

Thank you for purchasing the ChatVUE, secure chat system. ChatVUE is the most secure, commercially available chat application. The system uses a custom encryption management solution invented by Tunnel VUE, Inc. This encryption management solution modifies the way existing block ciphers work, enabling a symmetric encryption key that is orders of magnitude larger than the crypto cipher would normally use. Additionally, ChatVUE utilizes a one-of-a-kind key management process which allows the application to communicate securely from the very first message, every time. CoreVUE uses a **completely new key for every message/packet sent**, increasing the strength of the security model to a degree never conceived. There is no dependency on any existing key management or crypto initiation processes, avoiding all inherit vulnerabilities from the Public Key Infrastructure and RSA encryption model.

ChatVUE consists of two components. The first is the ChatVUE Server and the second are the ChatVUE clients.

### Server

The ChatVUE (CV) server is a custom application running on a virtual machine. The virtual machine is built on a custom Linux platform and is designed to run using the VirtualBox application. There are a few reasons we've chosen to take this approach with the CV server. They are:

1. Running on a VM means that there are never any records of any chat sessions exposed to the host machine.
2. Running in a Linux VM gives a greater level of stability to the CV server than running as a native MS windows application
3. The VM can be run from a removable drive like a USB stick, giving the user the ability to remove any trace of its existence from the host machine
4. Running individual ChatVUE servers ensures that no centralized group can find and track all private conversations occurring around the globe

### Client

The CV client comes in three flavors; MS Windows, MAC OS, and Linux. The client will connect to a single CV server (for now) when it has been activated. The beta version (v0.60) of the CV client provides a simple chat interface which should be easily recognizable to most users.

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### Basic requirements to run the Server:

1. Dedicated internet service of at least 10mbps
2. An ISP provided, or personal Router/Firewall
3. A computer running a 64-bit operating system like MacOS, Linux or MS Windows 10
4. Your computer must support Virtualization. Some computers that do support virtualization are prevented from doing so in the BIOS. Use this guide to help turn on the option: <https://bce.berkeley.edu/enabling-virtualization-in-your-pc-bios.html>

**Please review the requirements carefully. If you do not have these four critical elements it is probably NOT a good idea to purchase CV Server.**

## Setting up the CV Server

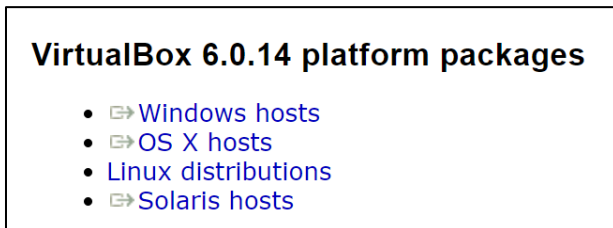
There are steps that must be completed prior to running ChatVUE:

1. Install and configure VirtualBox
2. Download the CV Server Appliance
3. Install the CV virtual appliance
4. Run CV Server for the first time
5. Configure your network to allow CV Communications
6. Create License Key files for your Friends/Family

Follow these steps to install CV Server:

### 1. Install and Configure VirtualBox

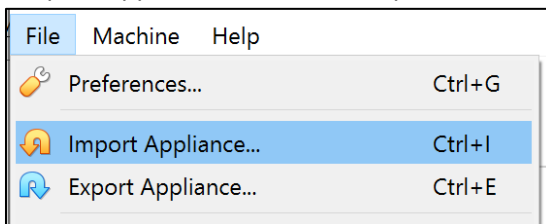
- a. Before downloading the CV Server appliance, download VirtualBox from (<https://www.virtualbox.org/wiki/Downloads>). Choose the VirtualBOX installation that is best suited for your specific host machine.



