

LEVERAGING VBS3 FOR REMOTE DISTRIBUTED TRAINING

When COVID-19 restrictions suspended training for UK Reservists, the Scottish and North Irish Yeomanry (SNIY) turned to Bohemia Interactive Simulations' VBS3 to keep training online during the pandemic from their homes.

The SNIY is the British Army's newest combat Regiment. SNIY conducted their first distributed training exercises over the internet via Virtual Private Network from their homes in 2020. Soldiers joined the exercises from Northern Ireland, Scotland, London and Canada using the UK MOD's Defence Virtual Simulation (DVS) system (which leverages the power of BISim's VBS3). Up to 40 soldiers logged on to take part in distributed virtual exercises with 18 of those with VBS-capable systems using DVS and the remainder viewing via live stream.

While virtual training can be conducted in online networked environments, military organizations are normally set up to conduct virtual training on bases using a local area network (LAN) for security and other reasons. The SNIY, therefore, used a Virtual Private Network (VPN) to establish a secure LAN for distributed training in an online setting, to achieve their security goals.

The SNIY combined virtual simulation with theory to achieve a complete training package and broaden the scope of training. Virtual training "allows you to do things you can't do regularly in live training like having an operation with artillery or close air support. We can't replicate that on a regular training night," says Captain Gregor Deeming of the SNIY's E Squadron. "It's a very good complement to live field training and for reservists with limited time."



SNIY used VBS3's Jackal LAV to train virtual on TTPs



VBS3 enabled SNIY to work on both individual and collective training

BENEFITS OF VIRTUAL TRAINING ON A DISTRIBUTED ONLINE NETWORK

- Socially distanced training, including from home locations
- Maintaining individual and collective training levels, remotely
- Training with other units without the need for co-location
- Being better prepared for when field exercise is available by repeated virtual practice
- Combining virtual training with theory through commonly used online applications
- Taking the opportunity to conduct Combined Arms training by bringing other arms into training virtually
- Trying out more complex tactics that are infrequently practiced in the live environment

USER GUIDE TO SETTING UP A DISTRIBUTED TRAINING ENVIRONMENT

Note: Each Military organisation will have unique network and software configurations, and local regulations and procedures. This high-level guide to setting up a distributed online training environment using the internet is, therefore, a generic overview. You will need to tailor the setup to your circumstances.

Setting up the VBS3 Client/Server

VBS3 functions as a client/server application. In normal operations on your military local area network (LAN), VBS3 clients will automatically find the server and you can start training. When training on a distributed network using the internet (e.g., including soldiers based at home), VBS3 clients need to find the server and other clients. One way to achieve such a VBS3 networking environment online is shown in the figure.

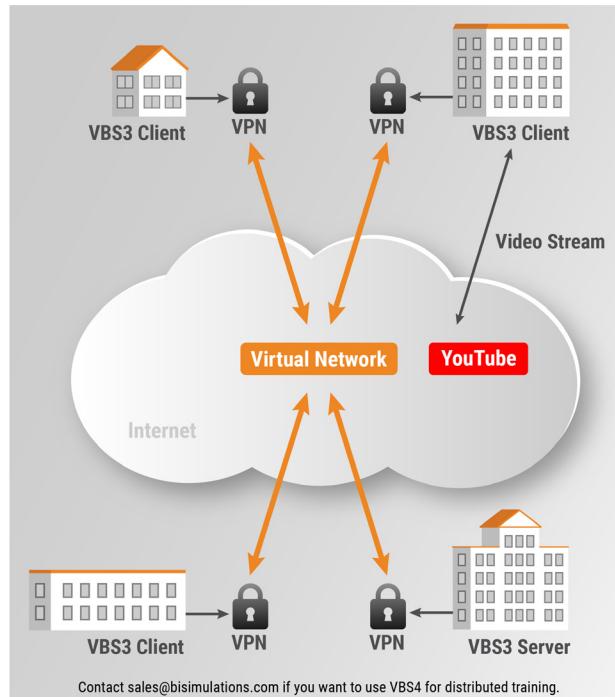
Virtual Private Network

Virtual Private Network (VPN) technology allows computers to connect to each other directly over the internet using a secure connection to create a private network. VPNs create an environment where computers can communicate as if they were in the same physical location using the same network.

There are hundreds of VPN solutions available, all work in the same basic way but security and encryption should be considered to select the best VPN to meet your training requirements. Before training with VBS3 begins, each trainee installs a VPN client software on their own PC and connects to the pre-configured VPN. From that point on, VBS3 clients can see the server just as they can in a normal LAN configuration.

Multicast Networking

Multicast is used by VBS3 as the standard network communication method and, among other things, greatly improves network traffic flow to and from the server allowing for better performance. We would recommend using multicast if possible. However, some VPNs do not automatically allow multicast networking. (Usually, this can be set up when configuring the VPN network.) VBS3 gives you the option to disable multicast communication so special VPN configuration is not required.



Pre-Mission Briefing/After Action Review

Pre-mission briefings and After Action Reviews (AARs) are critical elements of your online training events. There are numerous applications that can be used for such communication and coordination, and you'll need to become familiar with the one you choose.

Discord is one popular example, widely used for voice comms by gamers playing online. (You'll need to set up a Discord 'server'.) Slack is another example of many that can be used for these purposes. (You'll need to set up Slack 'channels'.) Both will run on the architecture shown.

Content and YouTube Viewing

If your training is also combined with theory lessons, virtual simulation may be combined with a 'slide' application such as Microsoft PowerPoint. Such instructional material can be live-shared using the same software used for briefings and AARs. A common enhancement is to show the theory in practice in VBS3 by making a short pre-recorded video.

Not all trainees may have access to VBS3-equipped computers. For trainees without VBS3 PCs, you can set up a YouTube live stream of your event to any device. Many

free software packages are designed to stream games to YouTube and other platforms. Open Broadcaster Software (OBS) is one of the most well-known, best-supported (and free) live-streaming applications. This can be used to capture the VBS3 screen and stream it directly to YouTube for others to watch.

Questions?

If you have additional questions, please contact support@bisimulations.com



Try out complex tactics in VBS3 like call for fire procedures that are infrequently practiced in the live environment

BOHEMIA INTERACTIVE SIMULATIONS

Founded in 2001, Bohemia Interactive Simulations (BISim) is a global software company at the forefront of simulation and training solutions for defense and civilian organizations. BISim utilizes the latest game-based technology and a 200-strong, in-house team of engineers to develop high-fidelity, cost-effective training and simulation software products and components for defense applications.

Globally, more than 500,000 military personnel are trained every year using VBS software products. More than 50 NATO and NATO-friendly countries and over 250 integrators/prime contractors use VBS technology, many making significant funding commitments to extend VBS product capabilities. Customers include the U.S. Army, U.S. Marine Corps, Australian Defence Force, Swedish Armed Forces, French MoD and UK MoD and most major integrators. VBS products have become, by far, the world's most widely used COTS product range in the military-simulation sector, supporting hundreds of military use cases and vastly greater military exploitation than any comparable products.

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