

Easysoft Data Access

SQL-Sage Tetra CS/3 Driver

Installation Guide and User Manual





Version 10.

This manual documents version 1.1.n of the Easysoft SQL-Sage
Tetra CS/3 Driver.

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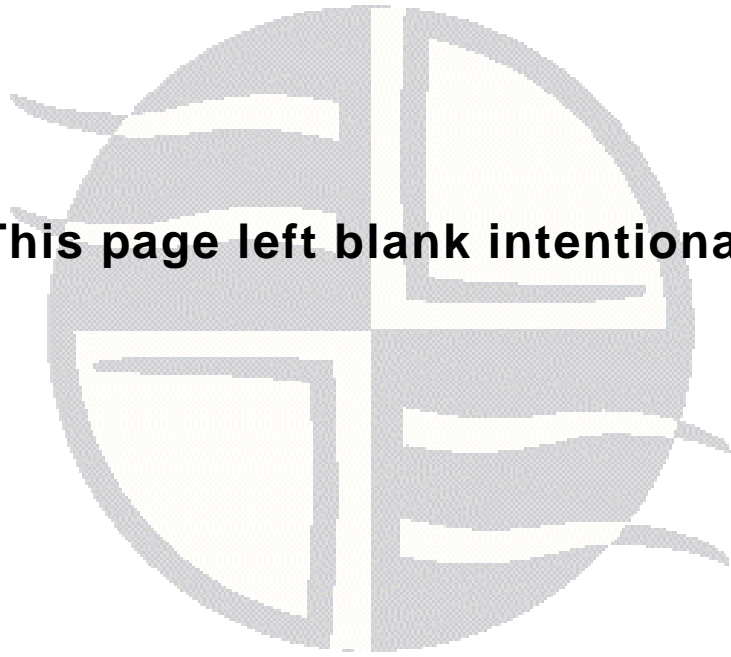
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PREFACE



About this manual

This manual is intended for use by anyone who has a Sage Tetra CS/3 installation on a remote server and needs to connect to the Sage Tetra CS/3 data from ODBC- or JDBC-compliant applications running on computers connected to the server over a network.

Chapter Guide

- **Intended Audience**
- **Displaying the Manual**
- **Notational Conventions**
- **Typographical Conventions**
- **Contents**
- **Trademarks**



PREFACE

About this manual

Intended Audience

It is assumed that you have a reasonable understanding of the operating systems that you are using.

Displaying the Manual

This manual is available in the following formats:

- Portable Document Format (PDF), which can be displayed and printed using the Acrobat Reader, available free from Adobe at <http://www.adobe.com>.
- HTML (the format Easysoft recommend for viewing onscreen).

Notational Conventions

Across the range of Easysoft manuals you will encounter passages that are emphasized with a box and a label.

A *note box* provides additional information that may further your understanding of a particular procedure or piece of information relating to a particular section of this manual:

NB Note boxes often highlight information that you may need to be aware of when using a particular feature.

A *reference box* refers to resources external to the manual, such as a useful website or suggested reading:

REF For more manuals that use this convention, see the rest of the Easysoft documentation.

A *platform note* provides platform-specific information for a particular procedure step:

Linux

In Linux you must log on as the `root` user in order to make many important changes.

A *caution box* is used to provide important information that you should check and understand, prior to starting a particular procedure or reading a particular section of this manual:

Caution!

Be sure to pay attention to these paragraphs because Caution boxes are important!

Information has also been grouped within some chapters into two broad classes of operating system, Windows and Unix, for which side tabs are used to help you turn to the section relevant to you.

Typographical Conventions

To avoid ambiguity, typographic effects have been applied to certain types of reference:

- User interface components such as icon names, menu names, buttons and selections are presented in bold, for example:

Click **Next** to continue.

Where there is a chain of submenus, the following convention is used:

Choose **Start > Programs > Command Prompt**.

- Commands to be typed are presented using a monotype font, for example:

At the command prompt type `admin`.

- Keyboard Commands

It is assumed that all typed commands will be committed by pressing the *<Enter>* key, and as such this will not normally be indicated in this manual. Other key presses are italicized and enclosed by angle brackets, for example:

Press *<F1>* for help.

- File listings and system names (such as file names, directories and database fields) are presented using the monotype plain text style.

Contents

- **Introduction**

Introduces the Easysoft SQR-Sage Tetra CS/3 Driver and gives an overview of the install procedure.

- **Installation**

Explains the installation procedure for installing the Easysoft SQR-Sage Tetra CS/3 Driver onto your server machine.

- **Administration**

Explains how to enable users to access the Easysoft SQR-Sage Tetra CS/3 Driver and grant them rights to the Sage Tetra CS/3 data.

- **Client Setup**

Explains what needs to be done on each client machine to connect to the Sage Tetra CS/3 data on the server.

- **Appendices**

Comprising Configuration Options, a Technical Reference and a Glossary.



PREFACE

About this manual

Trademarks

Note also that although the name UNIX is a registered trademark of The Open Group, the term has come to encompass a whole range of UNIX-like operating systems, including the free, public Linux and even the proprietary Solaris. Easysoft use Unix (note the case) as a general term covering the wide range of Open and proprietary operating systems commonly understood to be Unix ‘flavors’.

Easysoft and Easysoft Data Access are trademarks of Easysoft Limited.

INTRODUCTION

1

Introducing Easysoft Data Access

Easysoft Data Access is a series of programs that allow you to have heterogeneous access to any database on any platform.

With Easysoft software you can connect applications on more platforms to more database systems than ever before.

This section explains how the Easysoft SQL-Sage Tetra CS/3 Driver works, and provides an overview of the installation procedure.

Chapter Guide

- **About Sage Tetra CS/3**
- **Introducing the Easysoft SQL-Sage Tetra CS/3 Driver**
- **How the Easysoft SQL-Sage Tetra CS/3 Driver works**
- **Overview of the installation and setup procedure**

INTRODUCTION

Introducing Easysoft Data Access

About Sage Tetra CS/3

Sage Tetra CS/3 is a modular financial system offering a variety of functionality from routine accounting to sophisticated business management tools.

You can combine different modules to tailor the system precisely to your company's needs.

Sage Tetra CS/3 is a real-time multi-user system. For example, once an invoice is entered by one user, another user can generate a report drawing on the very latest data.

Sage Tetra CS/3 is also a client server system. When the Sage Tetra CS/3 server is installed on a Unix machine, you might use the Sage Tetra CS/3 Windows GUI client to work with the Sage Tetra CS/3 data from a Windows PC, but it is more difficult to work with the Sage Tetra CS/3 data within other Windows applications such as Microsoft Excel.

This is the shortcoming that the Easysoft SQI-Sage Tetra CS/3 Driver overcomes.

Introducing the Easysoft SQL-Sage Tetra CS/3 Driver

The Easysoft SQL-Sage Tetra CS/3 Driver is an ODBC 3.5 driver which allows you direct access to C-ISAM based Sage Tetra CS/3 data using ODBC-compliant applications such as Microsoft Excel, or JDBC-compliant applications such as bespoke web programs.

Once connected to your Sage Tetra CS/3 data, you can query it for precisely the information you want.

The Easysoft SQL-Sage Tetra CS/3 Driver provides:

- direct support of the Sage Tetra CS/3 Data Dictionary which describes the format of the Sage Tetra CS/3 database. Easysoft reads the table (`dbtable`), column (`dbcolumn`) and index (`dbkey`) definitions on-the-fly, so you do not need to specify them manually. This also means that any user-defined tables are automatically detected, and when you upgrade your Sage Tetra CS/3 installation Easysoft automatically picks up any changes in the Sage Tetra CS/3 files.
- support across multiple Sage Tetra CS/3 companies. You can run queries across multiple companies directly from within the data source.
- easy administration of users and their access rights
- access to all the tables within Sage Tetra CS/3 and full support for its data types
- conformance to ODBC 3.5
- support for the ODBC minimum SQL grammar with the majority of SQL92 extensions.

INTRODUCTION

Introducing Easysoft Data Access

How the Easysoft SQL-Sage Tetra CS/3 Driver works

The Easysoft SQL-Sage Tetra CS/3 Driver is part of the Easysoft Data Access product range: the integrated data access middleware suite created to simplify the development and deployment of powerful ODBC and JDBC solutions with no compromise on performance, functionality and scalability.

The Easysoft SQL-Sage Tetra CS/3 Driver uses established Easysoft Data Access components to achieve its data access:

- the Easysoft ODBC-ODBC Bridge provides full access to any local ODBC data source from any remote client such as Unix, Linux, Open VMS or Windows system.

For example, if your Sage Tetra CS/3 server is on Unix box, a user running Microsoft Excel on a networked PC can connect to the Sage Tetra CS/3 data on the server.

- the Easysoft JDBC-ODBC Bridge provides a Type 3 JDBC access from 100% pure Java Applets or Applications anywhere on the network to ODBC data sources where the Easysoft JDBC-ODBC Bridge server is installed.
- For example, if your Sage Tetra CS/3 server is installed on a Unix box, a Java applet on your company intranet could read and display data from the Sage Tetra CS/3 database.

Integrated with the Easysoft components is unixODBC, the open source ODBC driver manager for Unix, which enables you to configure more than one ODBC driver on your Unix server.

The unixODBC driver manager is installed as part of the Easysoft SQL-Sage Tetra CS/3 Driver installation.

