



Download Rates

User Guide

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Important Notice

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Download Rates Features

Download Rates provides a practical way to download currency exchange rates from free, government and commercial exchange rate services and store these rates in related Sage 300 databases.

The program lets you adjust the downloaded interbank rates by a specified percentage to more accurately represent rates likely to be used in a transaction, it provides a currency-code mapping table to handle changes to ISO currency codes, and it calculates average currency exchange rates based on rates from the previous month.

Download Rates is designed to run as an unattended Windows Scheduled Task, as well as from a user interface. Automating rate entry makes the Sage 300 "spread" function practical – the spread is only entered once during setup.

Once rates are downloaded, the program will store the rates in a Sage 300 database using provided Sage 300 login credentials. Rates stored in a Sage 300 Company database can be propagated to related companies – meaning those that share a common System database.

Robust retry strategies allow operation over satellite or other variable quality connections. Email notifications can be sent to several recipients indicating the success or failure of the job.

Notes:

- Download Rates requires a LanPak license to access Sage 300. If there are no LanPak licenses available, the program will not run.
- Supported services include the [US Federal Reserve](#), [Bank of Canada](#), [Reserve Bank of Australia](#), [Monetary Authority of Singapore](#), [Bank Al-Maghrib of Morocco](#), [currencylayer](#) and [APILayer](#). Users of currencylayer and APILayer must subscribe to their services.
- Yahoo's service is not available as of November 2017; Google's service is not available as of July 2015; Oanda is not supported as of May 2017.

Features and Benefits

- Updates multiple exchange rates for multiple days in multiple companies in a single operation.
- Uses Sage 300 Rate Types so that multiple rates for the same two currencies can be maintained.
- Converts from ISO currency codes used by providers to "non-standard" Sage currency codes.
- Calculates and inserts an average rate for the first day of each month, based on the previous month's spot rates. (The average rate will not be calculated if no prior spot rates are available.)
- Stores all settings in an XML file, so it can run as a Windows Scheduled Task, with the name of the EXE file and the XML file provided in the usual way.
- When run as a task, Download Rates traps error messages and writes them to a log file.
- Creates a basic Windows Scheduled Task and launches the Task Scheduler to make task creation easier.
- Provider rates can be adjusted by a percentage to more accurately reflect a rate actually used in transactions. One-time entry of a Sage 300 "spread" makes this warning function more practical.
- Creates new currency rate tables in Sage 300 using the date matching and rate operator settings from the Rates tab. (Average rate types always use "earlier" date matching because a rate is inserted for the first day of the month only.)
- Uses Sage 300 business objects to insure proper multiuser operation.
- Sends email notifications to a list of recipients indicating the success or failure of the job.
- Uses Sage 300 business objects to update all databases.
- Works with Sage 300 2012-2025 and with Sage ERP Accpac version 5.6 or 6.0.

Overview

Download Rates stores all settings necessary in an XML file that can be edited with the program. This means that Download Rates can also be set up to run as a Windows Scheduled Task, with the name of the EXE file and the XML file provided in the usual way. When run as a task, Download Rates traps error messages so that they will not "pop up" in a window – any errors are written to a log file.

See [Create Scheduled Task](#) and [Troubleshooting Download Task Issues](#) for more information.

Download Rates will connect to free exchange rates service providers or to paid commercial services. Commercial services provide credentials when you subscribe to their services. Commercial services may also provide a test account for demonstration purposes that do not provide accurate or up-to-date rates.

Download Rates also supports several central bank free services, including "The Bank of Canada," "The U.S. Federal Reserve," the "Reserve Bank of Australia," the "Monetary Authority of Singapore," and the "Bank Al-Maghrib" of Morocco.

If you choose a central bank as an exchange rate provider and you request a rate to convert to a functional currency other than that of the central bank, Download Rates will use "triangulation" to compute an effective exchange rate.

For example: if you want to convert GBP to USD using "The Bank of Canada" as an exchange rate provider, Download Rates will calculate an effective rate by combining the rates that would convert GBP to CAD and CAD to USD.

Note that central banks often publish their rates only once a day. If you use a central bank, check on the bank's website when the bank publishes rates so you don't download prior to rate updates.

Note also that you must apply to Bank Al-Maghrib for an API key to use their services.

Once rates are downloaded, the program will store the rates in a Sage 300 database. Rates stored in a Sage 300 Company database can be propagated to related companies that share a common System database.

The program includes robust retry strategies to allow operation over satellite or other variable quality connections, and it can send email notifications to several recipients indicating the success or failure of the job.

Installing Download Rates

Download Rates is installed and run like any other Windows program. The installation program adds it to the Windows start list, and you can create an icon to launch the program from the Sage 300 desktop.

Download Rates can be un-installed from Windows Settings/Control Panel, depending on your version of Windows.

Download Rates is distributed as 1 file, Setup.msi.

