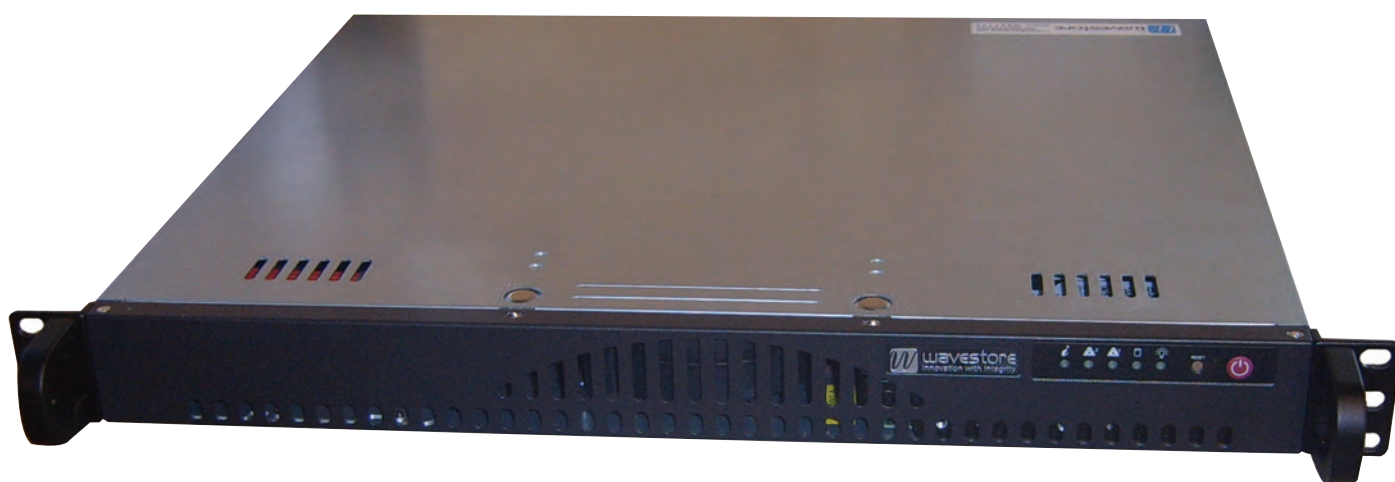# BENCHMARK TEST:
Wavestore VMS 6

Following on from a recent group test of VMS (video management system) software, Benchmark turns its attention to an option which can be supplied as software or, as is the case for this test, pre-installed on an 'appliance'. VMS solutions are increasingly important for installers and integrators looking to deliver advanced and bespoke surveillance solutions. Whether looking at a standalone system with a few cameras or a multi-site campus-type application, a VMS-based solution can inevitably deliver benefits. Here Benchmark looks at an option from Wavestore.

The impact of VMS on the video surveillance market has been significant. Even for those who have never used a VMS, the software and its flexibility has shifted user expectations of what a surveillance system is capable of.

For the end user, the attraction of a VMS-based system does not lie in the clever connectivity implemented by the code writers or in the tools that installers and integrators can use to build complex solutions with ease. It is much simpler than that. It lies in the delivery of a solution which works for them.

A VMS-based system doesn't only work for them when a crime occurs or an incident needs to be handled. A VMS-based system can work for them every day, securing their site but also enhancing site management and business operations by delivering a number of value-added benefits.

If the system offers real benefits and makes those benefits accessible, the user is happy. Accessibility is very important. Operators must be able to get the best out of a VMS solution. While in the past end users might have called an installer or integrator back to make system adjustments, today's tech-savvy market will expect to make changes themselves.

Meeting end user's expectations is key to the prolonged success of a VMS-based solution. An appliance-based VMS can deliver the same degree of flexibility as a software-based solution. If there are any limitations, these will have been implemented to ensure that the server hardware is not over-stretched.

Wavestore v6

Wavestore v6 is the latest release of the company's VMS solution. It is available as both a software and appliance-based solution.

