



VBS2™ DESKTOP TRAINER

High Fidelity Simulation - Affordable COTS Technology



Features:

"Real Virtuality 2" 3D engine

Real-time rendering of large, high-fidelity terrain areas with an emphasis on simulating the real world (rotation of the earth, accurate star field, time-lapsed weather, ambient life etc).

Wide variety of 3D representations

Highly accurate 3D representations of ADF, NZDF, USMC and middle eastern units, vehicles and weapons are included, soon to include thermal signatures also. The entire US Army and UK equipment fleets are under development right now.



VBS2™ - Virtual Battlespace 2 - is a fully interactive, three-dimensional, PC-based synthetic environment suitable for military training and experimentation. Developed by Bohemia Interactive, the creator of Operation Flashpoint (Ambush!) and VBS1, VBS2 offers both virtual and constructive interfaces onto high-fidelity worlds of unparalleled realism. VBS2 supports rapid, real-world terrain development and is interoperable via both HLA and DIS (through LVC Game).



A flexible, networked training environment

Imagine a combat team of infantry and armored elements practicing maneuvers with human-operated aircraft and artillery in support - all simulated within the VBS2 virtual environment or linked with other HLA/DIS compliant applications.

Comprehensive scenario editors

The VBS2 Real Time Editor (RTE) has set the standard for run-time authoring capability, allowing any aspect of the simulation to be modified during training. Place an IED, assign behavior to insurgent AI or create a city without the slightest pause in the scenario.

Rapid terrain generation

Create real-world terrain areas rapidly (within a few hours) from source data (DTED, shape, imagery), and import 3D models (buildings, vegetation etc) from 3DS or OpenFlight.

Rapid development

VBS2 saves you money. Through VBS2 script and intuitive modeling tools, complex weapon platforms can be created quickly and cost-effectively. From vehicle checkpoint functionality to UAV interfaces, Bohemia Interactive has proven time and again the true meaning of rapid development.

Flexible support options

Bohemia Interactive has a proven record at delivering on time and on budget, having completed numerous development projects for government agencies around the world. BI can quickly develop models or terrain, modify the simulation engine to suit new requirements, integrate new hardware, provide training courses for VBS2 operators or administrators and also deliver varying levels of product support.

www.virtualbattlespace.com

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Example Applications:

VBS2 is an out-of-the-box training solution capable of simulating a wide range of situations at the tactical level.

VBS2 can be federated with other HLA compliant simulations to meet specific training outcomes, for example connecting dismounted infantry in VBS2 with a high fidelity armored vehicle simulator, or simulating a Special Forces team conducting a counter-insurgency mission while the overall campaign is controlled by a higher level constructive simulation such as JSAF.

Mission rehearsal and/or AO familiarization

Tactical training, up to Combat Team level

Combined Arms or Joint Training

Convoy training (including integration of virtual reality technology)

IED defeat

Analysis of options (decision support)

Fire support / forward air controller training

Complimentary virtual environment for live and constructive simulation or crew procedural trainers

Navigation

Mission simulation (for example aviation elements practicing LZ procedures)

Vehicle checkpoints and area control

Helicopter loadmaster training

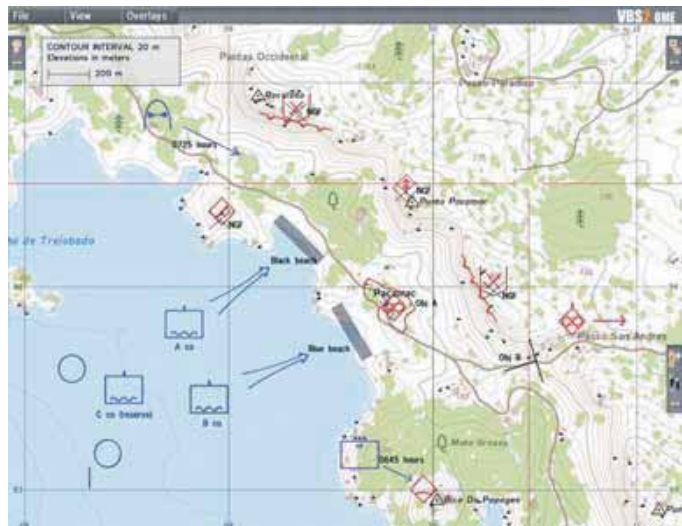
Procedural training for UAV operators

Cultural awareness training

Visualization of weapon effects

Weapon (or platform) familiarization or experimentation

Training in urban environments (eg MOUT)



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VBS2™

DEVELOPMENT SUITE

Bohemia Interactive understands that the end user has a requirement to generate terrain and 3D representations for virtual simulation. We provide a comprehensive suite of development tools to support the VBS2 Desktop Trainer. All of our tools are developed in-house with an emphasis on rapid terrain development and ease of importing 3D models.