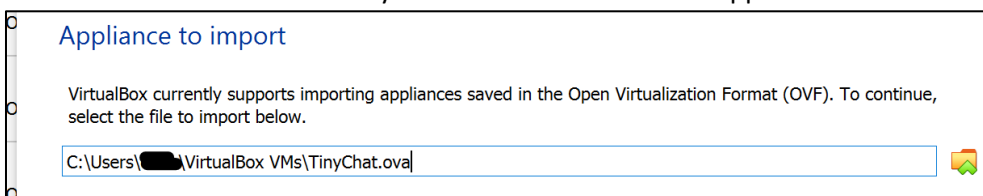
- b. Follow the installation instructions at: (<https://www.virtualbox.org/manual/ch02.html>)
- c. Download the CV Server following the instructions found in your unique download email.  
\*Remember where you placed the download file (typically in the “Downloads” folder for windows)\*

### 2. Install CV Virtual Appliance

- a. Once your CV Server is downloaded open VirtualBox and select “File” from the menu. Then select “Import Appliance” from the drop-list.

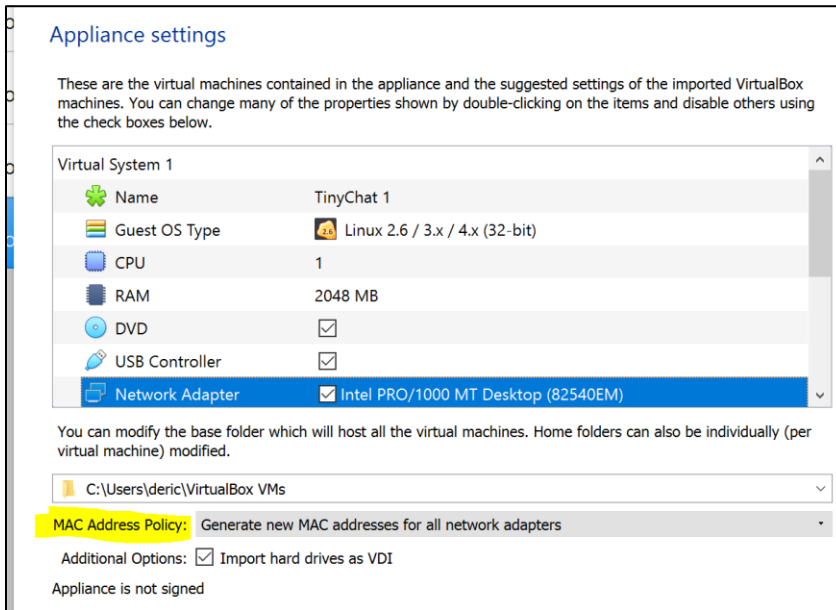


- b. Now use the folder icon to find your downloaded CV server appliance

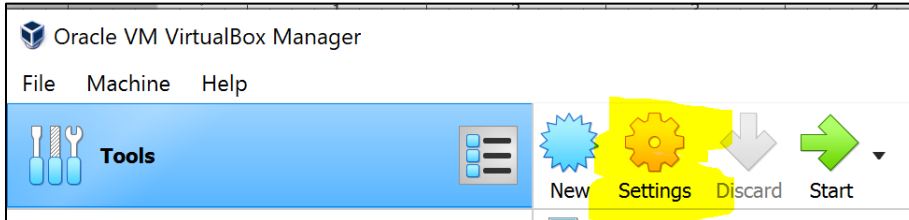


- c. Then select the “Next” button at the bottom of the dialog box

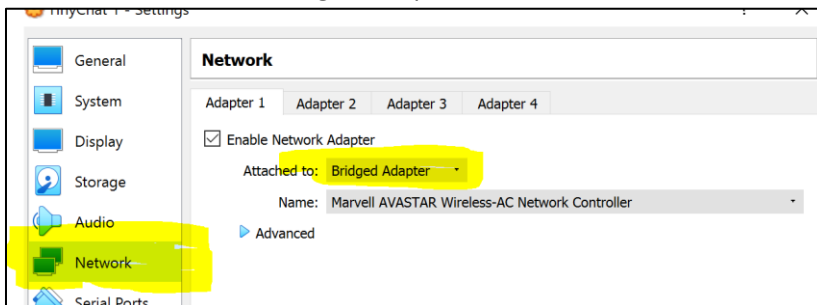
- d. On the next dialog box look for the “MAC Address Policy” setting, make sure the selection is as shown below.