The software is available in three variants: Base, Premium and Enterprise. Base is limited to 24 cameras per server, 2 client connections

and 1 server group. Premium can manage up to 128 cameras per server, 5 client connections and 5 server groups, while Enterprise supports up to 254 cameras per server, unlimited client connections and 255 server groups.

The Base package does not include support for optional analytics or metadata, advanced remote monitoring, failover or Maps, which are stanbard in the more advanced versions. The selection of the software package will be dependent upon site needs.

The Wavestore VMS is equipped to control video sources (including 360 degree cameras), video analytics, audio, access control, sensors, perimeter protection systems and alphanumeric data from other devices such as POS and ATM devices.

Previous versions of Wavestore VMS were 32-bit, meaning that they ran on both 32-bit and 64-bit machines. Version 6 sees a move to 64-bit only, so installers and integrators should ensure they use suitable hardware. Wavestore also offers a range of servers which are supplied with the VMS pre-loaded.

It should be noted that Wavestore VMS makes exclusive use of a Linux platform, which has some pros and cons.

Firstly, for the beneficial points. Linux platforms are acknowledged in the IT space as being more robust and reliable than Windows. Linux is stable, and if elements of the system crash, they don't always bring the whole system to a halt. Security is enhanced as most virus and malware attacks are designed to target Windows platforms; many Linux applications are industrial, but the business and commerce worlds (and the consumer market) tend to use Windows.

Linux platform architecture is less complex, so servers can dedicate more processing power to their tasks, in this case streaming, recording and managing video.

There are also some cost savings. Because Linux is less complex than Windows, it is possible to use less powerful servers. Also, many Linux distributions are free, so OS licensing costs can be reduced.

However, maybe the biggest downside of Linux is that if a user has invested in the Windows platform and wants to integrate their security system with other business elements (the ability to do so being a major driver in switching to VMS), there may be compatibility issues or the need for emulation software.

Our test appliance server was supplied with Wavestore's v5 software preloaded, but in the early stages of testing Wavestore v6 was launched. This is a new product and not simply an upgrade.

We asked the manufacturer about changing the software on the appliance and were told that it's not something that most installers or integrators would normally do. However, the process is actually very straightforward, and certainly within the skill-set of any competent engineer.

The licensing process is fairly straightforward, but we did encounter a slight issue. The first step is to find the device ID which is found in the Settings menu. The full machine ID was not displayed, which required clicking into the digits and manually moving the cursor to see the full code. It was only after doing this we discovered that hovering over the server name in the device tree screen displays the full machine ID!

The next task is to email the ID code to Wavestore, and a demo licence is returned. The process took around five minutes.

Once licensed, you can start to explore the GUI. It has a modern and clean feel, and whilst it does make use of device trees, the cornerstone of some early Windows server interfaces, the overall feel is one of simplicity.

There are predominantly two main views: Normal and Setup. There are two other view options for Search and Maps, and these create pop-up windows for their relevant tasks.

The set-up view is where most installers and integrators will start, and it is made very easy to navigate due to a tabbed approach. A scrolling icon-based list across the top of the screen allows the selection of individual menu pages.

These include user management, devices, time and region, network configuration, Active Directory, email server, server groups, failover server, schedules, customisation of channel trees, server upgrades, event rules and notifications, I/O devices, disk management, metadata protocols, security and advanced configurations.

With a server appliance, a number of these menus will need little or no adjustment in many applications. However, where tweaks are required, the option is there.

Simplicity remains key to the GUI. For example, the export process has been cut down to very simple stages. The operator simply identifies the start and end point of the video, and a single click sets up the export.

The set-up process is relatively straightforward. With regard to camera discovery, Wavestore V6 found all of the cameras at the first time of asking. These were then added, with an automated request taking care of the log-in details.

It is worth noting that the same cameras were utilised for the VMS software test in the May 2016 issue of Benchmark, and during this we did come across a few identification issues. However, that was not the case with the Wavestore VMS.