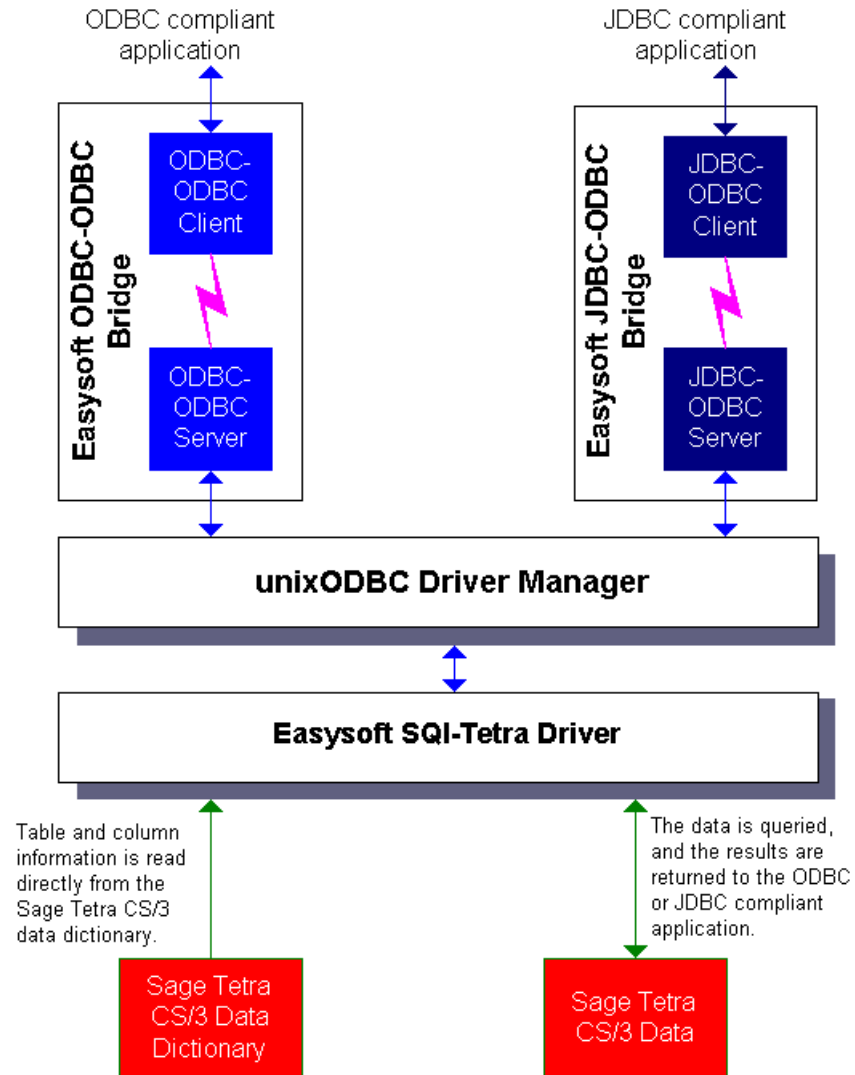


Figure 1: Easysoft SQL-Sage Tetra CS/3 Driver Components

INTRODUCTION

Introducing Easysoft Data Access

From your ODBC or JDBC application, you select a function which involves accessing the Sage Tetra CS/3 data (for example, you run a query to display all outstanding invoices).

The function passes from the application to the Easysoft ODBC-ODBC Bridge client or the Easysoft JDBC-ODBC Bridge client on your local machine, then across the network to the Easysoft ODBC-ODBC Bridge server or the Easysoft JDBC-ODBC Bridge server on the server machine.

It then passes into the unixODBC driver manager which directs the SQL query to the Easysoft SQI-Sage Tetra CS/3 Driver, which reads table and column information directly from the Sage Tetra Data Dictionary and interfaces to the Sage Tetra data.

It converts SQL statements into commands that can query the Sage Tetra CS/3 data, and returns a result set back to the querying application (via unixODBC and the Easysoft ODBC-ODBC Bridge or the Easysoft JDBC-ODBC Bridge).

For more information about the Easysoft ODBC-ODBC Bridge or the Easysoft JDBC-ODBC Bridge, please visit the Easysoft web site at <http://www.easysoft.com>.

You can find out more information about unixODBC from the unixODBC Project web site at <http://www.unixodbc.org>.

NB

This manual describes how to use the Easysoft SQI-Sage Tetra CS/3 Driver with the Easysoft ODBC-ODBC Bridge, but you can install it for use with the Easysoft JDBC-ODBC Bridge equally well.

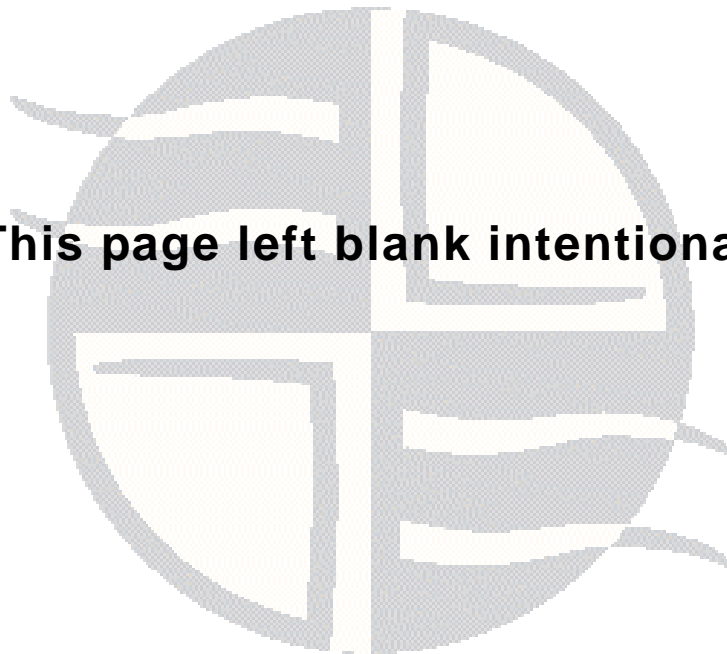
Overview of the installation and setup procedure

To install and configure the Easysoft SQL-Sage Tetra CS/3 Driver:

1. Install the Easysoft SQL-Sage Tetra CS/3 Driver on the server (and optionally the Easysoft ODBC-ODBC Bridge server or Easysoft JDBC-ODBC Bridge server), which also optionally creates a data source on the server to point to your Sage Tetra CS/3 data (see [Installing the Easysoft SQL-Sage Tetra CS/3 Driver on page 28](#)).
2. License the Easysoft SQL-Sage Tetra CS/3 Driver, which also automatically licenses the Easysoft ODBC-ODBC Bridge (see [Licensing the Easysoft SQL-Sage Tetra CS/3 Driver on page 32](#)).
3. Enable users and grant them access to your Sage Tetra CS/3 data (see [Administration on page 47](#)).
4. Optionally, install the Easysoft ODBC-ODBC Bridge client on the machine of each Sage Tetra CS/3 user (see [Installing the Easysoft ODBC-ODBC Bridge client on page 60](#)).
5. Optionally, create a data source on each of your client machines to connect to your Sage Tetra CS/3 data via the Easysoft ODBC-ODBC Bridge (see [Setting up a data source on your Windows client on page 61](#)).

The installation of the Easysoft ODBC-ODBC Bridge and the Easysoft JDBC-ODBC Bridge are explained briefly in this manual, but for full details please refer to the product-specific documentation.

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INSTALLATION

Installing the Easysoft SQI-Sage Tetra CS/3 Driver

This section explains how to install, license and remove the Easysoft SQI-Sage Tetra CS/3 Driver on supported Unix platforms.

The installation assumes you are, or have available for consultation, a system administrator.

Chapter Guide

- **Obtaining the Easysoft SQI-Sage Tetra CS/3 Driver**
- **What to install**
- **Installing the Easysoft SQI-Sage Tetra CS/3 Driver**
- **Uninstalling the Easysoft SQI-Sage Tetra CS/3 Driver**

Obtaining the Easysoft SQL-Sage Tetra CS/3 Driver

There are three ways to obtain the Easysoft SQL-Sage Tetra CS/3 Driver:

- The Easysoft web site is available 24 hours a day at <http://www.easysoft.com> for downloads of definitive releases and documentation.

Select **Download** from the Easysoft SQL-Sage Tetra CS/3 Driver section of the website and then choose the platform release that you require.

First time visitors must complete the new user form and click **Register**. Note that your personal Internet options may require you to login and click **Continue** if you have previously registered.

- The Easysoft FTP server is available 24 hours a day at <ftp://ftp.easysoft.com>, containing free patches, upgrades, documentation and beta releases of Easysoft products, as well as definitive releases.

Change to the `pub/tetra_sqi` directory and then choose the platform release that you require.

- You can order Easysoft software on CD by email, telephone or post (see [Contact Details](#)).

What to install

The selection of components that you require to download in order to configure the Easysoft SQI-Sage Tetra CS/3 Driver varies depending on the platforms on which you wish to run.

All installations must download the Easysoft SQI-Sage Tetra CS/3 Driver software itself.

The name of the Easysoft SQI-Sage Tetra CS/3 Driver install file varies from platform to platform, but is of the form:

- `eda-tetra-x.y.z-platform.tar`

where "*x*" is the major version number, "*y*" is the minor version number and "*z*" is the build index, which is incremented when minor changes are made.

"*platform*" will vary depending on the operating system distribution you require and you may come across files of the form:

- `eda-tetra-x.y.z-platform-variation.tar`

within specific Unix platforms, where "*platform-variation*" refers to alternative versions available for a single platform.

NB

Select the highest release available for your platform within your licensed major version number (installing software of a different major version number requires a new Easysoft license).

INSTALLATION

Installing the Easysoft SQL-Sage Tetra CS/3 Driver

Unix filenames may also be suffixed with `.gz` for a "gzipped" archive, `.bz2` for a "bzip2ed" archive, or `.Z` for a "compressed" archive.

NB

If you download a Unix file using Windows, the browser may corrupt the filename. For example, if you download a `.gz` file and Windows corrupts the filename, it may not be obvious that the file is "gzipped". Use "`file filename`" to find out the file type of the downloaded file.

You can now download a file and begin the installation process.

As long as you stop all running software either from Easysoft or using Easysoft drivers, it is safe to reinstall or upgrade the Easysoft SQL-Sage Tetra CS/3 Driver without uninstalling.

Caution!

If you do uninstall, you should first back up any configuration data that you still need, as uninstalling some Easysoft products will result in this information being deleted (license details remain in place).

CROSS-PLATFORM DATA ACCESS

If you intend to implement cross-platform data access, you also need to install either the Easysoft ODBC-ODBC Bridge (see <http://www.easysoft.com/products/2002/main.phtml>) for remote ODBC access or the Easysoft JDBC-ODBC Bridge (see <http://www.easysoft.com/products/2003/main.phtml>) for remote JDBC access from Java applications.

The Easysoft ODBC-ODBC Bridge consists of two separate client and server components and the Easysoft JDBC-ODBC Bridge consists of a single server component.

NB You cannot 'mix and match' server and client components of the Easysoft ODBC-ODBC Bridge and Easysoft JDBC-ODBC Bridge.

The following components are required for remote ODBC access to Sage Tetra CS/3 data:

- the Easysoft SQI-Sage Tetra CS/3 Driver on the server platform
- the Easysoft ODBC-ODBC Bridge server component on the server platform
- the Easysoft ODBC-ODBC Bridge client component on the client platform

NB The first two digits of the version number must match when the Easysoft ODBC-ODBC Bridge client and server components are installed (see the Easysoft ODBC-ODBC Bridge manual for more information). This does not apply to the Easysoft JDBC-ODBC Bridge, where no specific client installation is required.

The following components are required for remote JDBC access to Sage Tetra CS/3 data:

- the Easysoft SQI-Sage Tetra CS/3 Driver on the server platform
- the Easysoft JDBC-ODBC Bridge on the server platform

**Win
9x**

If you are using Windows 9x with either the Easysoft ODBC-ODBC Bridge or the Easysoft JDBC-ODBC Bridge you will need Winsock2, which can be downloaded from http://www.microsoft.com/windows95/downloads/contents/wu/admintools/s_wunetworkingtools/w95sockets2/.

