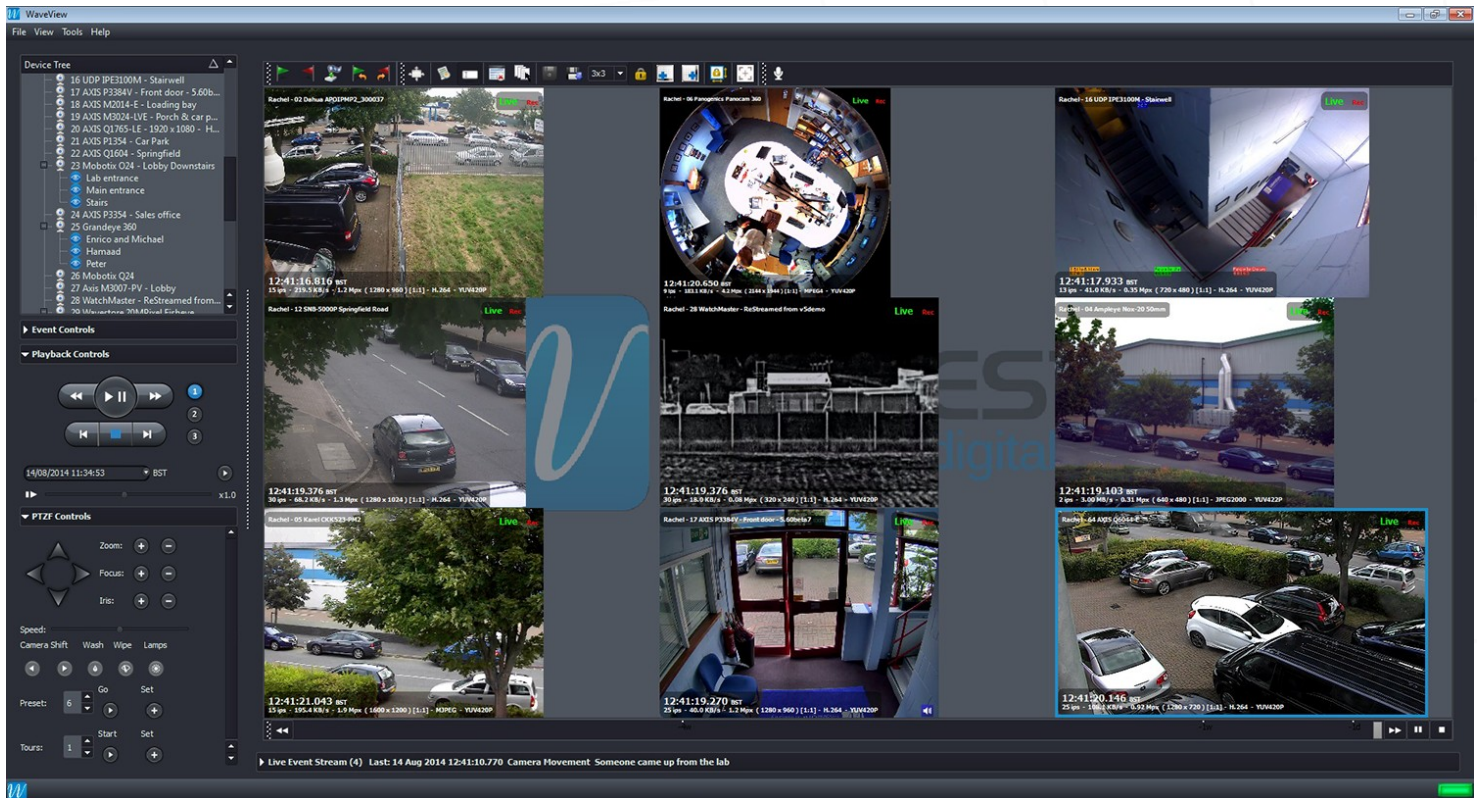
- WaveView (the client software module) enables any combination of camera images, recorded on one or more servers in a server group, to be displayed.
- WaveView provides the flexibility for operators to display images in a traditional or freeform structure where the image size, format and position of any number of cameras can be displayed and saved as unique user profiles.
- WaveView provides the flexibility for operators to view on the same screen both live and archive images from the same camera or different cameras simultaneously.
- Waveview's Dynamic viewing area and flexible review timings gives the ability to create video story boards tracking specific activity across your whole CCTV network.
- De-warped images from panoramic cameras can be displayed in the correct aspect ratio, alongside other unique and standard image formats.
- PTZ control for a wide range of analogue and IP cameras is provided using either 3-axis mouse or industrial grade joystick.

