



OLIVE

On-Line Interactive Virtual Environment

Frequently Asked Questions - FAQs

Version 2.4.0

FAQs



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1. General

What is OLIVE?

OLIVE is an acronym for On-Line Interactive Virtual Environment. OLIVE is a leading-edge, enterprise-grade, software platform and toolkit that enables organizations to deploy their own persistent, 24/7, secure virtual worlds where users collaborate over computer networks using a video game-like, three-dimensional (3-D) user interface that provides access to a variety of functionality and media. OLIVE-based virtual worlds bring together physical presence, action, voice, data, and media in realistic, context-specific, simulated environments with hypothetical or geospecific terrain.

What are the major features of OLIVE?

With over 10 years of development behind it, OLIVE is one of the most advanced virtual world environments available today, and the winner of numerous awards, including the 2008 Virtual Worlds Innovation Award for the Enterprise. OLIVE provides the benefits of leading remote collaboration functionality along with a fully integrated, open simulation platform that enables extension and customization to any organization's specific requirements. OLIVE delivers all of the key components out-of-the-box for standing up your organization's private, interactive virtual world, including:

- **Hundreds of customizable avatars with photo-realistic appearances** of actual people with realistic facial expressions, associated animations, and behaviors to provide an immersive, personalized experience
- **Fully integrated, high-quality voice over Internet protocol (VoIP)-based spatial audio** that delivers clear, crisp, and spatially accurate voice communication to support free-flowing conversation in-world

- **A wide variety of pre-developed, industry-specific content** so users can change or create clothing, equipment, surroundings, and more whenever the need arises, without having to purchase new items as required in other interactive, virtual worlds
- **Built-in application sharing** using OLIVE's Media Dashboard to support the simultaneous presentation of a vast variety of desktop applications onto in-world screens, enabling remotely located collaborators to view the same rich, multimedia content together unlike other virtual software technology
- **Record and playback** of key activities conducted in-world in any session, from any point in time or point of view, so participants can receive real-time feedback from observers, instructors, or subject matter experts
- **Secure handling of hundreds of simultaneous users**, represented as avatars, with Internet access starting on day one from anywhere in the world
- **A set of integrated software modules and tools** that work together to instantiate highly realistic virtual environments where users interact with one another and their surroundings just as in the real world
- **Multimedia sharing, scalable computing, and network-enabled connectivity** that provide a complete, IT-ready platform for developing and supporting multiplayer, interactive virtual worlds that can run in any IT environment
- **Secure and proven architecture and capabilities** – a critical consideration in making long-term investment decisions about virtual world technology.

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What advantages does OLIVE provide over other virtual world platforms?

OLIVE is virtually the only enterprise-grade, secure, private virtual world environment developed especially for business and government. It provides many advantages over other virtual world platforms available today.

OLIVE is supported by Science Applications International Corporation (SAIC), one of the leading providers of scientific, engineering, and technical services to the U.S. government, commercial and international customers.

SAIC holds the Earned Value Management System (EVMS) certification and Capability Maturity Model Integration (CMMI®) Level 5 rating in systems engineering and in software development.

SAIC is constantly developing new features for OLIVE to provide the most advanced capabilities for its enterprise customers. SAIC is committed to the success of its government and commercial teammates and their efforts to become more effective and efficient in the 21st century by fully exploiting the Internet and virtual worlds.