INSTALLATION

Installing the Easysoft SQL-Sage Tetra CS/3 Driver

Cross-platform data access software can be obtained as follows:

1. From the Easysoft Web site at <http://www.easysoft.com>:

For the Easysoft ODBC-ODBC Bridge:

- Obtain your required platform version for both client and server from the **Multiple Platforms** option on the Easysoft SQL-Sage Tetra CS/3 Driver **Download** page.
- Install the **Client Download** on your client machine (on both Unix and Windows, you need to accept the **Install ODBC-ODBC Bridge Client** option and reject the **Install ODBC-ODBC Bridge Server** option).

This provides the Easysoft ODBC-ODBC Bridge Client.

- Install the **Server Download** on your server machine (you need to accept both the **remote ODBC access** and **Install ODBC-ODBC Bridge Server** options).

This provides the Easysoft ODBC-ODBC Bridge Server, the Easysoft ODBC-SQL SQL Engine and the Easysoft SQL-Sage Tetra CS/3 Driver.

For the Easysoft JDBC-ODBC Bridge:

- Obtain your required platform version from the **Single Platform** option on the Easysoft SQL-Sage Tetra CS/3 Driver **Download** page and install it on your server machine (you need to reject the **Install OOB Server** option).

This provides the Easysoft ODBC-SQL SQL Engine and the Easysoft SQL-Sage Tetra CS/3 Driver.

- Obtain your required platform version from the Easysoft JDBC-ODBC Bridge **Download** page and install it on your server machine.

This provides you with the Easysoft JDBC-ODBC Bridge.

2. From the Easysoft FTP site:

On Windows:

- for the Easysoft ODBC-ODBC Bridge both client and server components are contained in the same Easysoft ODBC-ODBC Bridge executable file held in the ftp://ftp.easysoft.com/pub/tetra_sqi/ directory.
- the Easysoft JDBC-ODBC Bridge server component is contained in the Easysoft JDBC-ODBC Bridge executable file held in the <ftp://ftp.easysoft.com/pub/jdbc-odbc-bridge/> directory. There is no client component to install.

On Unix:

- the Easysoft ODBC-ODBC Bridge server component is bundled within the Easysoft SQL-Sage Tetra CS/3 Driver archive file held in the ftp://ftp.easysoft.com/pub/tetra_sqi/ directory.
- the Easysoft ODBC-ODBC Bridge client component is contained in the Easysoft ODBC-ODBC Bridge archive file held in the <ftp://ftp.easysoft.com/pub/odbc-odbc-bridge/> directory.
- the Easysoft JDBC-ODBC Bridge server component is contained in the Easysoft JDBC-ODBC Bridge archive file held in the <ftp://ftp.easysoft.com/pub/jdbc-odbc-bridge/> directory.

NB

Both client and server components are held in the same executable installation file for the Easysoft ODBC-ODBC Bridge. There is no specific client installation for the Easysoft JDBC-ODBC Bridge.

INSTALLATION

Installing the Easysoft SQL-Sage Tetra CS/3 Driver

Installing the Easysoft SQL-Sage Tetra CS/3 Driver

Although this section covers a range of platforms and the precise output may vary from system to system, the installation process is essentially the same.

INSTALLATION REQUIREMENTS

The installation routine has the following requirements:

- The Bourne shell (or BASH) must either be named (or linked to) `/bin/sh` or the first line of the `install` file updated to the correct location.
- Various common Unix commands such as `grep`, `awk`, `cut`, `ps`, `sed`, `cat`, `wc`, `uname`, `tr` and `find`.

If any of these commands are missing they can be obtained from the Free Software Foundation (<http://www.fsf.org>).

- Depending on the platform, you will need up to 10Mb of free disk space for the installed programs and up to 10Mb of temporary disk space for the installation files themselves.
- You must know the location of your existing Sage Tetra CS/3 installation (e.g. `/u/cs3`).

PREPARATION

1. Log on to your Unix machine as the `root` user.
2. Download the Easysoft SQL-Sage Tetra CS/3 Driver (see "[Obtaining the Easysoft SQL-Sage Tetra CS/3 Driver](#)" on page 22).

3. Place the distribution file in a temporary directory on your Unix machine.

EXTRACTING THE INSTALLATION FILES

4. Change to the directory in which the distribution file resides.
5. Extract the installation files from the distribution file:

If the distribution file has been `gzipped` (i.e. the filename ends in `.gz`), then use:

```
gunzip eda-tetra-x.y.z-platform.tar.gz
```

– OR –

If the distribution file has been `bzip2ed` (i.e. the filename ends in `.bz2`), then use:

```
bunzip2 eda-tetra-x.y.z-platform.tar.bz2
```

– OR –

If the distribution file has been `compressed` (i.e. the filename ends in `.Z`), then use:

```
uncompress eda-tetra-x.y.z-platform.tar.Z
```

6. If the distribution file has not been compacted at all (i.e. the filename ends in `.tar`), then it is ready for extraction:

```
tar -xvf eda-tetra-x.y.z-platform.tar
```

The `tar` program creates a directory of the same name as the `tar` file (without the final `.tar`) containing further archives, checksum files, a script called `install` and a text file called `INSTALL`.

INSTALLATION

Installing the Easysoft SQL-Sage Tetra CS/3 Driver

It also contains a versioned directory to ensure that any shared components already installed by other Easysoft products are only overwritten if those included in this distribution are newer.

NB If you do not wish to keep the original downloaded distribution file you can now delete it safely.

7. Change into the newly-created `eda-tetra-x.y.z-platform` directory.

Caution!

Check through the `INSTALL` file before continuing. It gives full installation instructions for the Unix-literate, and if you are confident in the use and administration of your system, you can follow the instructions in the `INSTALL` file instead of working through the remainder of this section.

BEGINNING THE INSTALLATION

8. Type:

```
./install
```

NB During the installation, you are asked to answer some questions. The default response is displayed in square brackets [], which you can press `<Enter>` to accept or you can choose any of the alternative responses shown in round brackets () by typing the required response and then pressing `<Enter>`.

Occasionally, the install program pauses to give you time to read the information displayed on screen. Press `<Enter>` to continue when you have read the current screen of information.

9. If you have read and agree to the [Easysoft License Agreement](#), type `yes` and then press `<Enter>` to continue.

NB You must type `yes`, not `y`, to continue.

10. Specify the directory into which you want to install the Easysoft SQL-Sage Tetra CS/3 Driver.

If you accept the default base directory, the files are installed into a subdirectory called `/easysoft` within the specified path.

For example, if you accept the default path of `/usr/local`, the files are installed into `/usr/local/easysoft`.

If you specify an alternative directory, the files are installed into that directory but a symbolic link is created from `/usr/local/easysoft` pointing to the install directory. This link is necessary for licensing to work.

11. Depending on the server platform, there may be more than one configuration of the Easysoft SQL-Sage Tetra CS/3 Driver in the distribution file. If this is the case, you will be asked to choose the configuration that best suits your system.
12. The Easysoft SQL-Sage Tetra CS/3 Driver requires unixODBC to be installed. If you do not already have unixODBC installed, it is installed now.

INSTALLATION

Installing the Easysoft SQI-Sage Tetra CS/3 Driver

LICENSING THE EASYSOFT SQI-SAGE TETRA CS/3 DRIVER

13. You are now asked if you want to obtain a license. Accept the default [y] to start the licensing procedure.

A menu of options is displayed.

14. Choose the option to license the Easysoft SQI-Sage Tetra CS/3 Driver.

NB By licensing the Easysoft SQI-Sage Tetra CS/3 Driver, you also license the Easysoft ODBC-ODBC Bridge.

You will then be asked to provide some contact information.

15. Enter your **Name**.
16. Enter your **Company Name**.
17. Enter at least one of **Email**, **Phone** and **Fax** (preferably all three).
18. At the **Ref** prompt, do either of the following:
 - If you want a trial license, leave it blank and press <Enter>.
 - If you want a purchased license, enter your authorization code then press <Enter>.
19. The License Manager displays a menu of options for acquiring your license.

If you have an internet connection you should select 1, *Automatic*. This is the quickest and easiest method unless your firewall or other network obstacles prevent the message from getting through.

– OR –

If you do not have an internet connection, or the `Automatic` option fails, select option 2 to write the required information to a text file in the current working directory called `license_request.txt`, which you will then need to view to obtain a license.

20. The License Manager displays the menu again. Select 0 to exit.

NB

The View Existing Licenses option will not display any license you obtained during this License Manager session. You must quit the License Manager and allow the install script to finish applying the license.

If you chose the automatic licensing method, any licenses that are retrieved are output to a file called `licenses.out` and the install script will ask whether you want to add any possible new licenses it detects in this file to the license database.

21. If you obtained licenses and you want to add them now, enter `y`.

– OR –

If you did not obtain licenses, enter `n`.

– OR –

If you do not see this message, then read on. You will need to complete the offline licensing procedure as explained in **"Completing the offline licensing procedure" on page 34**.

22. After the licensing is complete, the install program asks for the location of your Sage Tetra CS/3 installation.
23. After specifying the location of your Sage Tetra CS/3 installation, the install program sets up a data source for your Sage Tetra CS/3 data.

INSTALLATION

Installing the Easysoft SQL-Sage Tetra CS/3 Driver

Once the Easysoft SQL-Sage Tetra CS/3 Driver is installed and licensed, you can start the Web Administrator program to enable users and grant them access to the Sage Tetra CS/3 tables, as explained in "**Administration**" on page 47.

COMPLETING THE OFFLINE LICENSING PROCEDURE

If at **step 19 on page 32** you chose to write the licensing information to a file, you still need to complete the licensing procedure before the Easysoft SQL-Sage Tetra CS/3 Driver can be activated.

The licensing information is written to the `license_request.txt` file, which contains information including a machine number (a number unique to your machine) which Easysoft require before a license key can be issued.

1. Do any one of the following:
 - Display the `license_request.txt` file (e.g. using `cat license_request.txt`) and note the machine number. Now run a web browser and go to <http://www.easysoft.com/sales/autolicense.phtml>. Log in to Easysoft's web site. On the License Generator screen, choose the type of license you want, then enter your machine number and click **Continue**. You can now close the web browser. You will shortly receive your license key(s) via email.
 - Email the file `license_request.txt` to autolicense@easysoft.com. Your license key(s) will be emailed to you automatically.
 - Email the file `license_request.txt` to license@easysoft.com. A member of the Licensing Department will email the license keys(s) to you.

2. When you receive your license key(s), append them to the file `/usr/local/easysoft/license/licenses`, removing any `LIC:` prefixes.

NB

The Easysoft license responder puts an attachment in its outgoing emails that allows Windows users to activate their licenses with a double-click. If you read your email in Windows, this attachment will be visible but it will not work for licensing Unix versions of the software.

The Easysoft SQL-Sage Tetra CS/3 Driver is now licensed and you can begin using it.

If you need further information about licensing, please refer to the [Licensing Guide](#).

