THOROUGHBRED®
SOFTWARE INTERNATIONAL, INC.

T-REMOTECONTROL™

Installation and Upgrade Guide

Version 8.9.1

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INTRODUCTION

T-RemoteControl enables access to Thoroughbred Basic sessions, to see exactly what they see, and control their keyboard. T-RemoteControl can be used for diagnostics, support, demos, and training purposes. And it has many of the features of existing tools for remote administration and support of Thoroughbred-based servers with the added advantage that background tasks and TCONFIGW are also supported and viewable.

System Requirements

You must be running:

- Thoroughbred Basic, Thoroughbred Web Basic or DataSafeGuard version 8.9.1.

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INSTALLATION

Check the License Assignment Card

Serial number information on the License Assignment Card in the Order Confirmation email includes:

- The Basic serial number
- Additional serial number for T-RemoteControl

If any of this information is missing or incorrect, please contact your Thoroughbred dealer.

Select an Installation Directory

T-RemoteControl needs the terminal configuration file TCONFIGW to display data correctly on your terminal. You may install T-RemoteControl in a directory where TCONFIGW resides or you may copy or link TCONFIGW to the installation directory. A TERM.MAP file is needed either in the installation directory or in /usr/lib/basic to select a terminal table using your TERM environment variable. Use the *cd* command to make the installation directory your current directory for the remaining steps.

> **Note:** It is recommended that you install T-RemoteControl in the same directory as Basic.

Begin the Installation or Upgrade

cd to the TSREMOTE path in your Basic home directory.

Use the **install** utility:

```
./install
```

The following screen displays.

```
************************************************************************
*                                                                      *
*             T-RemoteControl Installation Setup                       *
*                                                                      *
************************************************************************
Enter the software serial number (provided on the media label):
                  (         -  )
```

Type the T-RemoteControl serial number and press **Enter**. Do not use the Basic serial number.

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If you receive the message:

```
Invalid ssn for this product. Retry? (Y/N)
```

Y You can correct a typing mistake.

N The **install** utility will return you to the operating system prompt. T-RemoteControl will not be installed. Contact your Thoroughbred dealer to obtain a valid software serial number.

If you typed an invalid value, the system will generate a message:

```
Invalid ssn. Retry? (Y/N)
```

Y You can enter a valid value. If the **install** utility does not accept the T-Remote Control serial number, please contact your Thoroughbred dealer.

N The **install** utility will return you to the operating system prompt. T-RemoteControl will not be installed.

The **install** utility will display the following messages:

```
Installing T-RemoteControl, Please Wait...

T-RemoteControl Installation completed successfully.
```

Activating T-RemoteControl

The first time **tsremote** is executed, a message similar to the following will be displayed:

```
                T-RemoteControl Activation Procedure

          This system contains a temporary installation of
          T-RemoteControl.
          You have less than '30' days before the number
          of active users is restricted to 3.

                        SSN = 123456789-00

                    Installation code = 987654321

          Do you want to enter the Activation Key?(Y/N):
```

Use the displayed serial number and installation code to obtain an Activation Key as described above. You can enter **N** to use T-RemoteControl during the temporary period. When you have an Activation Key, enter **Y** and you will be prompted to enter it.

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PREPARING TO RUN (BEFORE EXECUTING TSREMOTE)

1. Verify UNIX permissions for tsremote are correct. Standard –rwxrwxrwx may require basic sessions to grant tsremote connection access.

   The following commands will allow any tsremote user to connect to any basic session without requiring permission.

   chmod u+s tsremote
   chown root tsremote

2. Verify that the terminal setup files TCONFIGW and TERM.MAP are accessible if tsremote is not installed in the same directory as Basic. You must either copy the files from the Basic directory or create UNIX symbolic links.

   Example:

   ```
   ln -s /myBasicDir/UTILS/TCONFIGW TCONFIGW
   ```

   tsremote (like Basic) will also look in /usr/lib/basic for a TERM.MAP file.

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RUNNING TSREMOTE

When tsremote attaches to a Basic session the tsremote screen will look just like the basic terminal; and the tsremote keyboard is also attached.