Advantages of OLIVE vs. other leading virtual world technology

| Feature/ Functionality | OLIVE | Other Leading Virtual Technology |
|---|--|---|
| Enterprise-grade | Designed for private, secure enterprise use by business, government, academia, and the public sector | Consumer-grade commercial service |
| Choice of Access | Purchase of license or secure hosting service, not a service | Service on commercial Internet |
| Security | Runs on enterprise networks behind firewalls or in front of them | Typically runs over the commercial internet |
| Third-party Content Development | Provides the OLIVE SDK (Software Development Toolkit) and easily supports integration of third-party content | No |
| Geo-specific Terrain and Databases | Supports real-world terrain and databases and can import and/or create virtually any terrain or database | No |
| Custom Content Development | Supports use of third-party tools for content development | Difficult to use third-party tools |
| Intellectual Property Ownership | Enables customer ownership and export of custom content | No |
| Connectivity | Supports traditional phone conferencing as well as web-based, computer, and cell phone access | No |
| Security Features | Supports encryption, Lightweight Directory Access Protocol (LDAP), and single firewall ports | No |
| Compliance Approval | Can be approved for compliance with Health Insurance Portability and Accountability Act (HIPAA), Family Educational Rights and Privacy Act (FERPA), and Child Online Protection Act (COPA) | No |
| Child Avatars | Yes, COPA-compliant | No |
| Record, After Action Review, and Playback | Yes | No |
| Available on U.S. Government Contracts | Yes, General Services Administration (GSA) Schedule and under U.S. Department of Agriculture vGov Contract AG 3142-C-10-0029 | No |
| Interoperability | Yes, with distributed interactive simulation (DIS)/high level architecture (HLA), Synthetic Environment (SE) Core and other simulation systems | No |

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How is OLIVE being used today?

OLIVE computer-generated, 3-D, synthetic environments support a variety of collaboration, simulation, training and analysis, operations, experimentation, and socialization applications across virtually all industries and organizations. Here are some recent use examples.

- **U.S. Department of Agriculture (USDA) Virtual World vGov Initiative**, where SAIC is delivering the OLIVE software platform to support the development of virtual world solutions for federal employees and managers across departments and agencies through the USDA
- **U.S. Air Force (USAF)**, where SAIC, along with subcontractor InWorld Solutions, is supporting the delivery of operational assessments and two virtual systems for Virtual Family Support and the Use of Avatars in Mental Health for airmen and women on the front line of USAF combat action for the Office of the USAF Surgeon General Telehealth (AF/SG6), Air Force Medical Support Agency (AFMSA)
- **The National Intrepid Center of Excellence (NICoE)** in Bethesda, Md., where the InWorld Solutions system and OLIVE are providing a new virtual therapy modality of treatment to military personnel and veterans with mild traumatic brain injury (mTBI), post traumatic stress disorder (PTSD), and complex psychological health (PH) issues

Recent commercial activity includes collaboration with

- A major Canadian financial institution to provide retail training for distributed branch managers and call center staff
- A global energy company using OLIVE in the development of a global mining safety program and open pit mining simulation to reinforce safety procedures, reduce accidents, and improve the safety of mine workers

- An international global pharmaceutical giant using OLIVE to create virtual customer support groups, supported by experts and aimed at sustaining healthy lifestyle practices in diet, exercise, and nutrition.
- Workplace Technology Research Institute (WTRI), which is testing the use of OLIVE virtual environments for different activities in the workplace

What is the history of OLIVE?

OLIVE was launched in 2000. Since its start, OLIVE software developers have issued eight versions of the virtual software platform to customers. SAIC, initially both a customer and end-user of OLIVE, acquired the virtual software technology in February 2010. SAIC has released two software versions and launched new perpetual software licenses and hosting services in 2010. The company plans to release updates consistently. Today the road map for OLIVE development is constantly evolving based on feedback from OLIVE users.

How is SAIC expanding OLIVE?

SAIC is accelerating the implementation of the OLIVE product road map for development and expansion. With over \$10 billion in revenues and offices in 15 countries, SAIC's global reach is expanding the visibility and application of OLIVE virtual worlds for collaboration, meetings, learning, training, rehearsals, simulations, operations, and a growing variety of special applications – from cognitive behavioral therapy and medical simulation to first responder and emergency management.

OLIVE is part of SAIC's portfolio of end-to-end modeling and simulation, and training solutions, and the SimInsight™ platform of simulation services. The portfolio includes live, virtual, and constructive simulation, gaming, and convergence products, technology, and services. OLIVE enhances SAIC's 3-D virtual environment capability and offerings.

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2. Avatars in the Virtual World

What is an avatar?