Support for de-warping of hemispheric camera images

The de-warping function within Wavestore V5 enables any camera to be setup in any position. Thereafter any image can be cloned one or more times and each de-warped to produce a range of virtual camera views.



- The Wavestore de-warping function is performed in the client PC, and only requires the original panoramic image to be transmitted from the camera.
- Each client is able to create and save their own virtual views or panoramic displays.
- Recording the original camera image enables that video data to be authenticated in the Wavestore system and presented and verified in a court of law.
- Wavestore also supports the multiple stream capability of Mobotix cameras, and users are free to use this option if it is preferred.
- Wavestore's PTZ control of de-warped images uses the same control system as for conventional PTZ cameras (either 3-axis mouse or industrial grade joystick).
- A virtual camera can also be controlled simply by dragging its outline on the original fisheye image.
- A simple flick of a de-warped image enables a constant tour of the entire field of view (whether ceiling or wall mount) to be displayed in a linear format.
- The perspective ratio of any virtual view can be dynamically adjusted by the operator, by moving the tangent point around an image.
- Post event de-warped images can be extracted in standard formats, such as AVI or WMV.



Support for rapid scan, search and view of recorded video footage

- The Wavestore data write format is optimised for video and delivers an instantaneous display of video data from one or many cameras from any time regardless of the volume of the storage medium.
- The operator can scan one or more cameras' images at rates up to 8192 times the normal viewing rate, either forwards or backwards, or be able to replay at slow speeds down to 1/10 of real time.
- A logarithmic scale enables specific video footage to be located and replayed at any image rate or stepped forward or backward, image by image.
- Specific video footage can be marked for subsequent retrieval and backup.

Support for Mobotix camera alarm functions

- A Mobotix alarm function can be configured in a Wavestore recorder to record the event, send messages, or activate a third party function.
- An alarm event from a Mobotix camera can be linked to a high performance PTZ camera, to go to the associated preset area.
- When an alarm is activated from a monitored customer's site, a video clip in AVI format and user-specified duration can be sent to a recipient (such as a remote control centre).

Support for Mobotix audio functions

- Record audio and replay in lip-synchronised format.
- 2-way audio.

Support for copying and exporting data

- Wavestore native video format is WSB format, which includes the option to invoke the video authentication feature, to enable the source and originality of the video data to be confirmed.
- Video data can also be exported in a variety of data formats including MP4 and AVI.

Support for central monitoring operations

- The WaveView display includes the ability for operators to add a note to a specific video event, able to be viewed by a colleague concurrently or on a later shift.
- These notes can be searched by text content, which enables the operator to go directly to the specific video footage and review the event.
- SSL (Secure Socket Layer) support for secure data communications.

POS (Point of Sale) integration

- WavePos is a Point of Sale (POS) feature that is available

“ Rapid integration of third party protocols is provided with the WaveSTAR (Sensing, Translation, Action and Response) functionality ”

in Wavestore Video Recorders.

- Transaction data can be displayed as a report alongside the corresponding video data, or to be permanently overwritten onto the video images.
- Simple search to check for anomalies in sales, product returns and unusual transactions retrospectively.