1. Execute tsremote.

   ```
   ./tsremote
   ```

2. The system displays a version banner followed by a prompt for the remote user login. Your user login will be shown inside brackets and will be used by default. Enter the user login, for example:

   Enter user login [asmith]: **bsmith**

3. tsremote searches the process list for Basic (b or basic) and Web Basic (tbredserv). Any matches will be displayed. For example:

   5688 bsmith pts/7 /usr/lib/basic/basic iplds
   5718 bsmith pts/8 /usr/lib/basic/basic

4. tsremote then prompts you for the process-id to connect to. If any matches were displayed, the last process-id will be shown in brackets as the default. For example:

   Enter process-id to talk to [5718]: **5688**

   tsremote sends a signal to that process indicating it wants to connect to it.

5. If tsremote is running as root or the same user-id as the Basic process-id entered in step 4, the Basic screen will automatically be displayed.

   Note: If the Basic session is running with a non-windowed device in the IPLINPUT file, there is no initial display.

   If tsremote is not running as root and not the same user-id as the Basic process in step 4, a message similar to the following will be displayed:

   ```
   *** WAITING FOR USER TO ENTER CTL/B OR
   *** OPERATOR TO SEND SIGQUIT TO 5688
   ```

   To complete the connection, the Basic user must press **Ctrl-B**, or a UNIX command must be used to send the Basic process a SIGQUIT signal. For example:

   ```
   kill -SIGQUIT process-id
   ```

   The second option is typically used for connecting to a background process where there is no keyboard.

Note: The tsremote and Basic sessions can be running different terminal emulations.

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Command Line Options

You can specify any of the following values from the command line:

-b passes the name of the basic executable. To include more than one name use ; as a separation character.

./tsremote -b /b;/basic;/tbredserv

-c alternate process argument; overrides –ef

./tsremote -c 'fU mark'

-h displays help for command line arguments

-l passes login name as argument

./tsremote -l sam

-p passes the process id as an argument

./tsremote -p 12304

-u passes user name as argument (see -l)

Security

tsremote uses UNIX signals to communicate with a Basic process. If tsremote is executed by a different user than the Basic user (and not root), then tsremote will not be able to automatically connect. The Basic task user will have to grant permission.

It is best to have the Basic session grant access to the tsremote user by pressing **Ctrl-B**. If the Basic session is a background task, then pressing **Ctrl-B** is not an option. Your only choice is using kill –SIGQUIT or kill -SIGUSR2 to signal the process.

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STARTUP ERRORS

Cannot open terminal configuration file TCONFIGW. tsremote could not find/open TCONFIGW in the current directory or the UTILS subdirectory.

tsremote needs TERM.MAP and TCONFIGW in the current directory. tsremote could not find/open TERM.MAP in either the current directory or /usr/lib/basic, or TERM.MAP does not contain a rule that matches both the TERM environment variable value and a table name in TCONFIGW.

IMPORTANT NOTES

- Basic and Web Basic prior to 8.7.1 will terminate if a UNIX signal is sent that it does not understand. The signal that tsremote sends to a Basic process is an unknown signal to older versions of Basic. **If you try to tsremote to an older Basic, it is equivalent to killing the task.**
- If the Basic session releases, this will break the tsremote connection.
- If the Basic session systems out to a UNIX/Linux prompt, the tsremote session will temporarily be on hold until the Basic session returns.
- Having a second tsremote session try to connect to a Basic process that already has a tsremote connected to it, will fail.
- If a tsremote session crashes or is terminated without using the Quit option, it is possible to reconnect, but it is not recommended.

INTERRUPT KEYSTROKES

Interrupt keystrokes (**Escape** or quit – **Crtl-B**) are not sent to the Basic process via the keyboard. The tsremote session can be interrupted by pressing the **Escape** key or equivalent (i.e. **Ctrl-X** for TbredComm). This will prompt the tsremote user to do one of the following:

E - Send an escape to the Basic process.

B - Send a **Ctrl-B** (quit) to the Basic process.

M – Future use.

Q - Quit the current tsremote session breaking the connection to the Basic process.

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