Participants in OLIVE-based virtual worlds are represented as fully animated, three-dimensional (3-D) avatars. Avatars are representations of human operators in the virtual world, much like video game characters, and they are the focal point for communication and interaction within OLIVE. You play yourself or a role you may have in a particular meeting, training, exercise, event, or operation. Through your avatar, you can interact, gesture, and speak out loud in the virtual world, just as you would in the real world.

How realistic are avatars in OLIVE?

Unlike other virtual world technology, OLIVE provides avatars with the photo-realistic appearances of actual people, including automated gestures and voice-activated lip synch to provide an immersive and personalized in-world experience. Avatars can be made to resemble the appearance of an actual person by selecting and adjusting existing OLIVE avatar templates, or by processing two to three photographs of the person with the commercial tool FaceGen™ to generate a photographic likeness of the user. OLIVE teammate Vcom3D, Inc., brings authentic cultural avatars (ACAs) to the OLIVE platform with realistic facial expressions and culturally accurate, gestural behaviors that are informed by an extensive Culture Knowledgebase.

In OLIVE, avatars breathe, blink, move their gaze to the center of action, and shift their weight when standing in one place. Users can make their avatars walk, run, sit, jump, drive or ride vehicles, use objects, change clothing, and more, using the keypad on their computer or cellphone. Avatars can select pre-defined or customized destinations and places in OLIVE and teleport to them. Additional OLIVE modules include a medically validated physiological patient model for avatar healthcare and treatment.

Can avatars be customized?

Absolutely. Users can personalize the in-world appearance of any avatar using OLIVE Content Packs or customized content. OLIVE's individual avatar template allows extensive variation of parameters, such as body build, height, weight, age, health, clothing, accessories, and more. All parameters can be customized through the avatar template files, service-oriented web interfaces, or the OLIVE Application Object Model.

OLIVE provides three avatar archetypes for creating male or female avatars, and an approximately 10-year-old child of either gender. Based on these archetypes, creation of new avatars generally involves selection of gender, modifying the body shape using simple sliders, selection of skin color, application of a textured face, and selection of a hair or hat model and clothing. The high degree of flexibility of the archetypes enables rapid creation of new avatars for new scenarios.

The heart of OLIVE's lifelike avatars and immersive environments is its deeply integrated animation system. The OLIVE Animation System supports skeletal animation (skin-and-bones), morphed animation (blending between mesh shapes), and custom combinations of animations to produce complex expressions and combine avatar gestures with facial animations. With OLIVE's sophisticated animation system, avatars can support effective and dramatic presentations of complex and varied sequences of interactions and events in the virtual world.

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3. In-world Communication and Collaboration

How do avatars communicate?

Key to the effectiveness of immersive virtual worlds is the ability for users to feel as if they can naturally communicate with others in the virtual world, just like they do in the real world and regardless of whether they are co-located or geographically distributed in the real world. OLIVE provides high-quality, superior audio in-world and delivers clear, crisp, and spatially accurate voice communication that supports free-flowing conversation in the virtual world.

To communicate, users need a common headset and microphone connected to a computer and a broadband Internet connection or telephonic connection like a cell phone. Unlike other virtual environments, OLIVE enables phone-based attendees, without access to a PC, to hear and be heard in the virtual world.

In OLIVE, users can always see who is talking through the appearance of radio waves over the speaker's head. Unlike many other virtual world systems, speech from an OLIVE avatar is spatially accurate in 3-D, so someone speaking to the right will actually be heard on the right, and someone far away will be heard as speaking more softly than a nearby avatar. OLIVE analyzes the stream of speech and automatically animates the avatar based on their speech. This provides visual cues on the speaker and enhances realism through the speaker's synchronized facial and body animations. OLIVE also supports culturally specific body language and gestures to provide additional cues for non-verbal communication.

How many users can participate in OLIVE at the same time?

OLIVE provides the ability to scale the virtual environment to large numbers of simultaneous participants, simulated non-player entities, and virtual geographic areas of interest. The overall scalability of OLIVE depends on the particular customer application or use case. An

application that requires hundreds of concurrent users to be in a single virtual world location, such as a virtual conference for company employees, is different than an application that supports hundreds of concurrent users in small ad-hoc meetings at many virtual world locations.

