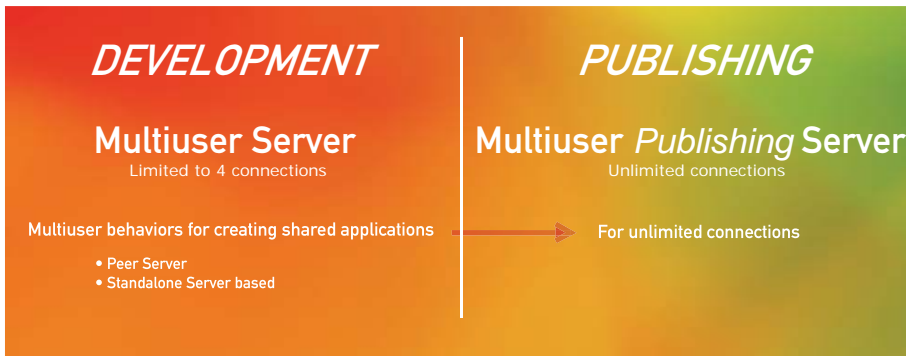


# Multiuser Server

## Deploy Multiuser 3D Applications With Rich Interactivity

Multiuser Server  
Development Edition

Multiuser  
Publishing Server



The Multiuser Server helps developers create multiuser applications based on a high performance networking engine and makes it possible to deploy adaptive 3D content over the Internet or on local networks. Integrate content into your existing infrastructure to work efficiently with your web server, and application server. Stop worrying about arcane networking protocols and the complexity of distributed objects, and concentrate instead on bringing people together with immersive and user-personalized applications.

### Key Features

- Advanced multiuser capabilities for persistent and ad-hoc applications
- Dedicated modules and building blocks for Client and Server side
- Standalone and Peer Server Solution depending on the final needs
- Secured communication

### Create Multiuser Applications The Virtools Way

Multiuser applications are fast and easy to build with Virtools Platform and the Multiuser Server. Powerful technology is once again made simple through Virtools' easy-to-use building blocks. Virtools has already solved many of the annoying problems that make multiuser applications such a challenge to develop, leaving developers free to concentrate on creating interactive multiuser 3D content instead of worrying about network protocols and the underlying infrastructure.

The Multiuser Server provides for two different types of multiuser servers, according to the type of multiuser application created: Standalone Server or Peer Server.

### Multiuser Publishing Server

The Multiuser Server completes Virtools 4 and enables you -in authoring mode- to test your multiuser application with limited connection (4 simultaneous.) To deploy large scale shared content, the use of the Multiuser Publishing Server is required.

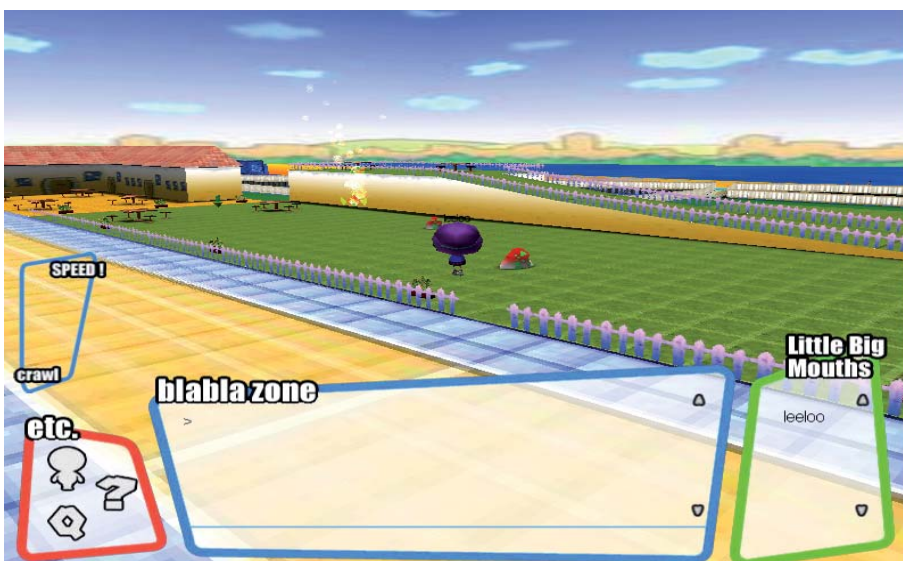
### The Multiuser Server Consists of Two Packs