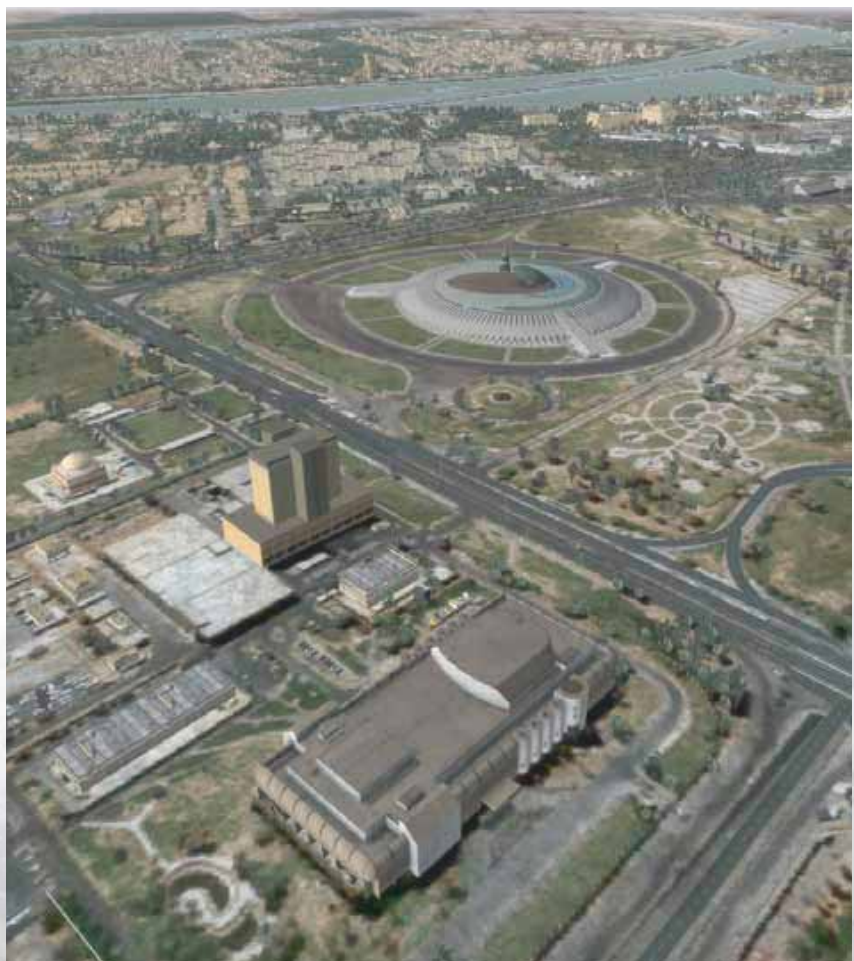
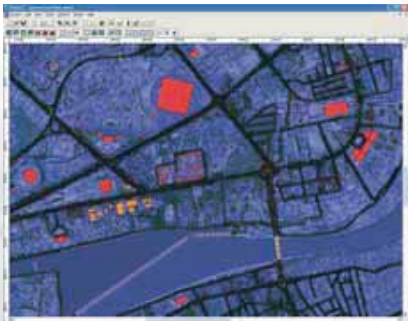
We are working closely with military customers such as the ADF, USMC and US Army to refine the VBS2 Development Suite and new functionality is being added on a continual basis.



Visitor 4

At the heart of VBS2 terrain development is Visitor 4, a lightweight GIS application designed to import raw DTED, shape and imagery and output high-fidelity VBS2 terrain areas. Visitor 4 is being extended to support additional terrain formats, including OpenFlight.

Bohemia Interactive has developed a range of features to optimize the terrain import process, including auto-generation of buildings based upon shape file building footprints.



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Oxygen 2

Accurate 3D models are a key feature of VBS2 and we provide our own modeling tool, Oxygen 2, to import or generate 3D models.

Oxygen 2 is a 3D modeling and texture mapping tool designed by Bohemia Interactive which works hand in hand with the VBS2 engine. Import and export to other modeling platforms is possible via the 3DS format, and in addition FBX support is currently being developed.