Uninstalling the Easysoft SQL-Sage Tetra CS/3 Driver

To uninstall the Easysoft SQL-Sage Tetra CS/3 Driver, you need to:

- stop the Web Administrator if it is running (the Web Administrator is explained fully in "[Administration](#)" on page 47).
- remove the `usr/local/easysoft/sqi/tetra` directory.

To stop the Web Administrator:

1. Log onto the server machine as the `root` user.
2. Change into the `/usr/local/easysoft/sqi/tetra` directory.
3. You can check if the Web Administrator is running by typing

```
cat /etc/services
```

A list of the ports currently in use is displayed. By default the Web Administrator listens at port 8450.

INSTALLATION

Installing the Easysoft SQL-Sage Tetra CS/3 Driver

4. Type

```
./stop_http.sh
```

5. When asked if you want to stop all http administration servers, type

```
y
```

If you do not stop the Web Administrator and then later perform another installation of the Easysoft SQL-Sage Tetra CS/3 Driver, the installation may not be successful.

To remove the `usr/local/easysoft/sqi/tetra` directory:

6. Change into the `/usr/local/easysoft/sqi/tetra` directory.

7. Type

```
rm -rf *
```

to delete all the files and directories underneath the current directory.

8. Type

```
cd ..
```

to move back up one level in the directory structure.

9. Type

```
rmdir tetra
```

to remove the `tetra` subdirectory.

For details of uninstalling the Easysoft ODBC-ODBC Bridge server and client components, please refer to the Easysoft ODBC-ODBC Bridge manual.

For details of uninstalling the Easysoft JDBC-ODBC Bridge server and client components, please refer to the Easysoft JDBC-ODBC Bridge manual.

CONFIGURATION

3

Configuring the Easysoft SQL-Sage Tetra CS/3 Driver

This section explains how to check that the Easysoft SQL-Sage Tetra CS/3 Driver is connecting your Sage Tetra CS/3 data and how to set up additional local data sources on Unix.

Chapter Guide

- **Creating data sources**
- **Querying a data source**
- **Creating additional data sources**
- **Obtaining write access to your Sage Tetra CS/3 data**

CONFIGURATION

Configuring the Easysoft SQI-Sage Tetra CS/3 Driver

Creating data sources

You can choose to create a data source called `TETRA` to point at your Sage Tetra CS/3 data when the Easysoft SQI-Sage Tetra CS/3 Driver is installed.

This is used as an example in **"Querying a data source" on page 39** to illustrate how to validate that a connection has been made after the installation process has been completed.

In addition to the `TETRA` data source, new data sources may be created, as shown in **"Creating additional data sources" on page 41**, to:

- allow access to multiple Sage Tetra CS/3 files with the same name and layout, but located in different directories
- provide different sets of permissions and privileges for the same database
- allow groups of files from the same database to be configured differently
- allow multiple copies of the same database to be separately configured
- permit an application into which the data source name has been hard-coded to access a database

A correctly configured data source can then be connected to from any ODBC-compliant application.

Querying a data source

Once you have installed the Easysoft SQL-Sage Tetra CS/3 Driver, you can type SQL queries at the system prompt.

This allows you to test whether or not the Easysoft SQL-Sage Tetra CS/3 Driver is successfully accessing your Sage Tetra CS/3 data.

An Easysoft script called `isql` is provided to enable you to run the SQL command without needing to set `LD_LIBRARY_PATH`.

This script determines the `LD_LIBRARY_PATH` values from a separate configuration file (`es.ld.so.conf`) and then runs the `'sql'` command, specifying the data source to query and the user name and password to use to access the data source.

By default, this script specifies:

- the data source name as `tetra` (`dsn=tetra`)
- the user name as `manager` (`uid=manager`)
- the password as `reganam` (`pwd=reganam`).

If you have different logon details (e.g. if you have changed the password for the `manager` user, as explained in "[Administration](#)" [on page 47](#)), edit the script to change those details.

NB

Before editing the `isql` script, you will need to change permissions to the file so that you are able to edit it, but remember to remove write permissions to the file after you have finished.

If you have more than one data source, you can create a copy of the `isql` script for each data source and specify the appropriate data source name in each copy of the script, giving you a script ready to run for querying each data source.

CONFIGURATION

Configuring the Easysoft SQI-Sage Tetra CS/3 Driver

To query a data source using the `isql` script:

1. Change into the `<InstallDir>/easysoft/sqi/tetra` directory.
2. Type:

```
./isql
```

If an 'invalid user' or 'invalid password' error is displayed, check that the script specifies the correct user name and password.

If a line beginning "conn =" is displayed, then the connection has been made and you can type an SQL statement to query the data source.

For example:

```
select * from sys.sop_order_header;
```

To finish your SQL session, press `<Enter>` to return to the system prompt.

Another utility, also called `isql`, is included in unixODBC, the Open Source ODBC Driver Manager for non-Windows platforms, which is installed with the Easysoft SQI-Sage Tetra CS/3 Driver on Unix.

To run this program, go to the

`<InstallDir>/easysoft/unixODBC/bin` directory and type:

```
./isql DSN [UID [PWD]] [options]
```

where

- DSN is the data source name
- UID is the user name
- PWD is the password

Type `./isql` only for option details.

Creating additional data sources

If you have more than one Sage Tetra CS/3 data source, any additional data sources must be added manually so that the unixODBC Driver Manager can access them:

1. Change into the `/usr/local/easysoft/sqi/tetra` directory.
2. Open the file `dsn_template.sample` in an editor.
3. Edit the following settings:
 - replace the data source name, `[TETRA]` by default, with the name of your data source.
 - change `tetra_path` to point to the directory containing your Sage Tetra CS/3 installation.
 - change `schema_path` to point to the directory containing the schema files of the data source. The schema directory stores information such as users, passwords and privileges set up via the Web Administrator, and any views you have created.
4. Save the file under a new name.
5. Change into the `/usr/local/easysoft/unixODBC/bin` directory.
6. Type:

```
odbc_system_dsn=1 ./odbcinst -i -s -f filename
```

where *filename* is the name you chose at [step 4 on page 41](#).

This creates a system-wide data source in the `odbc.ini` file, so that it can be accessed by the unixODBC Driver Manager.

CONFIGURATION

Configuring the Easysoft SQI-Sage Tetra CS/3 Driver

See "**odbc.ini settings**" on page 42 for details of other settings that you can specify in `odbc.ini`.

NB Data sources can also be created by adding their attributes directly into the `odbc.ini` file.

ODBC.INI SETTINGS

If you are running the Easysoft SQI-Sage Tetra CS/3 Driver on a Unix machine, you will probably set up data sources by editing `dsn_template.sample` (see "**Creating additional data sources**" on page 41).

However, if you intend to edit `odbc.ini` directly, you should be familiar with all the data source parameters that can be specified (by default, `odbc.ini` is located in the `/etc` directory):

Setting	Description/Example
[data source name]	e.g. [TETRA]
driver = SAGE_TETRA_CS3	
sort_path = /tmp	Temporary directory
sort_mem_size = 256	Amount of memory allocated for sorts before the results are saved to disk
rs_mem_size = 256	Number of rows that will cache into memory before being stored on disk
rs_path = /tmp	Temporary directory
blob_path = /tmp	Temporary directory
sqicount = 1	Number of SQIs used by the data source
target_string1 = Tetra SQI	Connection string for SQI

CONFIGURATION

Configuring the Easysoft SQL-Sage Tetra CS/3 Driver

Setting	Description/Example
target_driver1 = /usr/local/easysoft/sqi/ tetra/libestetra_sqi.so	Required SQL driver
dtcount = 1	Number of data type libraries present for Sage Tetra SQL
dtlibrary1 = /usr/local/easysoft/sqi/ tetra/libestetra_dt.so	Library for data type conversions
tetra_path = path of Sage Tetra CS/3 installation	e.g. /u/cs3
schema_path = /usr/local/easysoft/sqi/ tetra/schema/	Directory where the schema files for the data source are stored
cache_expiry = 2	How long files are cached open for (default is 2)
cache_maxopen = 30	Maximum number of concurrently cached files (default is 30)
logging = 3	See "Logging options" on page 45.
logfile = /tmp/tetra	See "Logging options" on page 45.
default_uid =	Specify a default user name for the data source. This overrides any user name specified in the data source on the client (so clients need not enter a Target User when configuring their data source).
default_pwd =	Specify a default password for the data source. This overrides any password specified in the data source on the client (so clients need not enter a Target Auth password when configuring their data source).

CONFIGURATION

Configuring the Easysoft SQI-Sage Tetra CS/3 Driver

Setting	Description/Example
spare_columns = 1	Allow columns prefixed with <code>spare_</code> to be returned
uppercase_names = 1	Changes lowercase table names to uppercase so that you do not need to enclose table and column names in quotation marks when querying the data source. Set this to 0 if you do not want your table names uppercased. Table names in mixed case are not affected.
default_company =	If your Sage Tetra CS/3 data contains multiple companies, specify the company that you want to work with by default. You can then omit the company's schema name from your queries. This setting works in conjunction with the <code>one_company</code> setting.
one_company = 1	Set to 1 to retrieve tables from the <code>default_company</code> only. When this is on, the driver effectively ignores any schema name you might specify in a query and uses that of the <code>default_company</code> .

Figure 2: odbc.ini settings

NB

The `default_company` and `one_company` settings do not restrict access to Sage Tetra CS/3 companies via the Web Administrator.

LOGGING OPTIONS

By including particular settings in your `odbc.ini` file, you can specify various levels of logging.

Caution!

Enabling logging will seriously impair performance so remember to disable it once you have finished.

To enable logging, include the `logfile=` and the `logging=` lines in your `odbc.ini` file:

- `logfile=` specifies the directory path and the filename prefix to which the log file is generated. The log filename takes this prefix and the process id. For example, if you set `logfile=/tmp/tetra` then the log filename will be something like `tetra_026503.log`.
- `logging=` specifies the required level of logging. The values you can set it to are:

Log Number	Log Description
1	logs entry to all functions and attributes to all calls in the SQL layer
2	logs exit from all functions
4	logs information regarding the file cache
8	logs information on opening of files and how many reads are performed
16	logs any expression checking that the SQL layer performs
32	logs any errors reported at the SQL layer
64	logs the selection of indexes used when starting a query
128	logs summary information about the SQL function calls

Figure 3: Logging options

CONFIGURATION

Configuring the Easysoft SQL-Sage Tetra CS/3 Driver

You can enable multiple logging options simply by adding the values together. For example, for entry, exit and expression logging, $1+2+16=19$.

Obtaining write access to your Sage Tetra CS/3 data

The Easysoft SQL-Sage Tetra CS/3 Driver includes a facility for the manager user to obtain write access to the Sage Tetra CS/3 data.

This means, for example, that the manager user could display Sage Tetra CS/3 data in Microsoft Access, make changes to it, then save the changes back to the Sage Tetra CS/3 data source.

Caution!