When making certain changes the server process needs to be restarted. This is clearly flagged in the GUI, and there is a button for this purpose. The speed of Linux compared to Windows is evident as the restart takes just a few seconds.

With basic configurations such as device additions (cameras, detectors and any other peripherals) completed, you can start to explore other options. It's best to set up things like schedules before setting more

complex functionality, or you'll find yourself jumping between screens.

The menu for event rules – one of the more popular elements of a VMS solution – is typical of the simplicity associated with the Wavestore product.

Creating a rule is straightforward; add a new rule, name it and select a schedule. You can also select whether the rule is logged or shown on the main screen (this is included in the Event Control pane).

There are then two sub-menus, and these are for the event that starts the rule and the triggered action. Both make use of drop-down menus, and when an option is selected the available devices are displayed. Multiple actions can be selected for the trigger using an 'OR' condition, thus streamlining the process if a range of events have the same action. Additionally, multiple actions can be set using an 'AND' condition.

Events that start a rule can include video motion or events, input devices, video loss or darkening, alarms or warnings, system faults or log-in conditions. Actions can include recording of video or metadata, frame rate increase, triggering an output, audible or text-based alerts, PTZ preset positioning, email of a clip or text, spot monitor switching or setting a 'cause' parameter.

What is interesting is that the Wavestore VMS product was so simple to configure that it had a very intuitive feel. Despite the fact we had an outdated manual due to the last-minute system change, the only time we needed to refer to it was to double-check on some of the terminology used by the manufacturer.

While the installer or integrator will spend most of their time working with the set-up view, the end user will focus more on the main view. This is predominantly based around a single-screen approach. Side panels including

the device tree and system control panes can be maximised and minimised, and other interactive elements include pop-up windows. This delivers a clean interface, and ensures the operator can always get back to the main screen quickly.

Wavestore does also offer a Windows-based Client for remote connectivity. For local control, the user can work from the 'Normal' view.

Camera streams and other data sources are dragged into the display panes, which are flexible and user-configurable. There is an ability to add rows and/or columns if required. Many of the display controls are graphical, which makes operation simple. If new to the interface, all icons include Tool Tips.

Simplicity remains key to the GUI. For example, the export process has been cut down to very simple stages. The operator simply identifies the start and end point of the video, and a single click sets up the export. The only operator interactions relate to basic housekeeping such as file names, encryption needs, etc..

Benchmark spent a short time with a number of end users who offered feedback on the GUI of the devices on test. It was felt that Wavestore V6 offered a clean and simple interface. The vast majority of typical operator interactions were handled well, and the flexibility with regard to layout was also appreciated.

In terms of search functionality, this was felt to be easy to use, but a smart search function was identified as an item to go on the wishlist

by a few people; this is something that Wavestore recognise.

Wavestore V6 felt very much like a VMS designed to interact with third party elements, and additions like video analytics are optional. However, this allows the company to tap into those with expertise in specific disciplines.

Performance was very stable, and there were no crashes, freezes or unexpected behaviour from the software. Processes were fast and responsive, and the appliance was consistent throughout the test.

BENCHMARK VERDICT

Wavestore: Wavestore VMS V6

For some installers and integrators, the Wavestore brand has a perception of being complex, overly technical and only suited to the largest of applications. Interestingly, this isn't the case at all. If you consider the range of available VMS solutions – whether embedded appliances or software-only variants – then Wavestore VMS has one of the most installer-friendly set-ups.

The user GUI is clean, well designed and very intuitive. The manufacturer claims it is the 'operator's favourite GUI', and whilst we wouldn't endorse that, and remembering that such claims are subjective, the feedback from our sample of end users was very positive.

In terms of performance, V6 works well and is consistently stable. It might lack some of the more specialised features of some other VMS packages, such as full control over Boolean operators in the rules engine and advanced search functionality, but it does what it does well. For installers and integrators seeking a solid platform from which to build bespoke integrated solutions, it has to be recommended.