Application Note 0004
Using ReportBuilder™ with FIX32/iFIX Classic Historian via ODBC

Introduction

ReportBuilder™ can access FIX32/iFIX Classic Historian data (.h4, .h8, or .h24 files) via the OpenRDA FIX32/iFIX ODBC driver. This document describes the steps for installing/configuring the ODBC driver and ReportBuilder™.

Components

A ReportBuilder™ / FIX32/iFIX ODBC project configuration consists of the following components:

ReportBuilder™ Server
Used for editing your ReportBuilder™ configuration file. Enter your database locations, table names and tagnames here. This application can reside anywhere on the network.

ReportBuilder™ Client
This Microsoft Excel add-in allows you to build and run reports in Excel. When you open a report in Excel, the ReportBuilder™ configuration file is read. The list of available tags is then presented by the Client add-in. Install a ReportBuilder™ Client on each machine that you want to build and run reports.

OpenRDA Server
This application makes FIX32/iFIX Classic Historian data (.h4, .h8, or .h24 files) available to ReportBuilder™ via ODBC.

OpenRDA Client (ODBC Driver)
This driver allows you to configure an ODBC Data Source that references a connection to the OpenRDA Server. You must install an OpenRDA Client on each machine that has a ReportBuilder™ Client.

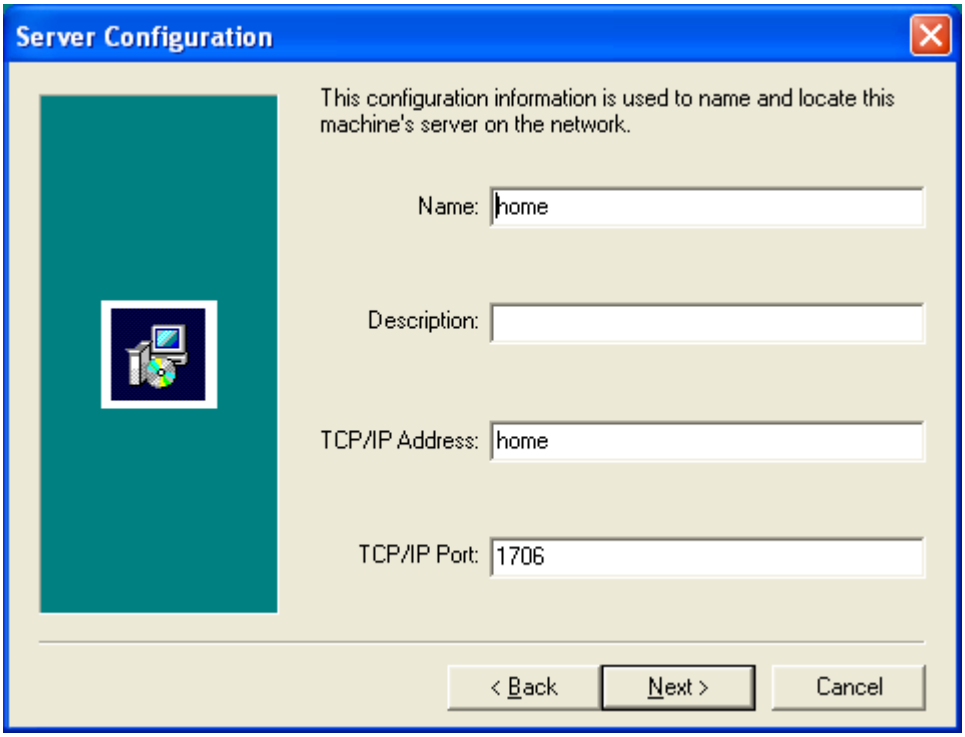
Installation Notes

OpenRDA Server Installation Location
The OpenRDA Server application must be installed on the FIX32/iFIX SCADA Node. You need one OpenRDA Server for each polling SCADA node from which you wish to retrieve data.