Although Easysoft provides the ability to insert, amend and delete information in the Sage Tetra CS/3 database, no validation is performed against the standard Sage Tetra CS/3 business logic.

Therefore, if you enable this write access, you do so *at your own risk*. Easysoft cannot be held responsible for any damage to, or loss of, your Sage Tetra CS/3 data. Refer to the [Easysoft License Agreement](#) for full warranty details.

To enable write access for the manager user, include the following settings in the `odbc.ini` file (remove these lines or set them to 0 to disable write access).

Setting	Description
<code>allow_insert = 1</code>	Allows new data to be inserted
<code>allow_delete = 1</code>	Allows data to be deleted
<code>allow_update = 1</code>	Allows data to be updated

Figure 4: odc.ini write access settings

ADMINISTRATION

Using the Easysoft Web Administrator

This section describes how to create and grant user access permissions to your data using the Easysoft Web Administrator provided with the Easysoft SQL-Sage Tetra CS/3 Driver.

Chapter Guide

- **Introduction**
- **Starting the Web Administrator**
- **Logging on to the Web Administrator**
- **Giving users access to Sage Tetra CS/3 data**
- **Granting access to tables**
- **Viewing reports**

Introduction

The Web Administrator utility allows you to limit the access that people have to your data by creating users for a data source and specifying their access rights to the data within that data source.

This allows individual users to be prevented from editing, deleting or viewing certain files and tables.

Starting the Web Administrator

To run the Web Administrator it is necessary to start the Web Administrator server and then connect to it from a web browser.

1. Log onto the server machine as the `root` user.
2. Change into the `<InstallDir>/easysoft/sqi/tetra` directory.
3. Type:

```
./start_http.sh
```

Accept the default port (8450) or specify another unused port.

4. Run a Web browser on the machine from where you want to manage your users, and go to `http://server:8450` (where `server` is the name or IP address of the machine on which the Easysoft SQL-Sage Tetra CS/3 Driver is installed and 8450 is the port at which the Web Administrator is listening).

For example, if the Web Administrator is running on the local machine, type:

```
http://localhost:8450
```


The main screen of the Web Administrator displays a list of the data sources which have been configured in the `<InstallDir>/easysoft/etc/odbc.ini` file for use with the Easysoft SQL-Sage Tetra CS/3 Driver (see "**Creating additional data sources**" on page 41 for details of how to set up multiple Sage Tetra CS/3 data sources):



Figure 5: The Web Administrator main screen

If you ever need to stop the Web Administrator, change into the `<InstallDir>/easysoft/isam/bin` directory whilst logged on as root and run `./stop_http.sh`.

You should only ever need to restart the Web Administrator if the server fails or if you want to start it on another port.

Logging on to the Web Administrator

To set up user access and grant rights to tables, you must log on to the Web Administrator as 'manager' and enter the manager password.

You are required to log on when you click **Users**, **Access Rights** or **Reports** for the first time in a Web Administrator session, and again if you select a different data source or change the manager password.

When asked to log on for the first time, enter:

Username: `manager`

Password: `reganam`

Once you are logged on, the first thing you should do is change the manager password.

To do this:

1. Click **Users** to display a list of Sage Tetra CS/3 users.
2. Enter a new manager password in the **Password** box and the old manager password in the **Old Password** box (you must enter your old password or the new password will not take effect).
3. Click **Submit**.

The new manager password is saved.

NB

The manager user automatically has access to all Sage Tetra CS/3 data sources and tables.

Giving users access to Sage Tetra CS/3 data

You can specify which users have access to Sage Tetra CS/3 data via the Easysoft SQL-Sage Tetra CS/3 Driver and you can set up a password for each user to prevent any unauthorized access.

To do this:

1. Log on to the **Web Administrator** as described in "[Logging on to the Web Administrator](#)" on page 50.
2. Click **Users** (you must log on as manager if you have not already done so) to see a list of the users which are currently set up.
3. Select the data source and company for which you want to specify user access.

The Web Administrator lists only companies that contain data, so if you have set up a new company and it is still blank, the Web Administrator does not list it.

Whenever you select a different data source or company, click **Refresh** to update the remainder of the page to ensure that you are viewing the correct data for that selection.

4. In the list of users, set **Allow Access** to **Yes** for the users that need access to the selected data source.

When first enabled, a user has access to all companies within the same data source but no access to any tables within any company. Click **Access Rights** to grant access to tables.

See "[Granting access to tables](#)" on page 53 for more information.

5. Set a password for each user to whom you have enabled access.

Leave the **Password** box empty if you do not want to set a password for a particular user.

6. Click **Submit** to confirm the users and passwords that you have set up:

Datasource	TETRA ▾	Refresh
Company	SYS ▾	Refresh

This list of user names is derived from the list of users currently set up in Sage Tetra CS/3.

User	Allow Access	Password	Old Password
manager	Yes ▾		
user	No ▾		
easysoft	Yes ▾	easysoft	

Figure 6: The Web Administrator User Access Setup screen

NB

When you have enabled a user, you must inform them of their user name and password (if any), because they will need to enter these details when setting up a data source on their own computer to connect to the Sage Tetra CS/3 data. The user name and password are case-sensitive, so ensure that you give your users these details in the correct case.

Once a user has access to a Sage Tetra CS/3 data source you can specify precisely which tables within that data source to which the user will be allowed access (see "**Granting access to tables**" on [page 53](#)).

NB

If the access of a user to a data source is disabled then any rights they have been granted are lost, so that if you later enable that user again, you will need to grant their rights again.

Granting access to tables

You choose which tables a user has access to for each specific Sage Tetra CS/3 data source.

If a data source contains more than one company, you can specify different access rights for each company within the same data source.

For example, you can prevent a user from having any access to one particular company by revoking their rights to all the tables belonging to that company, but still give them access to the tables of another company.

You can set access rights by granting access to all tables, to specific tables, or based on key directories, which are used by Sage Tetra CS/3 to group tables into categories.

For example, all tables beginning with "POP_" are found in the PROFILESDD key directory.

<p>NB A user must have access to the selected data source before you can grant them rights to particular tables. Click Users to enable the access of a user to a data source.</p>

To grant a user access to specific data source tables:

1. Log on to the Web Administrator (see "[Logging on to the Web Administrator](#)" on page 50).
2. Click **Access Rights** (you must log in as manager if you have not already done so).

Choose the data source and company for which you are granting access.

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Using the Easysoft Web Administrator

- Choose the user for whom you want to grant access (select `Public` to make tables accessible to all users).

The tables to which this user has access in the selected company are listed on this page.

Whenever you select a different data source, company or user, click **Refresh** to update the remainder of the page to ensure that you are viewing the correct data for that selection.

Datasource	TETRA ▾	Refresh
Company	SYS ▾	Refresh
Tetra User	easysoft ▾	Refresh

The user must be allowed access to the specified company within Sage Tetra CS/3 before granted tables can be accessed.

Key Directory	By Table	Grant All	Revoke All	Revoke Selection
---------------	----------	-----------	------------	------------------

Figure 7: The Web Administrator Table Access Setup screen

- To grant access to tables according to their key directory, click **Key Directory**.

A list box containing the available key directories becomes available. Select the key directory to which you want to grant access, then click **Grant**.

Repeat this step to grant access to any other key directory.

To remove the access for a user to a particular key directory, select it from the list box then click **Revoke**.

5. To grant access to tables individually, click **By Table**.

The tables are listed alphabetically in the **Available Tables** drop-down list box. Select a table from this list box and then click **Grant**. To remove the access for a user to a table, select it from the list box and then click **Revoke**.

If the selected company has not been set up within Sage Tetra CS/3, the **Available Tables** drop-down list box will show 'No Tables Found'.

6. To grant the user access to all tables in the selected company, click **Grant All**. To remove the user's access to all tables, click **Revoke All**.
7. You can remove the access for a user to particular tables by clicking the **Revoke** box in the list of tables and then clicking **Revoke Selection**.

The tables to which the current user has access are listed here:

Permissions currently allowed for user **easysoft** in company **SYS**

Company	Table	Grantor	Grantee	Privilege	Grantable	Revoke
SYS	SOP_ORDER_DETAIL	manager	easysoft	SELECT	NO	<input type="checkbox"/>
SYS	SOP_ORDER_HEADER	manager	easysoft	SELECT	NO	<input type="checkbox"/>

Figure 8: The Web Administrator Table Access Details screen

- Company - the Sage Tetra CS/3 company in the current data source
- Table - the name of the table
- Grantor - the person who granted the user access to this table

ADMINISTRATION

Using the Easysoft Web Administrator

- Grantee - the user to whom access has been granted
- Privilege - the type of access the user has to this table
- Grantable - whether or not this user can grant other users access to this table. This is NO for all users except manager.
- Revoke - click this box if you want to revoke the user's access to this table. When you click **Revoke Selection**, any tables with this box selected will be removed from this list of tables.

NB

A user must have access to the company within Sage Tetra CS/3 before they can access any tables to which you have granted them rights. Check a user's access to companies within Sage Tetra CS/3 using **System Manager > User Management > User Profiles (Allowed options)**.

Viewing reports

The Web Administrator provides some reports which you can run on your own Sage Tetra CS/3 data, such as to check that the Easysoft SQI-Sage Tetra CS/3 Driver has been installed correctly on your server and that your Sage Tetra CS/3 data is being accessed.

To run a report:

1. Log on to the Web Administrator as described earlier.
2. Click **Reports**.
3. Select the data source and company on which you want to run the report.

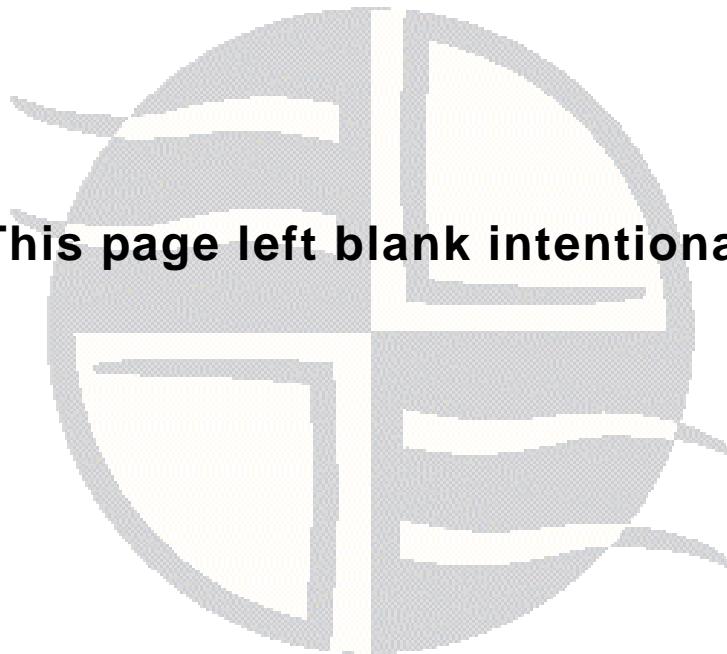
The reports available are listed on this page.