The maximum scalability of each application is determined by the number of active 3-D objects, such as avatars or vehicles, in a particular virtual world location and the level of performance of the server hardware. OLIVE provides several performance-tuning options to increase customer performance and the proper level of detail for various 3-D objects in a scene. A secondary scaling consideration to determine the peak level of concurrent users is the available bandwidth in an organization's existing corporate network.

How are data and other information shared in-world?

The OLIVE platform comes with one of the widest varieties of built-in collaboration tools and multimedia sharing. All logged-in participants can see the same applications, data, and images on different screens in the virtual world right on their desktop, as if they were in the same room. OLIVE's rich media, displayed in-world on the Media Dashboard and Shared Screens, includes Microsoft Corporation's PowerPoint® and Word; individual application windows such as Excel®, Project, PDFs, and other Web-based applications; Windows® Desktop; Sharable Content Object Reference Model (SCORM®) learning; shared video files; live streaming video; and more.

PowerPoint presentations or video files can be loaded using drag-and-drop or browsing through the user's native Windows file system. Anyone in the virtual world can load a presentation that other participants can view in OLIVE, and more than one Shared Screen at a time can be presented on the Media Dashboard, enabling the simultaneous display of different media.

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SCORM-based instructor and lesson books can be used in OLIVE, and HTML content in learning modules within a LMS (Learning Management System) can be launched in a Web browser within OLIVE to facilitate e-learning and register completion of specific lessons.

White boarding activity is supported in OLIVE. Users can capture notes in real time by editing a Word document, an Excel spreadsheet, or PowerPoint file that is mirrored to the audience in OLIVE. Users also can share the view and any application on their current desktop. Most pre-configured OLIVE conference and meeting rooms in-world have built-in screens. In addition, avatars can “drop” Shared Screens in several sizes into rooms without screens or outdoor locations.

And unlike most virtual world platforms, OLIVE supports a persistent – always-on – virtual world that is affected by user interactions. This means that changes made by users endure in the virtual world until subsequent changes are made in the same session or a later one. This feature is a major advance over traditional simulation and game architectures where specialized tools and personnel are needed to make changes.

What kind of activity can occur in OLIVE?

Virtual world interactivity in OLIVE is one of the closest substitutes to direct, face-to-face, interpersonal contact available today. The OLIVE experience is exceptional and highly immersive when compared to standard telephony, web, or telepresence-based conferencing. OLIVE enables distributed users to connect in the virtual world just as they would in the real world for meetings, collaboration, simulation, training, learning, exercises, events, operations, remote coordination, and a variety of operations. See the variety of OLIVE virtual worlds in action at <http://www.saic.com/products/simulation/olive/customers.html>

Organizations can use OLIVE for:

- **Collaborative Meetings** – From remote team discussions, weekly updates, sales presentations, and executive fireside chats to brainstorming

exercises, project management reviews, and more, OLIVE enhances engagement of remote participants and reduces costs compared with alternative communication technologies.

- **Training and Learning** – Remote users can receive instructor-led, web-based, or SCORM®-compliant training and/or actively participate in 3-D, experiential, learning scenarios. OLIVE increases user knowledge acquisition and retention, and promotes effective use of remote experts and instructors.
- **Events** – From executive presentations, sales meetings and mission rehearsals to panel discussions, partner forums, and conferences, whenever and wherever small groups to hundreds of participants need to simultaneously collaborate, train and rehearse, OLIVE can be used to reduce travel costs, build social networks, and increase access to constituencies.
- **Operational and Remote Applications** – Remote, in-world users can exchange real-time information to support operational decision-making. Using built-in collaboration tools, applications running on a user’s desktop can be presented to all logged-in users for discussion of a situation and identification of potential outcomes as if they were in the same place. This supports better, faster decision-making.
- **Specialized Applications** – Developers can build solutions around the OLIVE platform, such as disaster preparedness and medical simulation training, or create new and innovative use cases such as groundbreaking behavioral therapy techniques or hazardous military training scenarios. OLIVE’s open, non-proprietary architecture enables virtually unlimited possibilities for the creation of distributed collaboration applications using OLIVE’s life-like human avatars and large, multi-resolution terrain data to create custom environments.