OpenRDA Server Installation

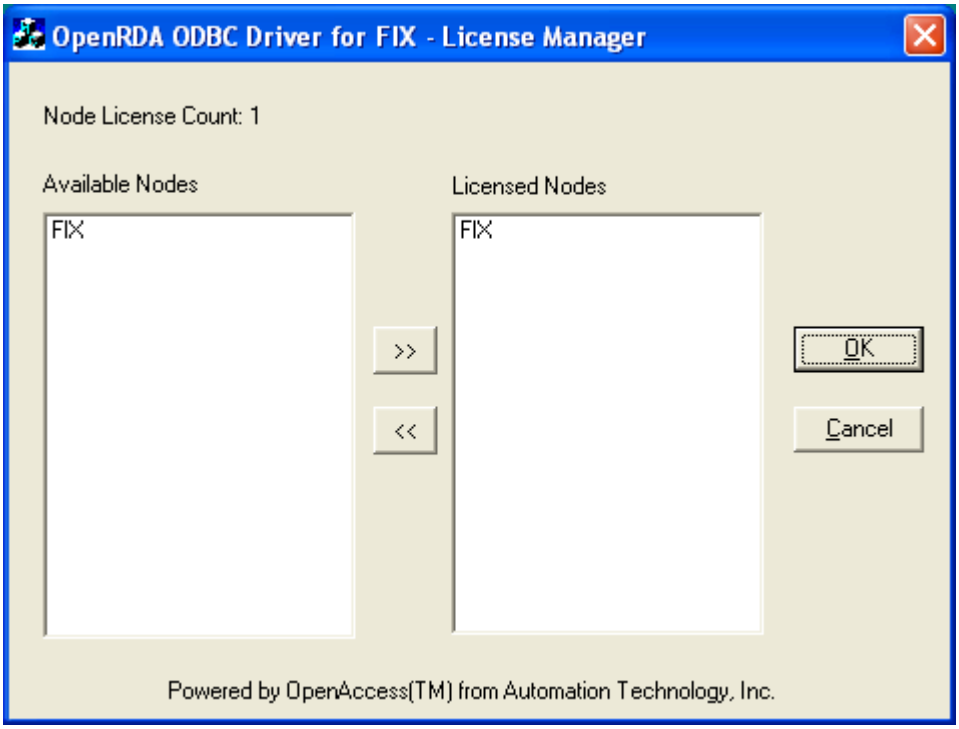
> Note: The OpenRDA Server Installation program will attempt to detect the presence of the FIX32 or iFIX SCADA application on the local node. If available, start the actual FIX32 or iFIX SCADA application before starting the OpenRDA Server Installation program.

Run the OpenRDA Server Installation program.



Name: The default value is the Windows Computer Name for this machine (“home” in this example)
Description: Enter a Description for this machine, if desired
TCP/IP Address: The default value is the Windows Computer Name for this machine (“home” in this example)
TCP/IP Port: Leave at the default value (1706)

Enter the License Key Information when prompted. Continue the server installation by accepting all default values until the FIX – License Manager window appears. If the FIX32 or iFIX SCADA application is running, the License Manager should find it (in the example below, a node named **FIX** has been detected by the OpenRDA ODBC Driver and Licensed successfully).