- e. Select the “Import” button.
- f. From the main VirtualBox window you will see the ChatVUE appliance on the left with lots of interesting information about the appliance on the right. There will be a “Settings” icon (looks like a gear) at the top of the right section. Select the “Settings” icon.

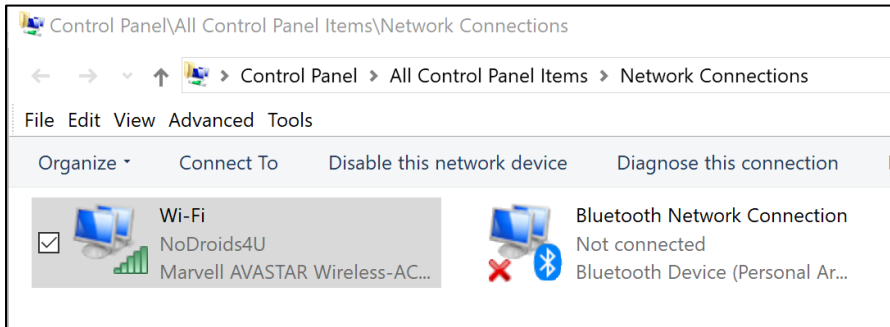


- g. In the settings dialog box, navigate to the “Network” section. Check the “Attached to:” drop-list and make sure it is set to “Bridged Adapter”.



- h. Once “Bridged Adapter” is selected, the “Name” selector will allow you to pick your local network interface. Select whichever interface is the primary use interface. In Windows your primary interface

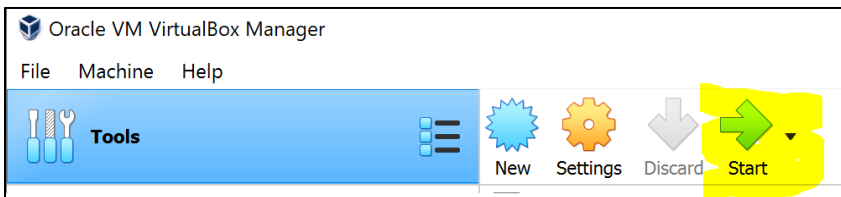
can be found “Control Panel\All Control Panel Items\Network Connections”.



- i. Select the “OK” button after your network setting are correct.
- j. You are now ready to run your CV Server

### 3. Run CV Server for the first time:

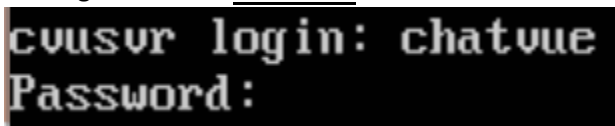
After completing the Appliance installation your CV Server will be ready to run. The best way to run the CV Server is to click the “Start” button in the VirtualBox interface.



In version beta 0.60 follow the steps below to start the CV Server Application:

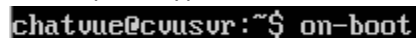
After pressing the “Start” button the CV Appliance will start and you’ll see a lot of information flow across the screen. This information is the system booting up. After a few minutes you’ll see a login prompt.

- 1. The login name is: chatvue



- 2. The password is: **chatvu3**
- 3. After logging in successfully the prompt will change to include “~\$”.

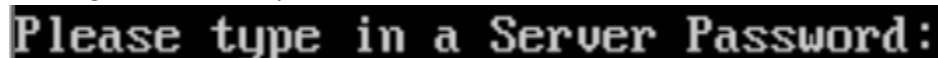
At this point type “on-boot”



- 4. CV Server is starting and running certain checks. After completing the checks, if the server knows this is the first time the server has started, you’ll be asked to provide the license key which was sent to you via email. This key is the same one you needed to download the CV Server Appliance.



- 5. After putting in the license key the server will ask you to set a server password. This password is what you’ll be sending to individuals you want to allow access.



**!!!RECORD THIS PASSWORD!!!**

- At this point the CV Server reaches out to register itself. This step only confirms the license code and the number of concurrent sessions you purchased. After receiving validation, the screen will show the following information:

```
RXD: VAL
*****
Everything came up roses...
```

- The CV Server is started after you see the following message:

```
*****
Everything came up roses...

You're connected to the Internet.
```

- After the server has registered itself it will tell you critical information that you need for the rest of the setup.