Interactive Maps

- Single or multiple maps detailing the layout of specific installations can be imported into the Wavestore user interface, and the camera icons placed according to system configuration. The area of coverage and the field of view can be set for each camera.
- An operator simply double clicks a camera icon and the corresponding image is displayed on the corresponding video display.
- Multiple cameras can be selected by individual selection or by drawing a box around them to produce an instant multi-way display of those cameras.

Wavestore VMS is a cost effective solution

- Purchasers of the software receive free updates of the product purchased.
- There is no annual maintenance charge for the software.
- Premium is ideal for standalone server applications with a maximum of 5 concurrent users.
- Enterprise supports server groups, includes unlimited users and optional modules, including Access Control, ANPR, BMS, Cash Counting, EPoS, Facial Recognition, Heat Maps, Intelligent Video Analytics, People Counting, PIDS, PSIM, and Retail Analytics.

Useful facts to know

The Wavestore user interface can be displayed in several different languages and currently it is available in English, Spanish, Arabic, Italian, French, Hungarian, Russian, Romanian, Slovakian, Turkish, Hebrew, Hindi and Chinese with more options available.

Wavestore operates on the Linux platform which has an enviable record for minimal virus and malicious attacks and



additionally all unused ports are closed when not specifically required. If you have a technical problem that is proving difficult to solve the Wavestore tech support engineers can be permitted to remotely access the server using SSH and interrogate the event log for error messages or operator functions that may have caused the problem.

Wavestore server groups can be upgraded to a later software release (either locally or remotely) by installing the upgrade on the lead server remotely and replicating this upgrade through the group. Other than a restart of the server, which usually only takes a few seconds, there is no need to switch off the server.

Wavestore servers are designed to operate continuously, however in the event of a power failure and lack of sufficient UPS backup will shut down safely. When power is restored the unit will restart automatically and continue recording without intervention.

Message to the Mobotix network

Wavestore has developed a range of features, in response to

“ Wavestore solutions are available as fully assembled solutions or to OEM partners as an embedded Linux Video Management Software solution ”

major project requirements that enable the Mobotix Q24 camera to be deployed in preference to other panoramic camera solutions.

These features include:

- Each user can independently create and display one or many de-warped images
- Instantly transmit a de-warped video clip corresponding to an alarm event
- Create and export “post event” virtual PTZ video tours (de-warped format)
- Clone a camera and display both live and playback images simultaneously
- Common PTZ control interface for analogue, IP and virtual PTZ cameras
- Integration with many control systems including MASTerMind enterprise software.

We continue to develop the proposition with Mobotix and have developed the first of a series of video clips that help to show some of these features, and this is available to download here: <ftp://ftp1.wavestore.com/priv/MOBOTIX>

Here are some of the features that are supported with any Hemispheric camera:

- Each user can independently create and display one or many de-warped images
- Instantly transmit a de-warped video clip corresponding to an alarm event
- Create and export “post event” virtual PTZ video tours (de-warped format)
- Clone a camera and display both live and playback images simultaneously
- Hybrid capability enabling Mobotix cameras to be integrated with legacy analogue network
- Common PTZ control interface for analogue, IP and virtual PTZ cameras.

Please contact us to discuss a specific application that you want us to review.

Final Note

Wavestore is ONVIF Profile S Conformant and is continually developing support for Profiles C and G. Our solutions are available as fully assembled solutions or to OEM partners as an embedded Linux VMS solution (Wavestore VMS based solutions have been manufactured in many countries over many years). Full training & technical support is provided to our valued partners.

Wavestore Version 6 is due to be released early in 2015 and promises to be a very important development. Please register your interest to receive details of this product at info@wavestore.com

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Intelligent, integrated video solutions for any application

Phone:
+44 (0)20 8756 5480

Head Office
Wavestore Ltd,
1 The Metro Centre,
Springfield Road,
London, UB4 0LE, UK

Email:
info@wavestore.com



ONVIF | The IP-based Security Standard

Visit:
wavestore.com

