



Linux installation

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CLERK 2 Linux Installation

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Introduction

Based on customer feedback, Terrier Technologies expects most sites to choose Windows NT/2000/XP as the platform for their CLERK 2 server, and the CLERK 2 *User's Guide* has been written with this in mind.

However, in addition to Windows, the CLERK 2 server will also run on the Linux or Solaris® operating systems. Datafiles are portable, so that files created on one operating system may be easily moved to another.

This booklet describes the different steps that must be followed in order to install the CLERK 2 server on a Linux computer.

Requirements

The hardware requirements (processor speed, RAM, and available hard disk space) for a Linux server are essentially the same as for a Windows server. See Chapter 8 of the CLERK 2 *User's Guide* for more details.

Terrier Technologies has tested the CLERK 2 server using RedHat® Linux version 7.3. Linux variants using similar kernels, such as RedHat 7.x, SuSE 7.x, or Mandrake 7.x should also be acceptable, but are untested. Linux is only supported for Intel architecture systems; this means Alpha processors are not supported.

This booklet assumes that Linux has already been set up on your server, and that your network card is functioning. Before you begin, it is worth testing this by finding a Windows computer that will be used as a CLERK client, choosing **Start|Run** and typing `ping <server>`, where `<server>` is replaced with the machine name or IP address of your Linux server, e.g. `ping server.policedata.com`. If the response “Request timed out” appears, there may be a problem with your computer network; please resolve this problem before proceeding or contacting Terrier Technologies’ support department.

Installation

The server files for CLERK 2 are contained in two RPM files in the `LINUX` directory of the CLERK 2 CD-ROM.

You must become the root user to install CLERK 2. From a shell prompt, type:

```
[user@server user]$ su
Password: <type root password>
[root@server user]#
```

Insert the CD-ROM into the server, ensure that it is mounted, and change to the `LINUX` directory.

```
[root@server user]# mount /mnt/cdrom  
[root@server user]# cd /mnt/cdrom/Linux
```

Note: if the CD-ROM has been mounted automatically, the mount command will give you an error message, which can be safely ignored.

Next, do a directory listing. The results should be similar to the following.

```
[root@server Linux]# ls  
clerk-2.0.0-1.i386.rpm  
FirebirdSS-1.0.0.796-0.i386.rpm  
InstallLinux.pdf  
[root@server Linux]#
```

In particular, you should see two RPM files. The file names may differ slightly from the above, but one will start with `Firebird` and the other will start with `clerk`. You need to install the Firebird package using RPM, then CLERK:

```
[root@server Linux]# rpm --install FirebirdSS-1.0.0.796-0.i386.rpm  
Starting Firebird server: [ OK ]  
[root@server Linux]# rpm --install clerk-2.0.0-1.i386.rpm
```



Note that the InterBase engine will be installed in the `/opt/interbase` directory, and the CLERK datafiles will be installed in the `/clerk2` directory. If you want the datafiles to be stored somewhere else, you should create a symbolic link from that location to `/clerk2` prior to issuing the above RPM commands.

That's it! Assuming you did not receive any errors during the above process, the CLERK 2 server has been successfully installed. If you've finished with the CD-ROM, you may now eject it.

```
[root@server Linux]# cd  
[root@server root]# eject cdrom
```

Networks with no DNS

Small agencies may not have access to a Domain Name Service (DNS) server on their network. For CLERK to work correctly when no DNS is available, the server's `/etc/hosts` file must contain a line specifying the server's IP address. If you do modify the `/etc/hosts` file, you should reboot the server.

Assuming the IP address of your server is `192.168.0.1`, your `/etc/hosts` file might look like this:

```
# Do not remove the following line, or various programs  
# that require network functionality will fail.
```

```
127.0.0.1          localhost.localdomain localhost
192.168.0.1       clerkserver
```



Failure to add this line when no DNS is available will cause CLERK to freeze when the CAD system is started. The server will need to be rebooted to correct the problem.

Testing the server

You may test the server by typing the following:

```
[root@server root]# /opt/interbase/bin/isql
Use CONNECT or CREATE DATABASE to specify a database
SQL> connect 'localhost:/clerk2/sample.gdb' ;
Database: 'localhost:/clerk2/sample.gdb'
SQL> select name from mastername;

NAME
=====

GODWIN,GLEN STUART

SQL> quit;
[root@server root]#
```

Client connection settings

Instructions for using the CLERK client are identical whether the server is running Windows or Linux. However, remember that Linux pathnames use a forward-slash instead of a back-slash. Thus, in the client's connection settings, the datafile should be similar to `/clerk2/clerk2.gdb` or `/clerk2/sample.gdb`.