**!!You must record these addresses for use later in the setup process!!**

```
Your Web Address is: .106
ChatVUE's local address is: 172.16.1.105

Press <any> key to continue
```

Your Web Address is:  
ChatVUE's local address is:

- After pressing any key to continue please log into the CV Server (see steps 1 and 2 of this section)
- Type "CD Chatvue". The prompt will change what you see below:

```
chatvue@cvusr:~/ChatVUE$
```

- Type in "PCconvert" and the PASSWORD you set in step 5. A sample of this command is shown below:

```
chatvue@cvusr:~/ChatVUE$ PCconvert abc123abc
```

If you ever want to change your server password follow this step and be sure to record your new password.

**!!! YOU MUST COMPLETE STEP 11 OR THE SERVER WILL NOT FUNCTION!!!**

## Configure your Network

### **!!YOU MUST COMPLETE THESE ACTIONS BEFORE ANYONE CAN CONNECT TO YOUR CV SERVER!!**

Most people will be running CV Server on a home network. In most cases home networks are protected by a Router/Firewall combination, usually this is a device provided by the internet service provider (ISP). Nearly 100% of these routers have basic firewall functions which will prevent CV communications from occurring. There are numerous guides on the internet that explain the way to log into your router and modify it to allow specific communications to your network. The following links are provided to help you complete this task:

<https://www.howtogeek.com/66214/how-to-forward-ports-on-your-router/>

<https://www.computerhope.com/issues/ch001200.htm>

<https://www.computerhope.com/issues/ch001201.htm>

<https://www.computerhope.com/issues/ch001324.htm>

There is important information you need during this step.

#### **Finding your Server's IP Address:**

The first item you need is the internal IP Address of the CV Server. In the CV Appliance the internal and external IP addresses are given during the server startup.

The CV Appliance will return a lot of information. The important piece of information is found in the first block. It starts with the words "inet addr:". This is your CV Appliance's internal address. You'll need this information for the router configuration.

#### **Finding your Server's Port:**

The CV Server listens to port **6950** by default. This port is the standard HTTPS port used around the world. If you want to modify the port (for reasons), you can do so by typing in the following command:

```
chatvue@cvusr:~/ChatVUE$ ./CVchat_server -p 443 -d
```

Record the information you need for your external router configuration below:

Item	Value
Internal IP Address	
Port	<b>6950 (DEFAULT)</b>
Type	

### **!!YOU MUST COMPLETE THESE ACTIONS BEFORE ANYONE CAN CONNECT TO YOUR CV SERVER!!**

## Inviting Chat Clients

After you setup your server it's time to invite your family or friends to connect. We recommend emailing your friends an invitation with several important pieces of information:

1. The link to the CV Client download page (<https://tunnelvue.com/chatvue>)
2. The EXTERNAL IP Address of your CV Server
3. The Server Passcode
4. A suggested Name/Nick

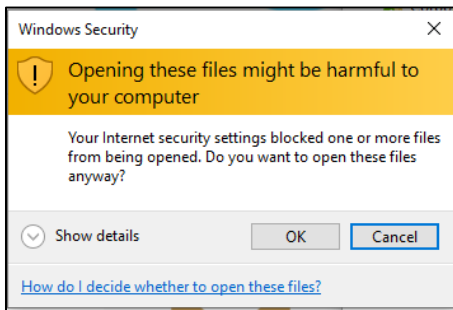
## Setting up the CV Client

There are steps that must be completed prior to running ChatVUE:

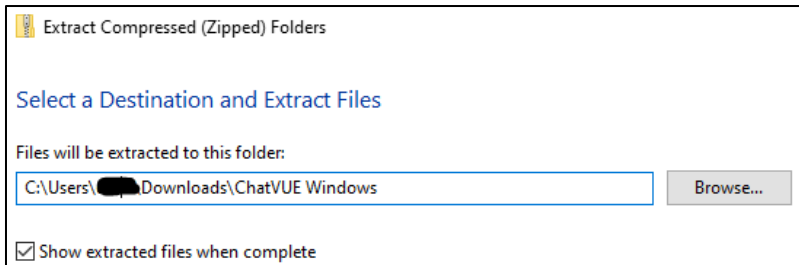
5. Download CV Client from (<https://tunnelvue.com/chatvue>)
6. Install CV Client

The client is delivered in a .ZIP file which contains the application and the necessary folder structure. After downloading the file to your computer please complete the following tasks:

- a. Browse to the download location on your computer. (for Windows systems it will probably be in the “Downloads” folder)
- b. Right-click on the “.ZIP” file and select the “Extract All...” option in the context menu. Sometimes windows will publish a security warning like the one below. Please select “OK” to continue.