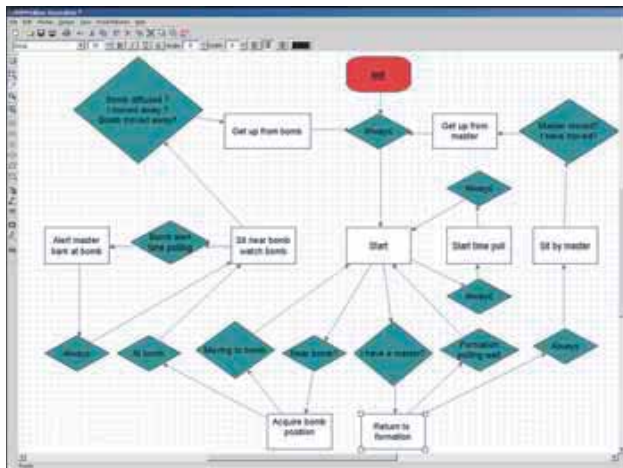
3D vehicle representations can be brought to life through the addition of turreted weapons, crew positions, instrument panels and animation. Bohemia Interactive also offers comprehensive motion capture services to generate animations from human or animal movement and actions.

Oxygen 2 is supported by a 3D viewer that shows a real-time render of the model with full textures and materials using the core VBS2 graphics engine.

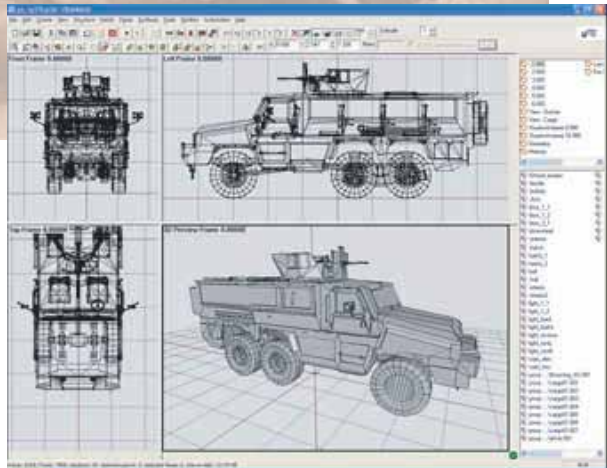
3D representations are highly configurable and the 'VBS2 Configuration Editor' simplifies the process of configuring buildings, entities, weapons and vehicles.

FSM Editor

Artificial intelligence is obviously a key requirement for a modern virtual environment and Bohemia Interactive is continuously improving this aspect of VBS2. Finite state machine (FSM) AI is configurable through the 'FSM Editor', allowing new AI behavior to be scripted relatively easily.



VBS2™



Content Libraries

Bohemia Interactive has modeled hundreds of units, weapons and vehicles for the VBS series including USMC, ADF, US Army, NZDF, Incident Response, Eastern European and Middle Eastern representations. A wide range of structures and vegetation have also been modeled. These models are available for purchase through Bohemia Interactive.



Data Encryption

VBS2 supports on-the-fly data encryption to protect classified content, which may be enabled or disabled as required when packing VBS2 content files. VBS2 is also fully compatible with Armed Assault (also known as ArMA: Combat Operations) community add-ons.

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VBS2™

TACTICAL WEAPONS SIMULATOR

Tired of unrealistic graphics on your virtual firing range? Would you like to seamlessly connect your weapons simulator with a VBS2 classroom? The VBS2 Tactical Weapons Simulator (TWS) is your solution.

Funded by and developed in close partnership with Lasershot Inc (<http://www.lasershot.com>), the VBS2 TWS is a tailor-made software solution for virtual firing ranges (such as the Lasershot MSET-CT or the EST-2000 by Cubic). VBS2 TWS is also designed for virtual convoy training solutions similar to the Virtual Combat Convoy Training (VCCT) System.



Features of VBS2 TWS

- Based upon and fully compatible with the VBS2 Desktop Trainer.
- Low-latency, multiple-shooter hit detection (either laser or live fire) and subsequent creation of the shot in the virtual environment.
- Shot tracking and after-action review (either in-mission or via the VBS2 AAR system).
- Supports scripted camera movement for immersive shoothouse / MOUT / CQB scenarios against targets or realistic human avatars, including context-sensitive or instructor-controlled branching.
- Course creation can be tailored for practice, qualification, use-of-force escalation, judgmental training, and more.



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Features of VBS2 PWS

- Supports attachment of multiple cameras to a vehicle for multiple-screen convoy training.
- Build a virtual firing range quickly and easily using the VBS2 Mission Editor.
- Customizable range layout and scoring system able to replicate any course of fire.
- Influence the scenario at run time through the VBS2 Real Time Editor.
- Support for rapid scenario design (two scenario editors are included; the VBS2 Mission Editor and also the DARWARS Ambush! scenario editor).
- Realistic ballistics and simulation of tracers (including dim tracers).
- Realistic environmental conditions including rendering of natural light sources (sun, moon), shadows, weather conditions and an accurate star field.
- Simulates a wide range of battlefield effects, from explosions through to wind-affected smoke and also realistic damage modelling.
- HLA and DIS compliant through LVC Game by Calytrix.