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What applications and content come with OLIVE?

OLIVE's expanding industry and governmental application content packs support a variety of virtual world implementations, including organizational collaboration and meetings; healthcare, medical and life sciences operations; government, defense and public sector exercise training and operations; energy management; transportation logistics; financial services; retail sales; and higher education. Recent additions to OLIVE's expanding virtual world content packs include:

- **Organizational Collaboration and Meetings Content Pack** with 3-D products and scenes' supplement that enables collaboration through additional office and conference room objects and settings
- **Army Content Pack** supplement to support a variety of individual and group training or planning exercises that provide realistic interactions with current weapons, vehicles, and equipment in contemporary urban and country environments
- **First Responder Content Pack** with 3-D products and scenes' supplement that enable a variety of emergency and hazardous material response, safety, transportation, and operations training exercises
- **Navy Content Pack** supplement that supports individual and group training or planning exercises and provides realistic interactions with current ships, weapons, vehicles, and equipment in contemporary port- and ocean-based environments

All of OLIVE's pre-existing object types can be customized to meet any organization requirements. Changing the layout of operation centers, tables and chairs in a restaurant, or the configuration of meeting and training rooms, is just a matter of loading or unloading predetermined sets of content objects.

Can content be customized?

OLIVE includes a series of content packs and a wide library of existing scenes with buildings, vegetation, entrance gates, signs, roads, and sidewalks. Unlike most other virtual world environments, OLIVE also provides a comprehensive set of tools to customize the virtual world environment and create content and almost any virtual object needed to support a variety of meetings, collaboration, learning, training, rehearsal scenarios, and more. Customization can include:

- **Virtual Environments** in which the scenario takes place, including terrain with buildings and roads, trees and scenery details, and building interiors with furnishings
- **Avatars, Animations, and Clothing** that represent training participants, role-players, and any semi-automated characters. Avatar bodies, faces, hair, accessories, body positions, animations, and locomotions that enable avatar movement in an environment are all editable and customizable just like user-driven gestures and facial expressions
- **Interactive Objects** that interact with avatars and the surrounding environments, such as vehicles, weapons, radios, instrumentation, and more
- **Graphical User Interface** that enables participants to pilot their own OLIVE avatars and points of view, express them, manipulate interactive objects, and more.

To make a virtual world truly immersive, the world and the objects in it need to behave with sufficient realism and look like their real-world counterparts. For 3-D character and prop modeling, OLIVE leverages the popular, industry-standard 3ds Max® modeling package and includes a built-in set of plug-ins to produce vivid content for applications. OLIVE plug-ins include a Scene Editor, Emotion and Soundscape Tools, and more. OLIVE also enables 2-D and 3-D artists to easily integrate their work into the virtual world platform.

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4. Security and Firewall Support

How does OLIVE handle security?

Unlike almost all other virtual world environments, OLIVE virtual worlds are private, secure, persistent – always-on – enterprise-grade virtual worlds designed for business, government, and organizations. OLIVE provides a variety of internal and external security measures, as well as flexibility with additional network and account security architectures.

Can OLIVE run behind firewalls?

Absolutely. OLIVE is one of the few virtual world environments that can run fully behind or through firewalls, using a single, open port of your choice that is configured through OLIVE's network multiplexer feature. Organizations have the option to run secure socket layer (SSL) encryption for increased security of all data communications. This allows organizations to use their own SSL security certificates to provide end-to-end communication security to geographically distributed users of the OLIVE system anywhere in the world.

OLIVE server and cluster framework, and administration procedures provide full support for behind-the-firewall operation with standard port requirements or port multiplexing to support single-port communication through firewalls for a superior user experience. This framework simplifies firewall configurations and IT security policy management and enables remote access to the OLIVE system without unacceptable ranges of port numbers.

How secure is individual data in OLIVE?

The provision of privacy, security, avatar identity, and privileges in OLIVE are consistent with enterprise IT standards. A single sign-on for users is provided with integration to an authentication system. In addition, OLIVE contains built-in avatar account lock-out procedures based upon a determined number of failed login attempts.