- c. You may change the destination folder if you'd like. The ChatVUE Client will run from any location:



- d. Select the “Extract” button  
**[OPTIONAL]** Browse to the extracted location (it may have automatically opened after extract)  
**[OPTIONAL]** Right-Click on the CVclient.exe file and select “Send to” and then select “Desktop (create shortcut)” option.

7. Running CV Client for the first time

After completing the “Install” Tasks complete the following:

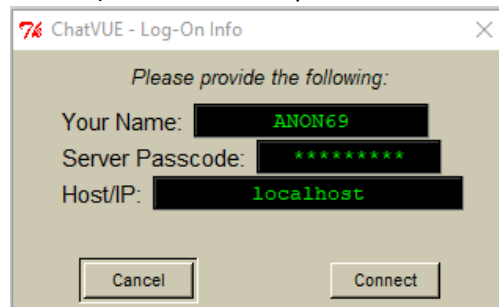
- a. Start the TV Client (from the .exe or the shortcut).

At first start, your computer may bring up some warning boxes that you'll need to clear. Most modern computer operating systems are setup with protection programs which try to ensure you're only running applications that will not harm your computer. While we don't offer any specific warranty, we are certain that the CV Client will run on the Operating Systems without harming your computer. If your computer brings up a warning box like the one below, please select the “More Info” option, and then select the “Run anyway” button.





- b. A dialog box will appear that you will need to complete. There are three elements required. 1) Name\* 2) Passcode and 3) Host IP. These pieces of information will be sent to you by the server owner.

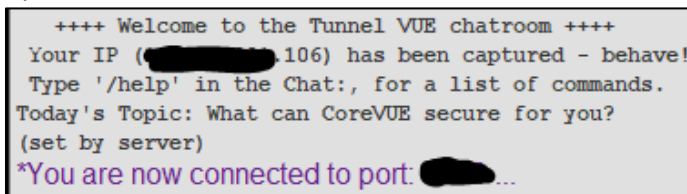


**Be certain to select the “Connect” Button.**

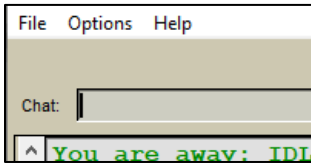
**!!!IMPORTANT!!**

- Please be sure to type in the information accurately as the CV Client will not connect to the server if any of the information is incorrect. If you don't connect to the server close the CV Client and restart.
- The operator of the server may not give you a Name to use. You may use anything you want here. It will become your online Nick

Upon successful connection the CV Client will show a message similar to:



## Operating the CV Client



Using the CV client is very simple. After it is initialized, the user simply types a message into the “Chat” line and presses <enter> to transmit. The CV Client is able to transmit any existing keyboard layouts and send ascii characters such as “♪♪♪.|||l|||●=●|||l|||l.♪♪”.

### 1. Changing Server IP address

- Select “Options” from the menu bar.
- Choose “Change Host” from the drop menu.
- Type in the IP address of your Chat Server host
- Select the “OK” button

### 2. Help Menu

When using the CV Client there are several options available directly from the client. Typing “/help” brings up the available commands with a short explanation of the command’s effect.

Selecting “HELP” from the menu options brings up the same information.

### 3. Connect/Disconnect

The user has two options to manually connect/disconnect from the CV Server. The simplest method is to just stop/restart the CV Client. The second is to select “File” from the menu options and choose “Connect to Server” from the drop-menu. When the client is connected a “✓” is shown. Selecting “Connect to Server” will disconnect the CV Client and the “✓” will disappear.