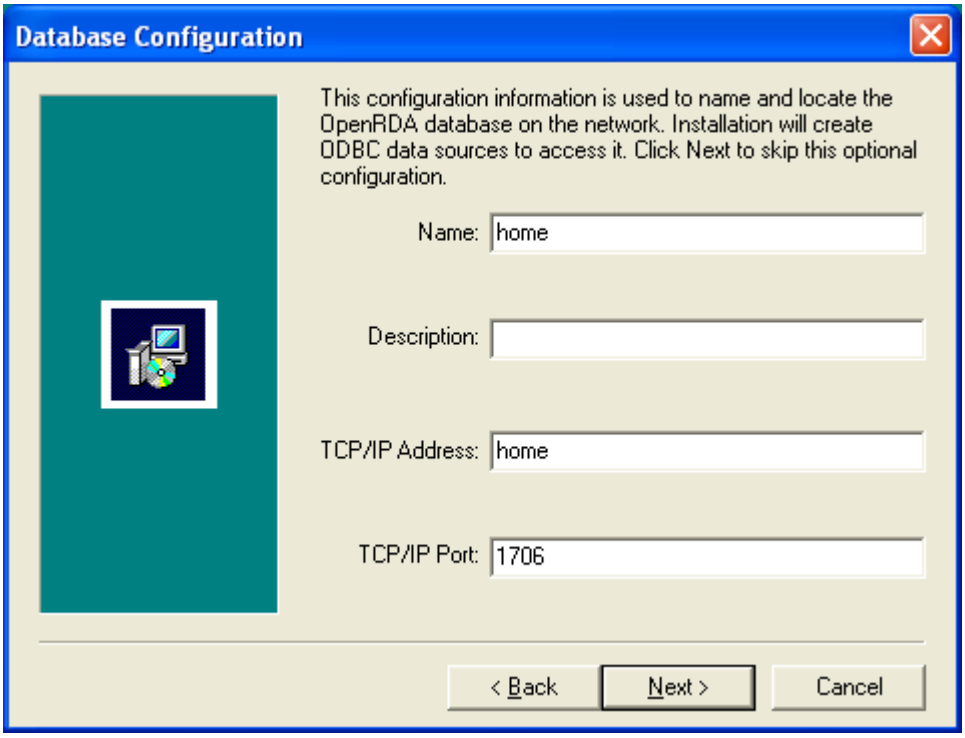


Note: If the FIX32 or iFIX SCADA application is not running during the OpenRDA Server Installation, the licensing step will fail. You must license the ODBC Driver before you can use it with ReportBuilder™. (You can, however continue with configuring your ReportBuilder™ project configuration described below).

You can license the OpenRDA Server at a later date by manually running the License Manager Utility (with the FIX32 or iFIX SCADA application running). This utility can be found at **<drive letter:>\oafix\bin\iwinnt\FixLicMgr.exe**

OpenRDA Client Installation

Run the OpenRDA Client Installation program.

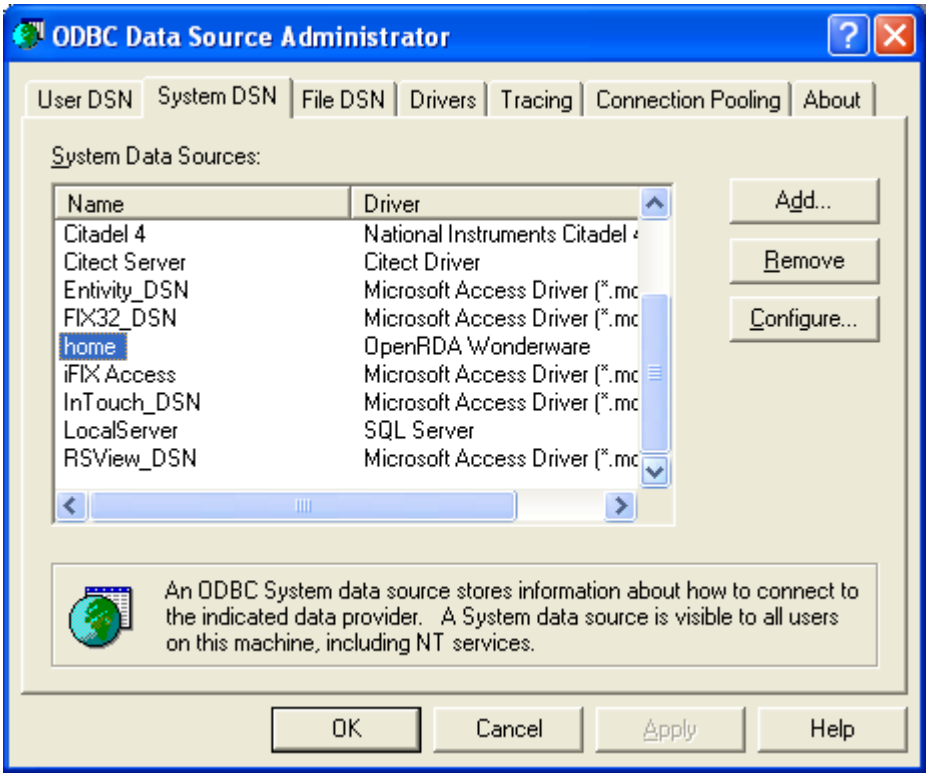


Use the same values entered during the Server Installation. The **Name** field will be the name of the DSN (data source name) that is automatically created during this installation.