Whenever you select a different data source or company, click **Refresh** to update the remainder of the page to ensure that you are viewing the correct data for that selection.

4. Click **View** for the report that you want to run.

The page refreshes to display the report results.

This page left blank intentionally



CLIENT SETUP

Setting up clients to connect to Sage Tetra CS/3 data

This section explains how to set up Windows client machines to connect to Sage Tetra CS/3 data on a server.

The procedure involves installing the Easysoft ODBC-ODBC Bridge client and setting up a data source.

Chapter Guide

- **Installing the Easysoft ODBC-ODBC Bridge client**
- **Setting up a data source on your Windows client**
- **Worked example for Windows clients**

Installing the Easysoft ODBC-ODBC Bridge client

You can install the Easysoft ODBC-ODBC Bridge client on either Windows or Unix platforms, but while installing the Easysoft ODBC-ODBC Bridge client on Unix would allow Sage Tetra CS/3 data to be accessed from Perl, CGI and Apache/PHP, most users of the Easysoft SQL-Sage Tetra CS/3 Driver will probably be running Windows machines to access their Sage Tetra CS/3 server data.

To install the Easysoft ODBC-ODBC Bridge client on Windows:

1. Run the Easysoft ODBC-ODBC Bridge installation file.

This file is supplied as an `.exe` on Windows (see **"Obtaining the Easysoft SQL-Sage Tetra CS/3 Driver" on page 22**).

2. Follow the instructions on screen to install the Easysoft ODBC-ODBC Bridge client component, which must be installed on each machine that will be used to access the server database.

You do not need to license the Easysoft ODBC-ODBC Bridge client, because the client license is covered by the Easysoft ODBC-ODBC Bridge server license that you obtained when licensing the Easysoft SQL-Sage Tetra CS/3 Driver.

Once you have installed the Easysoft ODBC-ODBC Bridge client, you can set up a data source to connect to the Sage Tetra CS/3 data on the server (see **"Setting up a data source on your Windows client" on page 61**).

Please refer to the Easysoft ODBC-ODBC Bridge manual for full details of the client installation on both Windows and Unix.

For details of connecting from a remote JDBC client, please refer to the Easysoft JDBC-ODBC Bridge manual.

Setting up a data source on your Windows client

To enable cross-platform ODBC access to your data using the Easysoft ODBC-ODBC Bridge you need to create a remote data source on your client to connect to your data on the server.

1. Select **Start > Settings > Control Panel**, double-click **Administrative Tools** and then **Data Sources (ODBC)**.

9x	Select Start > Settings > Control Panel and double-click ODBC Data Sources (32bit) .
-----------	--

NT	Select Start > Settings > Control Panel and double-click Data Sources (ODBC) .
-----------	--

The **ODBC Data Source Administrator** dialog box is displayed:

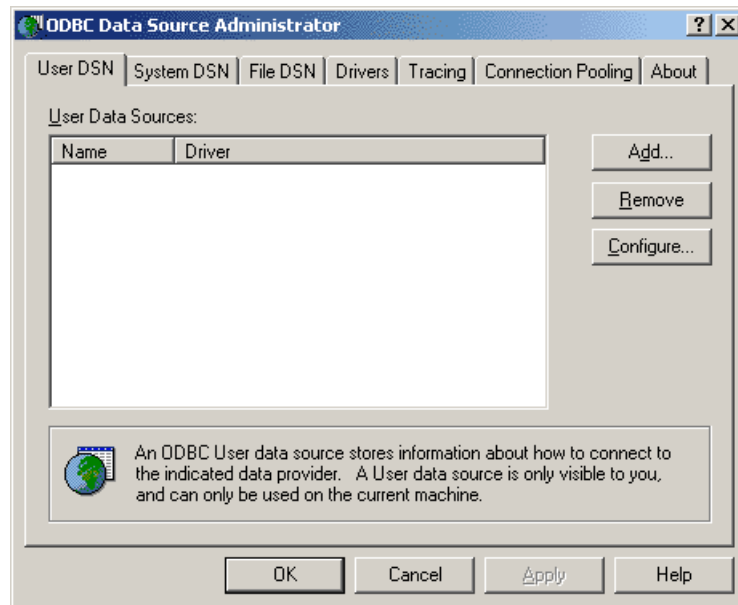


Figure 9: The ODBC Data Source Administrator

CLIENT SETUP

Setting up clients to connect to Sage Tetra CS/3 data

2. Select the **User DSN** tab to set up a data source that only you can access.

– OR –

Select the **System DSN** tab to create a data source which is available to anyone who logs on to this Windows machine.

3. Click **Add** to add a new DSN.

The **Create New Data Source** dialog box displays a list of the drivers which are available:

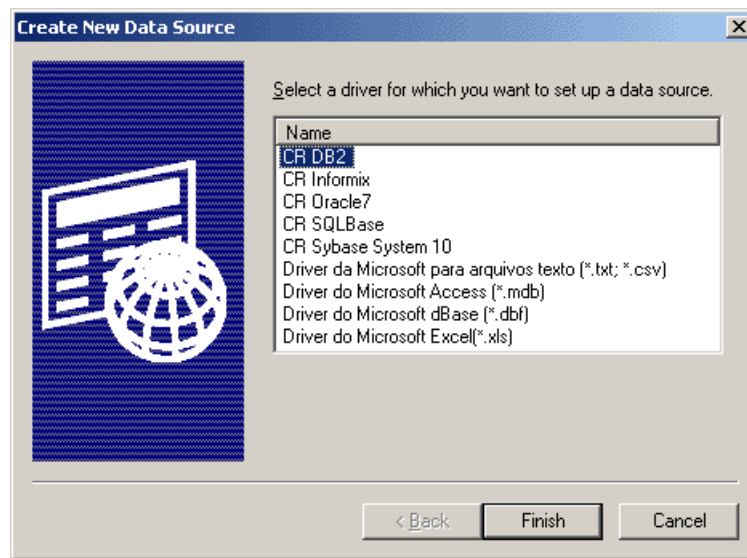


Figure 10: The Create New Data Source dialog box

4. Select **Easysoft ODBC-ODBC Bridge** and click **Finish**.

The Easysoft ODBC-ODBC Bridge dialog box is displayed:

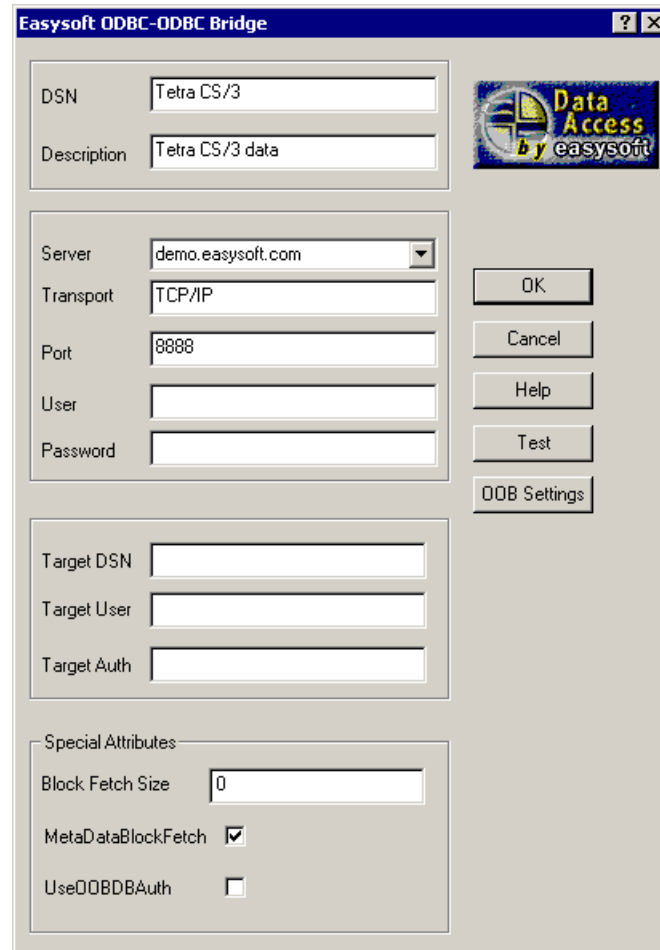


Figure 11: The Easysoft ODBC-ODBC Bridge DSN Setup screen

5. In the **DSN** field, type a name for the data source, such as "Tetra CS/3".

Choose carefully because you cannot change this later.

CLIENT SETUP

Setting up clients to connect to Sage Tetra CS/3 data

6. In the **Description** field, type a description for the data in the data source, e.g. "Tetra CS/3 data".
7. In the **Server** box, type the hostname or IP address of the Sage Tetra CS/3 server.
8. The **Transport** field shows the network transport protocol that will be used to connect to the data.

By default this is set to `TCP/IP` because this is the only protocol currently supported.

9. The **Port** field shows the port number on the server at which the Easysoft ODBC-ODBC Bridge server is listening for connections.
Accept the default (8888) unless you know that the server is listening at a different port.
10. In the **User** and **Password** fields, type the user name and password that you use to log on to the server machine on which the Sage Tetra CS/3 data is stored.
11. In the **TargetDSN** field, type the name of the Sage Tetra CS/3 data source on the server machine.
Your system administrator will be able to tell you what this name is.
12. In the **Target User** and **Target Auth** fields, type the user name and password that you use to log on to your Sage Tetra CS/3 server database.
Your system administrator will be able to tell you what your logon details are.

13. Set **Block Fetch Size** to 10.

This means that rows of data will be returned in blocks of 10 instead of one row at a time, resulting in faster performance.

However, you should set this value to 1 if your ODBC application uses cursors or positioned updates/deletes.

14. Click **Test** to see if this data source can connect to the data on the server.

The results are displayed in a separate window.

15. If the test is successful, click **OK** on the Easysoft ODBC-ODBC Bridge dialog box.

The new data source is listed on the **User DSN** or **System DSN** tab of the **ODBC Data Source Administrator**.

16. Click **OK** to close the **ODBC Data Source Administrator**.

Possible reasons for an unsuccessful test are:

- if you see an "*Authentication Failure*" error, double-check the **User** and **Password** settings.
- if you see a "*Failed to connect to remote driver*" error and additional text in which a login failure is noted, double-check the **Target User** and **Target Auth** settings.
- if you see an error referring to data sources or DSNs, double-check the **Target DSN** name.
- if you see a message referring to RPC, the client cannot connect to the Easysoft ODBC-ODBC Bridge server so double-check the **Server**, **Transport** and **Port** settings.

CLIENT SETUP

Setting up clients to connect to Sage Tetra CS/3 data

Worked example for Windows clients

This worked example assumes that:

- you have a data source connecting to your Sage Tetra CS/3 data on the server. Consult your system administrator if you need to create a data source and are unsure where the data is stored on the server.
- your system administrator has given you access (via the Easysoft SQL-Sage Tetra CS/3 Driver) to at least the SALES_CUSTOMER table in the data source.
- you have Microsoft Query installed (so that the **Data - Get External Data** command is available).
- you are familiar with the basics of using Microsoft Excel.