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5. Cost Options

What is the cost of OLIVE?

SAIC provides customers with a choice of flexible license pricing models, a perpetual license, and/or hosting services for its enterprise-grade OLIVE virtual software platform.

- **The OLIVE pricing model and perpetual license** is for customers seeking to test and develop persistent, secure virtual worlds behind firewalls for collaboration, training, meeting, planning, and operation needs.
- **The OLIVE hosting service** provides commercial, academic and government organizations with a quick, easy, and cost-effective tool to collaborate, meet, train and rehearse in virtual worlds without having to engage IT departments in extensive development, project start-up, and maintenance.
- **The OLIVE 90-day trial license** provides an entry-level developer program for organizations interested in exploring the possibilities and benefits of virtual world applications and/or evaluating and tailoring the numerous, out-of-the-box applications available within OLIVE for potential deployment. This affordable program is designed to provide access to the OLIVE Windows Software Development Toolkit (SDK) with support assistance and enable an in-depth evaluation of OLIVE's extensive virtual world applications.

For commercial and international pricing, contact oliveinfo@saic.com.

What kind of services or support does OLIVE offer?

- OLIVE provides three **Developer Offerings** that give organizations access to the extensive OLIVE Software Development Toolkit (SDK) and

bundled support and training to develop specific applications and/or run pilots using virtual world technology. The offerings include a perpetual license and maintenance service.

- SAIC offers six optional OLIVE **Functionality Modules** that can enhance telephony, the photorealism and physiology of like-like human avatars, and interaction with legacy systems.
- OLIVE makes available seven different **Training Classes and Programs**, from beginner and advanced users to administrators and developers.
- The SAIC OLIVE Team provides comprehensive, **Professional Support** for development and deployment of virtual world applications and hosting of virtual world solutions. SAIC's experienced team of OLIVE engineers, 3-D artists, and operations personnel, backed by OLIVE teammates, can deliver a wealth of specialized expertise. The OLIVE Team can help optimize and cost-effectively develop content, enabling reduced time to market and lowering risk through professional support, training programs, and knowledge transfer.

What kind of return on investment (ROI) can organizations expect?

OLIVE can bring together hundreds of geographically distributed employees across the globe in one virtual world. This can dramatically reduce travel, meeting, and training costs and time.

OLIVE can revolutionize collaboration, meetings, rehearsals, and more by delivering an immersive user experience, superior to conventional audio and web conferencing communications systems, and without the cost or need for the specialized and location-based equipment of telepresence solutions.

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OLIVE can strengthen personnel learning and knowledge retention through its built-in, comprehensive record and replay features. And because OLIVE is persistent – always-on – users can join OLIVE virtual worlds anytime from any place with an Internet connection and at one of the lowest costs available.

Virtually all conventional communications technologies try to re-create the experience of a live, in-person meeting, but usually with higher costs and much less convenience. OLIVE virtual world technology can improve organization results, reduce costs, and enhance individual performance — all of which support ROI.

To view a comparison of OLIVE versus conventional communication technologies, visit <http://www.saic.com/products/simulation/olive/>

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6. Technical Information

How does OLIVE work?

OLIVE is a server-client architecture installed as a software development kit (SDK). Customers can run their own 24/7, persistent, virtual world using OLIVE. An Internet-ready, networked server provides the maintenance and description of the OLIVE world, and manages this world through several separated server roles or processes. Networked computers, installed with the rich OLIVE Client, can connect to the server and log-in to OLIVE using avatar accounts set up in advance.

What operating systems does OLIVE require?

OLIVE is enterprise IT ready, designed to run on mid-range or better PC technology on the client side, using a stand-alone Windows XP® or Vista system, or a Linux® (Red Hat, Inc. or Community ENTERprise Operating System, CentOS) cluster of one or more machines, and a scalable, multiprocessing, computing architecture on the server. A Windows OLIVE server runs all of the server roles in one process, making it suitable for development, testing, and prototyping. Large deployments, involving many concurrently logged-in avatars, are recommended on a Linux cluster of multiple processors or systems where OLIVE can apportion server roles across resources.