#### 1. Multiuser Server - Admin Pack

The Admin Pack contains the Server application and Server Side Modules. The Multiuser Server is a standard service that runs on Microsoft Windows. Tools provided let you track a wide range of reports and statistics.

#### 2. Multiuser Server – Authoring Pack

The Authoring Pack contains client side modules for use with Virtools 4. A number of tools, tutorials and sample compositions are included to show authors what can be done with the Multiuser Server.



## Additional Building Blocks Included With The Multiuser Server

Several other non-Network building blocks have been developed to enhance possibilities created with the Multiuser Server and are included in the authoring pack:

- Encrypted Object Load
- Encrypted Sound Load
- Encrypted Texture Load
- Combine Texture
- Get Texture Info
- Movie Load
- Look for local network

## Technical Requirements

### Hardware

- Pentium III or equivalent
- 1Gigabyte (GB) of RAM
- DVD ROM drive
- Monitor capable of displaying 1024 by 768 in 16 bit color (65536 color/ Hi-color)
- Pointing device (mouse, trackball...)
- Direct3D or OpenGL compatible 3D graphic card with 128 MB of RAM
- DirectSound compatible sound card (not a requirement but recommended)
- You should ensure you have the latest official drivers for your graphics card

### Software

- Microsoft Windows (2000, XP)
- Microsoft DirectX 9.0C for DirectX compatible 3D graphic accelerator cards
- For OpenGL, an OpenGL 2.0 compatible graphics card and driver
- Microsoft Internet Explorer 6.0 (for the Online Reference)

*Note: Multiuser Server Standalone - Development Edition is limited to four simultaneous connections.*

*For an unlimited number of simultaneous connections, the Multiuser Publishing Server is required.*

## Multiuser Module

Virtools offers a module to enable advanced, scalable multiuser applications. The Virtools Server provides for two different types of multiuser servers, according to the type of multiuser application created: Virtools Server Standalone or Virtools Peer Server.

The Multiuser Server Standalone solution can accept large numbers of users and fits perfectly to online collaboration or gaming. End-users can therefore participate in persistent multiuser applications using the 3D Life player (Mac and PC), or with 3D XE player, or a standalone player integrating Multiuser Server client components (available for Mac and PC.) This module includes a Server DLL that is part of the Multiuser Server, and a client DLL used by the Virtools platform (authoring) or by the 3D Life Player, 3D XE Player, or a standalone player (run-time).

For ad-hoc applications in which a dedicated server is impractical or unnecessary, the Multiuser Server provides a Peer Server solution. The Peer Server solution allows an end-user (client) to host a Peer Server over a standard TCP/IP network. Clients have the choice of looking for a server on a Local Area Network (LAN), or joining a server over the Internet if the IP address of the Peer Server is known. The Peer Server is limited to 32 simultaneous connections.



## Network Building Blocks

### 1. Multiuser

Without an efficient networking architecture, multiuser applications can fail under heavy traffic loads. Virtools Multiuser solutions keep multiuser applications running fast and stable while maintaining Virtools' unique ease of implementation. Developers can create applications using **fast UDP and guaranteed TCP connections, advanced session and user management, distributed objects for efficient and wide use and sophisticated dead reckoning algorithm support.**

### 2. Server

- Check Connection: Checks the connection between server and client/user computer.
- Connect To Server: Creates a connection to a server from the client/user computer.
- Disconnect From Server: Closes the connection between the client/user computer and server.
- Get Local Host: Retrieves the name and the IP address of the client/user computer.
- Ping: Sends a short message from the client to the server to verify the connection.
- Advanced application rights management.

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