To connect to your Sage Tetra CS/3 data source using Microsoft Excel, obtain a list of customers and display the results :

1. Run Microsoft Excel.
2. Select **Data > Get External Data > Create New Query**.
3. On the **Choose Data Source** dialog box, select the data source that connects to your Sage Tetra CS/3 data.
4. Make sure the **User Query Wizard** to create/edit queries option is selected (the box is ticked when the option is selected).
5. Click **OK** on the dialog box.
6. On the **Query Wizard - Choose Columns** dialog box, scroll down the list of tables to find the SALES_CUSTOMER table.
7. Click the + adjacent to this table to view the columns within it.

8. Select each of the following columns in turn, and click > so that they are listed in the **Columns in your query** box

CUSTOMER

ALPHA

NAME

ADDRESS1

ADDRESS2

ADDRESS3

ADDRESS4

ADDRESS5

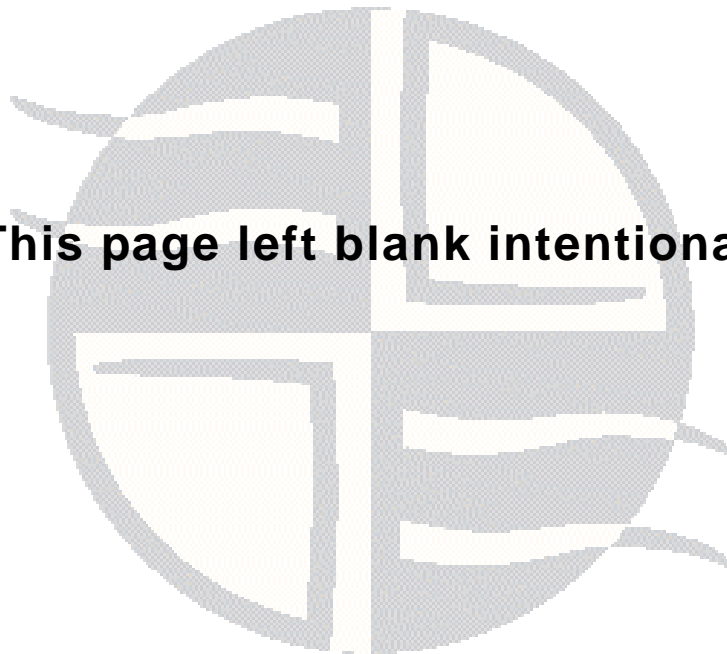
9. Click **Next** on this and the following dialog boxes until the **Query Wizard - Finish** dialog box is displayed.
10. Ensure that **Return Data to Microsoft Excel** is selected, then click **Finish**.
11. On the **Returning External Data to Microsoft Excel** dialog box, select **Existing worksheet** then click **OK**.

A list of customers and their addresses is displayed in the worksheet.

You could try creating another query using columns from both the SOP_ORDER_HEADER table and SOP_ORDER_DETAIL table to display a list of what these customers have purchased.

When you have finished querying your data, close Microsoft Excel unless you want to continue using it for another task.

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TECHNICAL REFERENCE



Technical Reference for Easysoft SQR-Sage Tetra CS/3 Driver

This section documents the ODBC and SQL conformance in the Easysoft SQR-Sage Tetra CS/3 Driver and supported Sage Tetra CS/3 data types and their SQL equivalents.

Appendix Guide

- [Conformance](#)
- [Sage Tetra CS/3 data types](#)

Conformance**API SUPPORT**

The Easysoft SQL-Sage Tetra CS/3 Driver provides the following API Entry points:

Function	ODBC Conformance
SQLAllocHandle	Core
SQLBindCol	Core
SQLBindParameter	Core
SQLBrowseConnect	Level 1
SQLCancel	Core
SQLCloseCursor	Core
SQLColAttribute	Core
SQLColumnPrivileges	Level 2
SQLColumns	Core
SQLConnect	Core
SQLCopyDesc	Core
SQLDescribeCol	Core
SQLDescribeParam	Level 2
SQLDisconnect	Core
SQLDriverConnect	Core
SQLEndTran	Core
SQLExecDirect	Core
SQLExecute	Core
SQLFetch	Core

TECHNICAL REFERENCE

Technical Reference for Easysoft SQL-Sage Tetra CS/3 Driver

Function	ODBC Conformance
SQLFetchScroll	Core
SQLForeignKeys	Level 2
SQLFreeHandle	Core
SQLFreeStmt	Core
SQLGetConnectAttr	Core
SQLGetCursorName	Core
SQLGetData	Core
SQLGetDescField	Core
SQLGetDescRec	Core
SQLGetDiagField	Core
SQLGetDiagRec	Core
SQLGetEnvAttr	Core
SQLGetFunctions	Core
SQLGetInfo	Core
SQLGetStmtAttr	Core
SQLGetTypeInfo	Core
SQLMoreResults	Level 1
SQLNativeSql	Core
SQLNumParams	Core
SQLNumResultCols	Core
SQLParamData	Core
SQLPrepare	Core
SQLPrimaryKeys	Level 1
SQLProcedureColumns	Level 1

TECHNICAL REFERENCE*Technical Reference for Easysoft SQL-Sage Tetra CS/3 Driver*

Function	ODBC Conformance
SQLProcedures	Level 1
SQLPutData	Core
SQLRowCount	Core
SQLSetConnectAttr	Core
SQLSetCursorName	Core
SQLSetDescField	Core
SQLSetDescRec	Core
SQLSetEnvAttr	Core
SQLSetPos	Level 1
SQLSetStmtAttr	Core
SQLSpecialColumns	Core
SQLStatistics	Core
SQLTablePrivileges	Level 2
SQLTables	Core

Figure 12: API Entry points

The following functions are provided by the ODBC Driver Manager:

Function	ODBC Conformance
SQLDataSources	Core
SQLDrivers	Core
SQLAllocConnect	Core
SQLAllocEnv	Core
SQLError	Core
SQLGetConnectOption	Core

Function	ODBC Conformance
SQLSetParam	Core

Figure 13: ODBC Driver Manager functions

The following functions are provided by the Setup DLL:

Function	ODBC Conformance
SQLConfigDriver	Core
SQLConfigDSN	Core

Figure 14: Setup DLL functions

The following functions are currently not supported:

Function	ODBC Conformance
SQLBulkOperations	Level 1

Figure 15: Unsupported functions

STATEMENT TYPES

The Easysoft SQL-Sage Tetra CS/3 Driver supports the following statements:

ALTER TABLE

COMMIT

CREATE INDEX

CREATE TABLE

CREATE VIEW

DELETE STATEMENT (positioned)

DELETE STATEMENT (searched)

DROP INDEX

DROP TABLE

DROP VIEW

GRANT

INSERT

REVOKE

ROLLBACK

SELECT

SELECT FOR UPDATE

UPDATE (positioned)

UPDATE (searched)

UNIONS

The Easysoft SQL-Sage Tetra CS/3 Driver supports UNION and UNION ALL.

TABLE REFERENCE

The Table reference list in a select can contain all or any of:

Table name

Sub Query

Join

JOINS

The Easysoft SQL-Sage Tetra CS/3 Driver supports the following types of joins:

INNER

LEFT OUTER

RIGHT OUTER

FULL OUTER

NATURAL

The joining condition may be specified with the ON or USING clause. Both the left and right source can be a table name, sub query or another join. Joins can be nested with no restriction on depth.

Joins can be specified in both SQL92 and ODBC format:

SQL

```
SELECT * from x LEFT OUTER JOIN y ON x.a = y.a
```

ODBC

```
SELECT * from {oj x LEFT OUTER y ON x.a = y.a }
```

PREDICATES

The Easysoft SQL-Sage Tetra CS/3 Driver supports the following predicates:

Comparison (a = b)

BETWEEN (a BETWEEN b AND c)

LIKE (a LIKE '%green%')

NULL (a IS NOT NULL)

IN value_list (a IN (1, 2, 3))

IN sub_query (a IN (SELECT x FROM y))

Quantified comparison (a = ALL (SELECT x FROM y))

Exists (EXISTS(SELECT x from y))

The sub queries in predicates can be correlated or non correlated:

Correlated

```
SELECT a FROM b WHERE c = ALL ( SELECT x FROM y
    WHERE z = a )
```

Non-correlated

```
SELECT a FROM b WHERE c = ALL ( SELECT x FROM y
    WHERE z = 12 )
```

SCALAR FUNCTIONS

The Easysoft SQL-Sage Tetra CS/3 Driver provides all the functions required by ODBC and also functions from SQL92. Functions can be specified in SQL92 or ODBC format:

SQL

```
SELECT CURRENT_DATE, EXTRACT( YEAR
    FROM Employee.data_of_birth ) FROM Employee
```

ODBC

```
SELECT {fn CURRENT_DATE()}, {fn EXTRACT( YEAR
    FROM Employee.data_of_birth )} FROM Employee
```

The following is a complete set of supported functions:

Pseudo Variable Functions

CURRENT_DATE

CURRENT_TIME

CURRENT_TIMESTAMP

CURRENT_USER

USER

SQL92 Functions

BIT_LENGTH

CHAR_LENGTH

CHARACTER_LENGTH

OCTET_LENGTH

POSITION

SUBSTRING

TRIM

ODBC Functions

ASCII

CHAR

CONCAT

DIFFERENCE

INSERT

LCASE

LEFT

LENGTH

LOCATE

LTRIM

REPEAT

REPLACE

RIGHT

RTRIM

SOUNDEX

SPACE

UCASE

ABS

ACOS

ASIN

ATAN

ATAN2

CEILING

COS

COT

DEGREES

EXP

FLOOR

LOG

LOG10

MOD

PI

POWER

RADIANS

RAND

ROUND
SIGN
SIN
SQRT
TAN
TRUNCATE
CURDATE
CURTIME
DAYNAME
DAYOFMONTH
DAYOFWEEK
DAYOFYEAR
EXTRACT
HOUR
MINUTE
MONTH
MONTHNAME
NOW
QUARTER
SECOND
TIMESTAMPADD
TIMESTAMPDIFF
WEEK

YEAR

DATABASE

IFNULL

AGGREGATE FUNCTIONS

The Easysoft SQL-Sage Tetra CS/3 Driver supports the following aggregate functions:

COUNT(* | ALL | DISTINCT)

AVG(ALL | DISTINCT)

MIN(ALL | DISTINCT)

MAX(ALL | DISTINCT)

SUM(ALL | DISTINCT)

CONVERSION FUNCTIONS

The Easysoft SQL-Sage Tetra CS/3 Driver supports both the SQL92 CAST function and the ODBC CONVERT FUNCTION for conversion between compatible data types.