The OLIVE Client only runs on Windows® operating systems. With OLIVE v2.4.0, Windows XP® Professional and Windows Vista® are now supported. The OLIVE Server and the OLIVE Client have been tested successfully on Windows 7, and support for Windows 7 is planned in an OLIVE 2011 release.

Does OLIVE run on a Macintosh?

Neither the OLIVE server nor the OLIVE Client runs directly on the Mac OS® at this time. The OLIVE Client has been

tested successfully on a Macintosh® that was installed with a Windows XP or Vista operating system and running under a dual-boot Boot Camp configuration. Some customers have successfully run the OLIVE Client under a Windows® emulation environment, such as parallels.

How do organizations get their own 3-D data in OLIVE?

The primary path for adding custom 3-D content to OLIVE is via Autodesk® 3ds Max® (versions 8, 9, 2008, 2009, or 2010) or SketchUp® (v6 or v7) from Google Inc. There are export plug-ins or tools for those authoring packages to convert content to OLIVE deployment formats (*.om, *.model). The SketchUp export process utilizes industry-standard COLLaborative Design Activity (COLLADA) interchange libraries, so COLLADA-based conversion to static OLIVE models from other authoring tools is available. OLIVE supports *.png and *.dds file formats for textures. Utilizing *.dds for OLIVE is recommended, as transparencies are not supported for *.png

Can real-world location and terrain data be added to OLIVE?

Yes. Depending upon the nature of source data, be it gridded elevation formats or imagery, there are several routes for generating or replicating custom, real-world, geo-located environments. OLIVE utilizes its own open and extensible paging terrain file format called PTF (Page Terrain Format). PTF files can be exported from 3ds Max® or from the set of offline utilities included with OLIVE. For best results, consult with the SAIC OLIVE experts to identify the best development path for your particular kind of source terrain data.

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What development environment does OLIVE require?

The OLIVE platform provides two approaches for creating customized applications: Schema® and C++ code. Although not exactly a full scripting language, organizations can customize OLIVE Content Objects using OLIVE Schema, and change parameters and variables using the web-based Dynamic Programming Model (DPM) Inspector, as well as define services and customize the user interface of the OLIVE Client.

The recommended programming environments for OLIVE are Microsoft Corporation's Visual Studio® 2003 or 2008.

What kind of network requirements does OLIVE have?

The recommended bandwidth for efficient interactivity updates and smooth audio communication with the OLIVE Client is 128-144kbps or legacy ISDN rates or greater. The OLIVE Client has proven communications effectiveness at IEEE® 802.11g (and n) WiFi data rates (50+ mbps) and cellular 3G (~56 mbps) data rates.

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7. OLIVE v2.4.0

What's new in OLIVE v2.4.0?

The primary focus of OLIVE v2.4.0 is to enhance OLIVE's existing capabilities and position it for further growth.

Significant improvements in the OLIVE Client's rendering performance are a big part of OLIVE v2.4.0, concentrating on the two most complex elements of the virtual world – avatars and various terrains – in custom, geo-specific or standard OLIVE environments.

Performance increases of up to 50 percent are realized in v2.4.0, allowing users to run existing datasets with greater performance and including more detail while maintaining current framerates.

OLIVE v2.4.0 includes significantly improved product extensions, such as optional Drupal®-based web interface architecture to help manage avatar client accounts and authentication, and individual avatar inventory management and additions from a visual catalog displayed in a Web browser.

Further enhancements to the Open World API permit easier and more flexible development and communication between OLIVE and external applications, particularly in the area of artificial intelligence (AI)-driven non-player character (NPC) avatar controls.

The 2.4.0 OLIVE release includes an optional games pack for team-building exercises, which includes target practice, off-road racing, boating, and a tag-style capture-the-flag game.

Custom content also is now easier to add with the re-introduction of SketchUp export to OLIVE formats from SketchUp versions 6 and 7.

In addition, small improvements (for example, more saved user interface preferences, like name tag display, persist from session to session) and some bug fixes are included in the OLIVE v2.4.0 release.



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