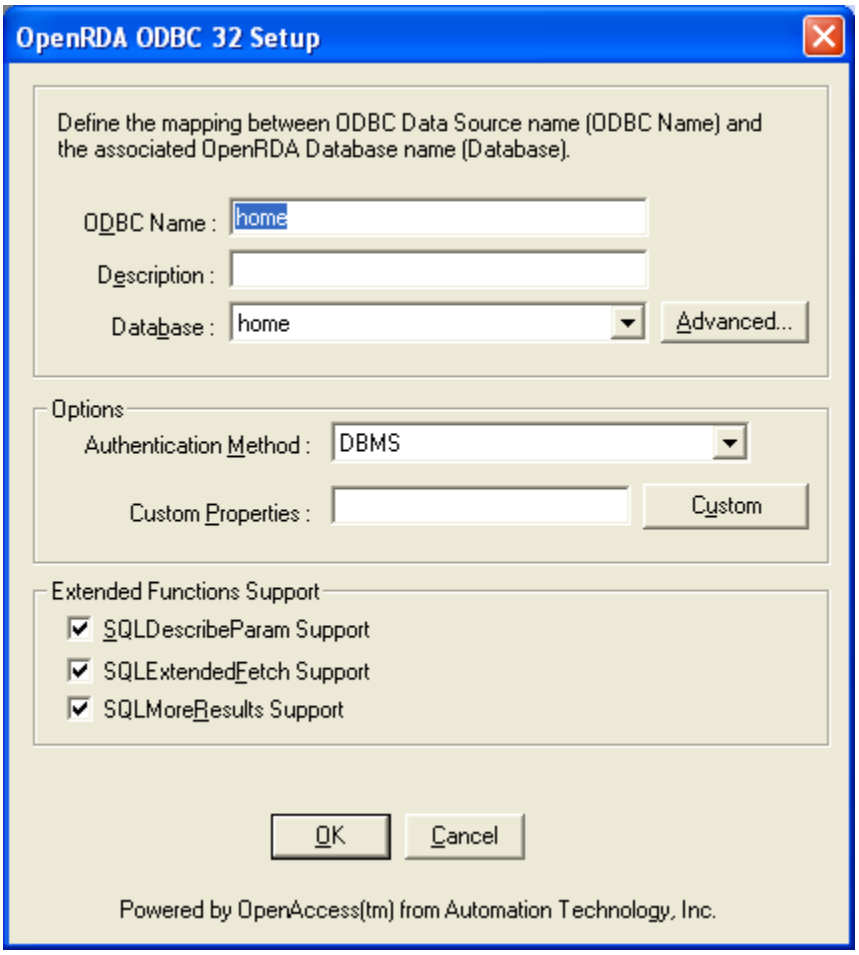
Enter the License Key Information when prompted. Continue the client installation by accepting all default values.

DSN Configuration

A Windows Data Source (DSN) is automatically created upon installation of the ODBC Client (refer to section titled **OpenRDA Client Installation**):