CONDITIONAL FUNCTIONS

The Easysoft SQL-Sage Tetra CS/3 Driver supports CASE statements and the shorthand forms NULLIF and COALESCE.

LITERALS

All SQL92 and ODBC32 literals are supported and can be specified in either form:

SQL92

DATE '1999-01-02', INTERVAL '10-2' YEAR TO MONTH

ODBC

```
{d '1999-01-02'}, {INTERVAL '10-2' YEAR TO MONTH}
```

OPTIMIZATION

The Easysoft SQL-Sage Tetra CS/3 Driver performs several optimizations to improve performance including the following:

Query optimization

The WHERE clause of a query will be rewritten into a form that allows more efficient processing of data. For example the query:

```
SELECT * FROM x WHERE ( a = 10 or b = 20 ) and c = 30
```

Will be changed into the equivalent:

```
SELECT * FROM x WHERE a = 10 and c = 30
```

```
UNION
```

```
SELECT * FROM x WHERE b = 20 and c = 30 and a <> 10
```

Table Optimization

In cases where indexes are present on tables the Easysoft SQL-Sage Tetra CS/3 Driver will if necessary rearrange the order that tables are processed to enable the index to be used. This can lead to huge increases in performance. For example, consider the following query where tables a, b and c each have 800 rows and an index on catalog_number.

```
SELECT * FROM a, b, c  
WHERE a.catalog_number = c.catalog_number  
AND b.catalog_number = a.catalog_number
```

TECHNICAL REFERENCE

Technical Reference for Easysoft SQL-Sage Tetra CS/3 Driver

```
AND a."desc" = b."desc"  
AND c.retail = a.retail  
AND a.catalog_number = b.catalog_number
```

When run with the table order specified the query takes about 350 seconds on a given test configuration. If table optimization is enabled then, on the same machine, the query takes under 2 seconds. The effect of this optimization is most noticeable on some of the queries that comprise the TPC-D benchmark set. Without this optimization some of the queries can be considered to never end (still running after a day), with optimization the same query will return in under 10 seconds.

INFORMATIONAL SCHEMA

The Easysoft SQL-Sage Tetra CS/3 Driver provides an informational schema view of the tables supplied by the target data sources. The following tables are available

```
INFO_SCHEMA.CHARACTER_SETS  
INFO_SCHEMA.COLLATIONS  
INFO_SCHEMA.COLUMN_PRIVILEGES  
INFO_SCHEMA.COLUMNS  
INFO_SCHEMA.INDEXES  
INFO_SCHEMA.SCHEMATA  
INFO_SCHEMA.SERVER_INFO  
INFO_SCHEMA.SQL_LANGUAGES  
INFO_SCHEMA.TABLE_PRIVILEGES  
INFO_SCHEMA.TABLES
```

INFO_SCHEMA.USAGE_PRIVILEGES

INFO_SCHEMA.VIEWS

DATA TYPES

The following data types are supported:

SQL_CHAR

SQL_VARCHAR

SQL_LONGVARCHAR

SQL_NUMERIC

SQL_DECIMAL

SQL_SMALLINT

SQL_INTEGER

SQL_REAL

SQL_FLOAT

SQL_DOUBLE

SQL_BIT

SQL_TINYINT

SQL_BIGINT

SQL_BINARY

SQL_VARBINARY

SQL_LONGVARBINARY

SQL_TYPE_DATE

SQL_TYPE_TIME

SQL_TYPE_TIMESTAMP

SQL_INTERVALS (all types)

ODBC FEATURES

Cursors

The Easysoft SQI-Sage Tetra CS/3 Driver provides FORWARD ONLY, STATIC and KEYSET CURSORS and also provides the following additional ODBC features (reported via the SQLGetInfo API call).

SQL_ASYNC_MODE

Asynchronous operation is supported both at the statement and connection level (SQL_AM_STATEMENT)

SQL_COLUMN_ALIAS

The data source supports column alias using the optional AS clause

SQL_CORRELATION_NAME

Correlation names are supported and can be any valid user-defined-name

SQL_DATETIME_LITERALS

All SQL92 Datetime literals are supported

SQL_GETDATA_EXTENSIONS

SQLGetData can be called for any column, bound or unbound

SQL_GROUPBY

The columns in the GROUP BY clause and the select list are not related (SQL_GB_NO_RELATION)

SQL_INDEX_KEYWORDS

All keywords are supported

Sage Tetra CS/3 data types

This section lists the Sage Tetra CS/3 data types and the SQL data types to which data is converted:

Sage Tetra CS/3 data type	SQL data type
1 CHARACTER STRING	SQL_VARCHAR
2 YESNO FIELD	SQL_BIT
3 LONG INTEGER	SQL_INTEGER
4 NUMERIC STRING	SQL_INTEGER
5 DOUBLE	SQL_DOUBLE
6 MONEY	SQL_DOUBLE
7 DATE LONG	SQL_TYPE_DATE
8 DATE STRING	SQL_TYPE_DATE
9 TIME OF DAY	SQL_TYPE_TIME
10 TIME AS STRING	SQL_TYPE_TIME
11 DURATION	SQL_INTEGER
12 DOUBLE WITH UNIT	SQL_DOUBLE
50 STRING YES/NO	SQL_VARCHAR
51 SHORT_INTEGER	SQL_SMALLINT
52 INTEGER	SQL_INTEGER
53 DATE DD/MM/YY	SQL_TYPE_DATE
54 1970 LONG DATE	SQL_TYPE_DATE
55 1970 STRING DATE	SQL_TYPE_DATE
56 1800 LONG DATE	SQL_TYPE_DATE
57 1800 STRING DATE	SQL_TYPE_DATE

TECHNICAL REFERENCE*Technical Reference for Easysoft SQL-Sage Tetra CS/3 Driver*

Sage Tetra CS/3 data type	SQL data type
58 DURATION MINUTES	SQL_INTEGER
59 TIME MINUTES	SQL_TYPE_TIME
60 FLOAT	SQL_DOUBLE

Figure 16: Sage Tetra CS/3 data types

GLOSSARY

B

Terms and definitions

API (Application Programmer Interface)

A published set of function calls and constants allowing different programmers to utilize a ready-written library of subroutines.

Application

A program that applies a computer to solving a real-world problem. In ODBC terms, it is the program connecting to a data source.

Authorization code

You must have an authorization code for the Easysoft product you wish to license in order to obtain a purchased license. When you purchase a product your authorization code is emailed to you. You do not need an authorization code to obtain a trial license.

Client

A process performing tasks local to the current user, such as formatting and displaying a report from data retrieved from a server.

Client server

The architecture whereby one process (the server) keeps track of global data, and another task (the client) is responsible for formatting and presenting the data. The client connects to the server and requests queries or actions be performed on its behalf. Often these processes run on different hosts across a local-area network.

Column

The vertical dimension of a table. Columns are named and have a domain (or type).

Database

A collection of data files.

Data source

In ODBC terms, a data source is a database or other data repository coupled with an ODBC Driver, which has been given a Data Source Name (see "[DSN](#)" on page 89) to identify it to the ODBC Driver Manager.

Data type

The specification of permitted values. A data type limits the values which are allowed to be used.

DBMS

Database Management System. Software that handles access to a database.

Download

To retrieve data from a remote machine (or the internet) to your local machine. Mechanisms for achieving this include FTP and the World Wide Web.

Driver

See "[ODBC driver](#)" on page 90.

Driver Manager

Software whose main function is to load ODBC drivers. ODBC applications connect to the Driver Manager and request a data source name (DSN). The Driver Manager loads the driver specified in the DSN's configuration file. In Windows, the ODBC Data Source Administrator is used to set up the Driver Manager.

DSN

Data Source Name. A name associated with an ODBC data source. Driver Managers, such as unixODBC or the Microsoft Windows Driver Manager, use the Data Source Name to cross-reference configuration information and load the required driver.

Field

A placeholder for a single datum in a record, for example you can have a Surname field in a Contact Details record. Fields are sometimes referred to as cells.

FTP

File Transfer Protocol. A standard method of transferring files between different machines.

Host

A computer visible on the network.

HTTP

HyperText Transfer Protocol. The means of transferring web pages.

Middleware

Software that is placed between the client and the server to improve or expand functionality.

License key

A string which is provided by Easysoft for use in the licensing process.

ODBC

Open Data Base Connectivity - a programming interface that enables applications to access data in database management systems that use Structured Query Language (SQL) as a data access standard.

ODBC driver

Software that accesses a proprietary data source, providing a standardized view of the data to ODBC.

Row

The horizontal dimension of a table. At its most basic, a row equates to a record within a file.

Schema

A specification of the structure of a database, including the tables, their column headings and keys.

Server

A computer, or host, on the network, designed for power and robustness rather than user-friendliness and convenience. Servers typically run around-the-clock and carry central corporate data.

– OR –

A process performing the centralized component of some task, for example, extracting information from a corporate database.

SQL

Structured Query Language. An international standard text language for querying and manipulating databases.

System data source

In the context of ODBC under Microsoft Windows, a data source which can be accessed by any user on a given system. See also **"User data source" on page 91**.

Table

A data set in a relational database, composed of rows and columns.

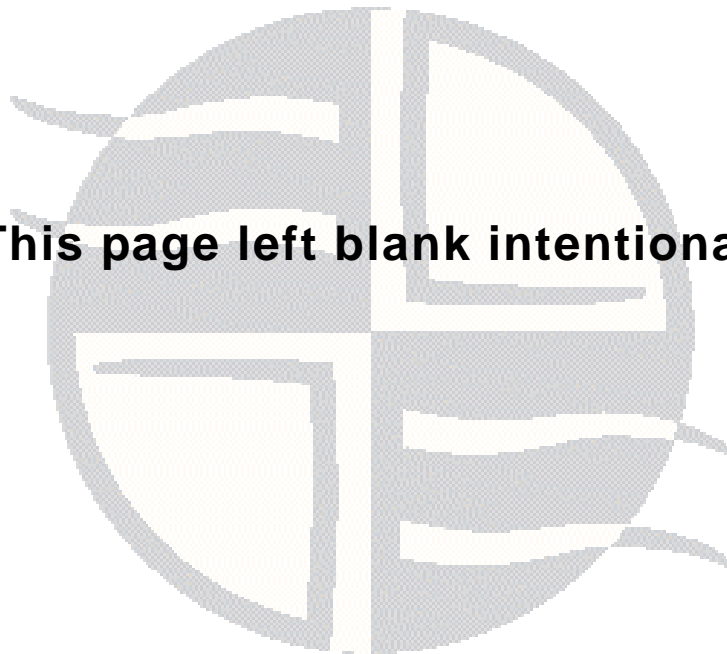
TCP/IP

Transmission Control Protocol/Internet Protocol. A standard method of accessing data on different machines.

User data source

In the context of ODBC under Microsoft Windows, a data source which can only be accessed by a specific user on a given system. See also **"System data source" on page 91**.

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