VBS2: One Software Solution for Multiple Simulation Systems

VBS2 allows commanders, crew, soldiers and support elements to be immersed in the VBS2 environment across multiple simulation systems in an endless number of different configurations.

Briefly consider a typical Mechanized Infantry Platoon, and how VBS2 may provide training for all of the elements of that organization at a fraction of the cost of Live Training...

Perhaps one Squad is located in a Small Arms Trainer using VBS2 TWS, with two Squads in a separate VBS2 classroom. Air support might be provided by a VBS2 Aircrewman Virtual Reality Simulator or flown by real pilots or AI on a VBS2 Desktop Trainer. An Instructor Operator Station (IOS) controls the flow of the scenario and manages OPFOR elements in Real Time. Meanwhile the company commander (or higher) views a constructive simulation such as OneSAF, communicating with VBS2 via HLA. Such a capability is available right now.



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VBS2™ TRAINING COURSES

Bohemia Interactive Australia offers fly-in trainers to teach advanced usage of VBS2 and associated tools to either administrators or developers. Our courses can either follow a set format or be customized to suit specific requirements.

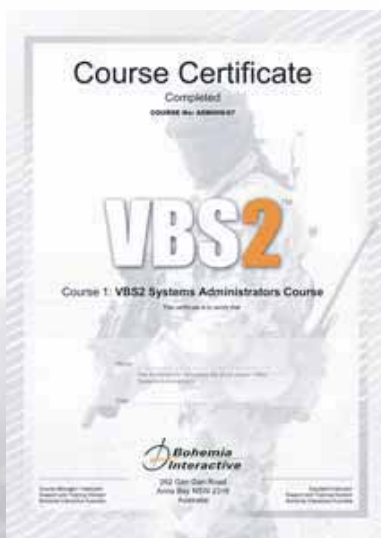


Are you using VBS2 as a training tool?

- Train your system administrators to better support VBS2-based exercises through a week-long 'VBS2 for Administrators' course, where they'll learn skills such as scripting and advanced scenario design.



- Introduce VBS2 as a mission rehearsal tool through the import of real-world terrain data. Our 'VBS2 Terrain Generation' course will teach your administrators how to import DTED, shape and imagery into VBS2 for custom terrain areas.
- Talk to Bohemia Interactive about a custom-designed course to suit your intended usage of VBS2 - learn interface design, advanced scripting or how to model new weapon platforms depending on the type of product you aim to create.



Are you using VBS2 as a development environment?

- Teach your developers how to import 3D representations into VBS2 through our 'Modeling in VBS2' course, which covers topics such as importing a 3D model into Oxygen 2 via 3D Studio Max and configuring 3D representations to operate correctly in the VBS2 virtual environment.



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VBS2™

Pre-Packaged VBS2 Courses

VBS2 for Administrators

Catering for all levels of experience, this course introduces administrators (or trainers) to VBS2. This course will instruct on VBS2 networking, scenario design, basic scripting, administrator options and technical aspects relating to running VBS2 exercises.



VBS2 Terrain Generation

The VBS2 Development Suite provides powerful terrain import and generation functions, however the process can be complex depending on the desired fidelity of the terrain area. Participants will learn how to import DTED, shape and imagery into VBS2. This is an intermediate level course and previous experience at using GIS applications (such as ArcGIS or GlobalMapper) is desired.



Modeling in VBS2

Bohemia Interactive ships a range of 3D modeling tools with the Developer Suite. The core VBS2 modeling product, *Oxygen 2*, is powerful but can be complex depending on the end state (importing a complex weapon platform is more difficult than importing a simple building). This course will teach people familiar with 3D modeling how to import 3D representations into VBS2.

Training Course Specifics

- Pre-packaged training courses are each four days in length and are quoted at a set rate plus travel and accommodation (contact Bohemia Interactive for a quote).
- The Administrator and Terrain Generation courses are designed to accommodate 10 students per instructor.
- The Modeling in VBS2 course is designed to accommodate 5 students per instructor.
- Each student requires a computer to be provided, with VBS2 (and also the VBS2 Developer Suite for courses two and three) pre-installed.
- Custom courses can be delivered as required, contact Bohemia Interactive for more information.



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