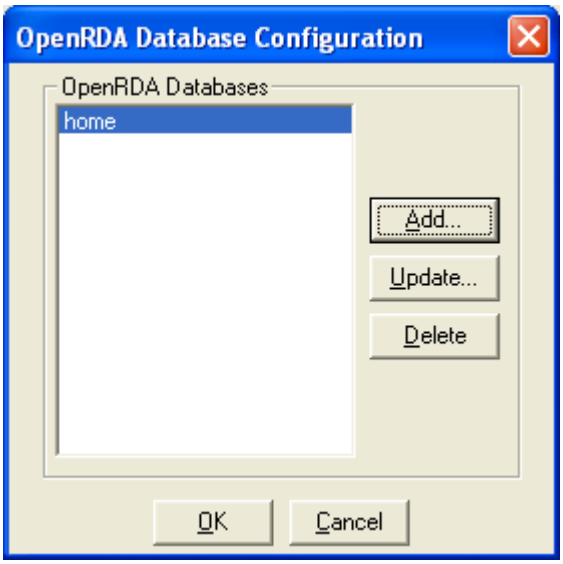


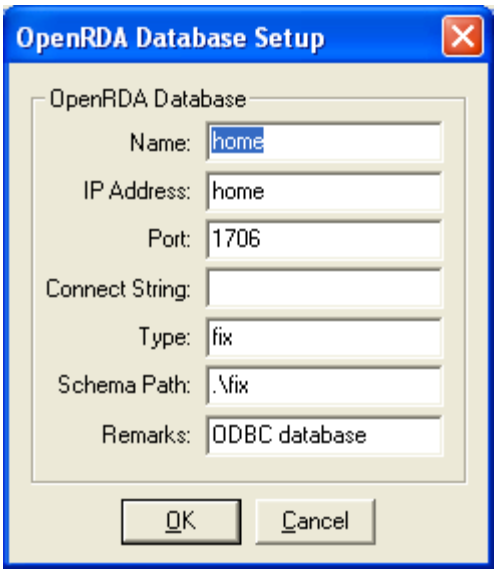
If desired, you may click **Configure** and verify the DSN configuration



Note that the **ODBC Name** and **Database** fields match the values entered earlier.
Click **Advanced**.

Select the desired database and click **Update**.





Click **OK** when finished.

Configure ReportBuilder™

Start the ReportBuilder™ Server application (Start | Programs | WorkSmart Automation ReportBuilder | ReportBuilder Server).

Create a new ReportBuilder™ Project

To create a new ReportBuilder™ Project, perform these steps:

1. From the File menu, Click **New Project…**
2. From the Create New ReportBuilder Project Dialog, enter a valid path and filename for the project file and Click **Save**. A new ReportBuilder™ project will be created.

Database Configuration

1. In the left-hand pane, select Databases. Click **New**. Enter the following information into the Database Dictionary Window:

   Database Name: Enter a Name for this database *(i.e., FIXDATA This is an arbitrary name chosen by you.)*
   Description: Enter a description for this database *(optional)*
   Connection String: Click **Build**. The Microsoft Data Link Properties window will appear.

2. From the **Provider** tab, highlight **Microsoft OLE DB Provider for ODBC Drivers** then click **Next**. The Connection tab will appear.

3. From the **Connection** tab,
   a. Select the Use data source name radio button, then select the data source name from the drop down list box (**home** in the example above). This is the DSN that was created during installation of the OpenRDA Client.

4. Click **OK** when finished; you will return to the ReportBuilder™ Database Dictionary window. Click **Save and Close** to save this database definition.

Table Configuration

To configure a ReportBuilder™ Table, perform these steps:

1. In the left-hand pane, select Tables. Click **New**. Enter the following information into the Table Dictionary Window:

   Database: Select the FIX32/iFIX Database Name from the drop down list *(FIXDATA in the example above)*
   Table Name: Type **ARCHIVE** or select from the drop down list
   Function Pack: Select **Intellution FIX Historical Log Functions** from the drop down list
   Summary Column Name: Select or enter **MODE** from the Summary Column and List tab

2. Assign the FIX32 / iFIX Historical Mode Summaries Summary Value List to the table.
   a. Click **Summary Value Lists** from the Summary Column and List tab. The Summary Value Lists window will appear.
   b. Select **FIX32 / iFIX Historical Mode Summaries** and then Click **Close**.

   Click **Save and Close** to save this table definition.

