

# Using eTakeoff with Terminal Services

This document provides some background on Terminal Services, how that impacts eTakeoff and Installation considerations.

## How Terminal Services Impact eTakeoff

### Software Installation

The eTakeoff software installation does these things that are impacted by Terminal Services:

- Load the application files – In an environment with multiple servers, these files must be installed on any server where an eTakeoff user may be assigned. This is done by performing the install on each server.
- Specify where the application files are located (the Application Folder). This information is provided by the user during installation and stored in the Local Machine section of the registry. Because this section of the registry is shared by all users on a server, all users will use the same Application Folder. This work well and is not a concern.
- Specify where the database files are located (the Database Folder). This information is provided by the user during installation and stored in the Local Machine section of the registry. Because this section of the registry is shared by all users on a server, all users will use the same Database Folder. This can be a problem if each user wants a separate database. This is discussed further in the section on Installation Considerations.

If multiple servers are used, the database folder can NOT be on the server's primary drive. It must be on a drive that will always be available and have the same name no matter which server the user is using.

### User Preferences

eTakeoff remembers many preferences for each user. These include default functionality, window positions, last project used, etc. These are stored in the Current User section of the registry. Because each user has their own version of this part of the registry, the preferences are kept separate for each user.

But the registry is stored on the server. That means as a user moves from server to server, it will only have the preferences last set on each server. This is not critical but may be annoying to the user.

### Licensing

eTakeoff allocates licenses to each computer. The license is installed for each user on each computer but there is no limit to the number of computers a single concurrent license can be installed on. A three-user concurrent license could be installed on a hundred computers. Each time a user starts eTakeoff, a license is allocated from the license manager (in the cloud). Once all the licenses are in use, other users lose functionality until a license is freed up.

## Installation Considerations

The installation varies based on the answers to the questions asked during the sales process and verified during order processing.

**Note:** Concurrent licensing is required for all Terminal Services installations  
Citrix must be configured to run each application instance in a separate session

**Question: Does a given user ALWAYS run on the same server?**

If the answer to this is NO, allow for the following:

- **Client/Server database access must be installed**
- The software will need to be installed on any server an eTakeoff user may use.
- The licenses must be installed for each user on any server that user may use.

**Question: Do multiple users EVER run on the same server?**

If the answer to this is YES (it usually will be), allow for the following:

- All users will have to share the same database
- The license must be installed for each user on the server.

**Question: Will the database EVER be stored on a computer other than the computer where the application is running?**

If the answer to this is YES, allow for the following:

- **Client/Server database access must be installed**

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## Understanding Terminal Services

**Warning:** This is a VERY simplified explanation.

Windows Terminal Services allow client computers to use software that is running on a separate server. This can be useful in several ways:

- Resources can be centralized even though user are scattered.
- Software can be installed once on a server rather than for each user
- Multiple servers can provide load balancing and fail over (more later)

Citrix and other companies offer similar products. The issues for using eTakeoff with any of these products are the same because they are all built on top of the Multi-user capabilities of Windows Server.



Terminal Services provides each user with a “virtual” machine. This machine is partly on the server and partly on the client (terminal):

- Memory and CPU – On the server
- Disk drive – On the server (or A server)
- Keyboard and mouse – On the client. The actions are sent to the server
- Display – On the client. Display instructions are sent from the server

In this environment, multiple users may run simultaneously on a single computer. When that happens, they share the disk drive and operating system. Each user may have individual disk storage but the primary drive (the C drive) is shared. This why the software is only installed once – on the shared C drive.

Large Terminal Server systems may use numerous different servers. In this case there are some features of terminal services that cause the same user to sometimes run on *different servers*:

- Load Balancing – This monitors the load on all the different servers and allocates new users to the server with the lightest load.
- Fail Over – This monitors the servers for failure. When one fails, its users are moved to a different server.