Licensing

To install a license key on the CLERK server, you first need decide on your “department title”. This appears as the top line in any printed case reports, and in all “Licensed to” messages. Log on to the CLERK client and choose **Settings|System settings**. Enter the department title in the designated field, then close the settings window and exit the CLERK client. Further instructions appear in the *User's Guide*.

Along with the department title, you need to supply Terrier Technologies with an install key, which is a code specific to your server computer. Follow the process below.

```
[root@server root]# /opt/interbase/bin/genlicense
Welcome to the CLERK license key generator.
```

Your install key is: AAAA-BBBB-CCCC

If you have purchased CLERK, please send an email to support@policedata.com requesting a license key. You must supply the above install code, and your department title including correct capitalization. You may also call 1-888-822-3669 ext. 2.

Once you have your license key, type it below, or press Enter to quit.

Enter license key: **AAAA-BBBB-CCCC-DDDD**

Your license key has been installed. Thanks for purchasing CLERK!
[root@server root]#

Remember, Terrier Technologies needs to receive both an install key and your department title (exactly as you entered it) before issuing your license key. Once the license key has been installed using the above procedure, you should start the CLERK client and verify that the “unlicensed” message no longer appears.

Unlike datafiles, license numbers are *not* portable across server platforms. If you migrate from one server operating system to another, you will need to obtain a new CLERK license key.

Configuration and administrative tasks

Configuring CLERK

Because CLERK is configured using the client, the instructions in the *CLERK 2 User's Guide* still apply, even when the server is running Linux.

Making or restoring backups

It is possible to use the IBConsole tool for backing up and restoring, as described in Chapter 10 of the *User's Guide*. However, may be faster to run the command directly on the server. The following commands back up and then restore a datafile:

```
[root@server root]# /opt/interbase/bin/gbak /clerk2/sample.gdb /clerk2/sample.gbk  
[root@server root]# /opt/interbase/bin/gbak -r /clerk2/sample.gbk /clerk2/sample_recov.gdb
```

You may wish to automate the backup process using the `cron` feature.

Starting or stopping the server

By default, the CLERK server will start automatically when the Linux computer boots into runlevel 2 or higher. You may stop, start, or restart the CLERK server without rebooting the Linux machine using the following script:

```
[root@server root]# /etc/rc.d/init.d/firebird restart
[root@server root]#
```

Replace the word `restart` by `start` or `stop` as appropriate. Remember that stopping or restarting the server will abruptly terminate all connections; if users are currently logged on, they will not have the opportunity to save their work.

Security issues

User security

A CLERK username is not the same as a Linux username. Thus, having a CLERK username does not automatically grant a user telnet access to the server, and vice-versa. You should not give Linux accounts to personnel simply because they are CLERK users. In particular, deny users access to the `/clerk2` directory. Any person able to read that directory can copy the entire CLERK datafile to their own computer and view its contents.

Firewalls

When newer versions of RedHat Linux are installed, administrators are given the opportunity of configuring a firewall to improve security. Your firewall must allow traffic through to TCP port 3050.

System security

Although the InterBase engine runs as the root user by default, this is not a very good idea for security reasons. After verifying that your CLERK server has been installed and is functioning correctly, it is recommended that you create a new user and group called `interbas` (for example), and change that user to be the owner of the InterBase-related files:

```
[root@server root]# chown interbas:interbas /clerk2
[root@server root]# chown interbas:interbas /opt/interbase
[root@server root]# chown interbas:interbas /opt/interbase/interbase.log
[root@server root]# chown interbas:interbas /opt/interbase/isc*
[root@server root]# chown root:root /opt/interbase/isc_config
[root@server root]#
```

Troubleshooting

- **Trouble installing packages.** Check the version of Linux that you are using, and preferably use RedHat version 7.3.
- **Cannot ping server.** When the server is booted, check that the network interface (generally `eth0`) comes up correctly. Check the network settings, such as the IP gateway address. Check that the firewall is not blocking ping traffic.
- **Cannot connect using CLERK client.** From the client, try running the command `telnet <server> 3050` where `<server>` is replaced with the machine name or IP address of your CLERK server, as it appears in the client's connection settings. If you see the message "connection refused", it is likely that either the firewall is blocking your connection, or the InterBase engine is not running.