Note: If the FIX32 / iFIX Historical Mode Summaries Summary Value List is not configured on your system, build a new one with the following entries:

DISPLAY NAME	COLUMN NAME
Sample	SAMPLE
Maximum	HIGH
Minimum	LOW
Average	AVERAGE

3. Assign the FIX32 / iFIX Column List to the table.
   a. Click **Column Lists**. The Column Lists window will appear.
   b. Select **FIX32 / iFIX Column List** and then Click **Close**.

   Click **Save and Close** to save this table definition.

Note: If the FIX32 / iFIX Column List is not configured on your system, build a new one with the following entries:

DISPLAY NAME	COLUMN NAME
Alarm	ALARM
Duration	DURATION
Mode	MODE
Node	NODE
Sample Interval	SAMPLE_INTERVAL
Status	STATUS
Tag	TAG
Time	TIME

Tag Group Definition

To configure a ReportBuilder™ Tag Group, perform these steps:

1. In the left-hand pane, select Tag Groups. Click **New**.

   Group Name: Enter a Name for the new Tag Group *(This is an arbitrary name chosen by you.)*
   Description: Enter a Description for the new Tag Group *(Optional.)*
   Menu Order: Enter a numeric value for the Menu Sort Order *(0=Top of the List)*

Tag Definition

To configure a ReportBuilder™ Tag, perform these steps:

1. In the left-hand pane, select Tags. Click **New**.

   Tag Name: Enter the name of the tag exactly as it appears in the FIX32/iFIX Database Builder

   Note: FIX32/iFIX tagnames usually appear in the following format: NODE:TAG.FIELD The "NODE" and "FIELD" are not necessary when entering the ReportBuilder™ Tag Name.

   Description: Enter a Description for the new Tag
   Eng Units: Enter the Engineering Units for the new Tag
   Group Name: Select the desired Tag Group from the drop down list
   Database /Table: Select the Database and Table to which the tag belongs
   Column: Enter the text **Value** in this field
   Data Type: For sorting purposes only

   Note: You must add a tag definition to the ReportBuilder™ Tagname Dictionary for each tag that you wish to report on. Users of ReportBuilder ™ 1.30 can import all tags automatically into ReportBuilder™ via the Tag Import Wizard.

Importing Tags with Tag Import Wizard

To import tags from FIX32 / iFIX ODBC to a ReportBuilder™ Project, perform these steps:

1. From ReportBuilder™ Server, perform the following configuration as a minimum:
    a. ReportBuilder™ Database definition.
    b. ReportBuilder™ Table definition for **ARCHIVE**
    c. ReportBuilder™ Tag Group definition.

2. From the Tools menu, Click **Import/Export…/Import Tags from SCADA Data Source…** The Tag Import Wizard appears.

3. Follow the steps as requested by the Tag Import Wizard by clicking **Next** until finished:
    a. For the ReportBuilder Database Connection step, select the name you called your FIX32 / iFIX Database Connection *(from Step 1 under the Database Configuration section of this document)*
    b. For Data Source Table step, select or enter **TAG**. *(The Tag table contains information about each tag being logged to the Classic Historian.)*
    c. For the Matching Fields step, select or enter the following in each field:
        i. Tagname: **TAG**
        ii. Description: **DESCRIPTION**
        iii. Eng Units: **EGU**
        iv. Column: Enter **'Value'** *(Text inside of single quotes is imported implicitly, type the word* **Value** *surrounded by single quotes.)*
        v. Data Type: **BLOCKTYPE**

4. For the ReportBuilder™ Database and Table step, select the name of the FIX32 / iFIX database followed by the name of the table e.g., FIXDATA:ARCHIVE

5. For the ReportBuilder™ Tag Group step, select the name of the group that you would like these tags to be imported to. *(This can be changed later using the ReportBuilder™ PowerEditor.)*

6. For the Existing Tags step, choose whether to overwrite or skip existing tags in your ReportBuilder™ Project. Check **the Overwrite existing tags** checkbox to overwrite tags. Un-check to skip existing tags.

7. Click **Finish** to begin the import.