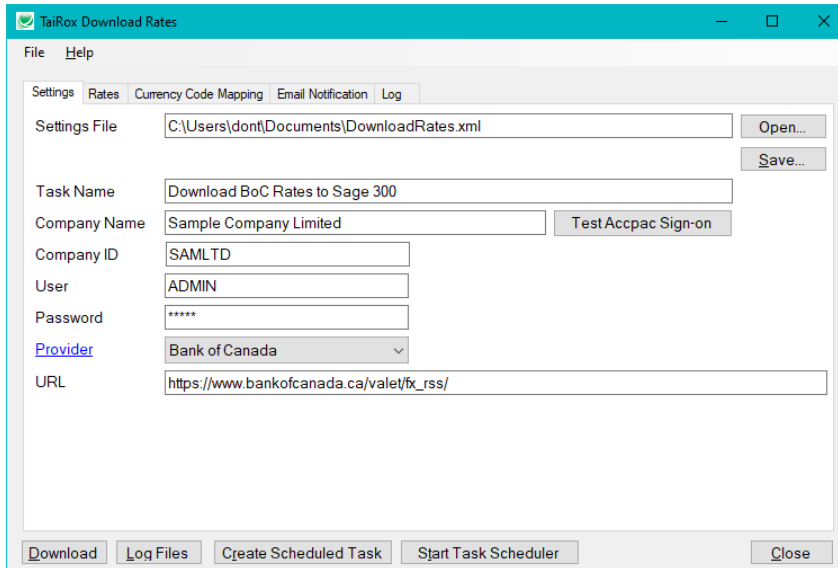
- The program is installed by default in "C:\Program Files (x86)\TaiRox\DownloadRates\"

Running Download Rates

Settings Tab

When the program is launched, Download Rates displays the following screen for collecting setup information and storing it in an XML file that can be used to automate the download operation.

You can set up any number of jobs by storing information in different XML files and running them as separate Windows Scheduled Tasks. All authentication information is encrypted in the XML files.



* A URL is not displayed when you choose The U.S. Federal Reserve.

Some providers (e.g., currencylayer and APILayer) supply historical rates that can be downloaded from the user interface only. The program will display the following fields along with the Provider field.



When operating as a Windows Scheduled Task, the rates are downloaded based on the windows system date.

Task Name - This is the name used in the email notification subject line.

Company Name - This is used for documentation purposes.

Company ID - This is used to specify which Sage 300 company database is to be used for a Sage 300 session.

User & Password - Sage 300 authentication.

Provider - A supported provider can be selected from this list. For some providers, options such as date ranges, a rates choice and a credentials tab will appear.

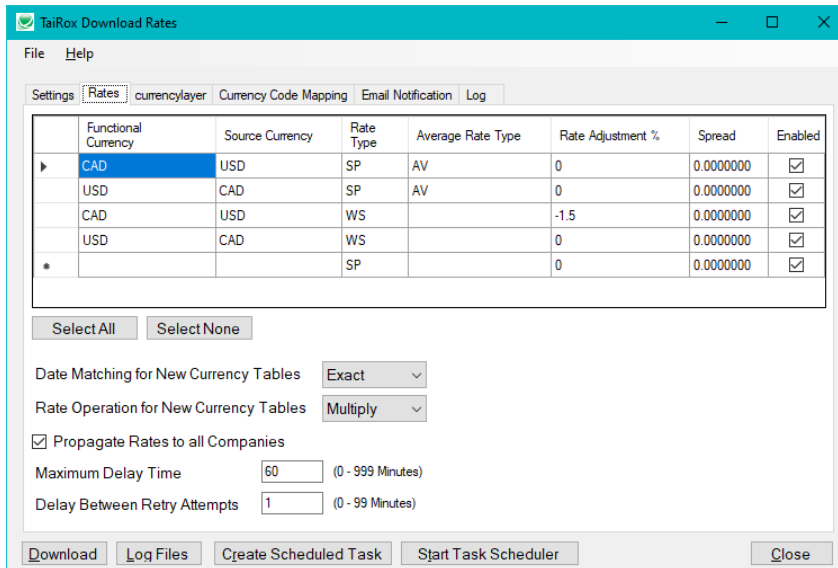
URL - The URL to the Provider's service. This value will default and should only be changed when the Provider changes the URL for their service.

Note: The URL is not displayed for the U.S. Federal Reserve site because it uses individual RSS feeds for each currency. Also, you specify the URL and program access key for currencylayer and APILayer on a separate tab that appears if you use those providers.

You can click the **Download** button to download rates immediately from the current provider.

Rates Tab

The Source and Functional currencies in the grid below are often referred to as "From and To" rates by rates providers. (The functional (home) currency is the "To" currency.)



The **Functional Currency**, and **Source Currency** must be a valid ISO 4217 currency codes, and must be valid Sage 300 currency codes.

The **Rate Type** must be a valid Sage 300 code.

The **Average Rate Type** will be calculated for the first of the month using the corresponding spot rates from the previous month. Note the following points:

- The calculation includes all spot rates that were previously downloaded for the prior month. (If rates were only downloaded for 20 days, the calculation will use the rates from those 20 days.)
- The calculated rate is added for the first day of the month only, and date matching for the currency table is set to "earlier", so the rate for the 1st will be used throughout the month.
- The Rate Adjustment % does not apply to the average rate type because the average rate already includes any adjustment that was made to the spot rate.

Rate Adjustment % - This column specifies by how much you wish to adjust the given rate up or down to more accurately reflect a rate actually used in a transaction.

Important Note when using Rate Adjustment: Check the log details. You will have to "reverse the sign" if using Sage 300 "Divide by" rates.

Spread - This column is the Sage 300 "spread variance warning" tolerance.

Enabled - This column specifies whether or not the rate set up in the row will be downloaded and stored in the Sage 300 database.

Date Matching for New Currency Tables - This setting will be used for date matching on any new tables created by the download operation. It lets you control how new currency tables are created.

Rate Operation for New Currency Tables - This setting will be used for the create operation on any new tables created by the download operation.

Propagate Rates to all Companies - If checked, will cause rates to be set in all company databases with the same system database as the company specified in the Settings tab.

Note: If you uncheck "Propagate Rates to all Companies," the rates will not be copied to any company databases. See [Q: I have "Propagate Rates to all Companies" unchecked....](#)

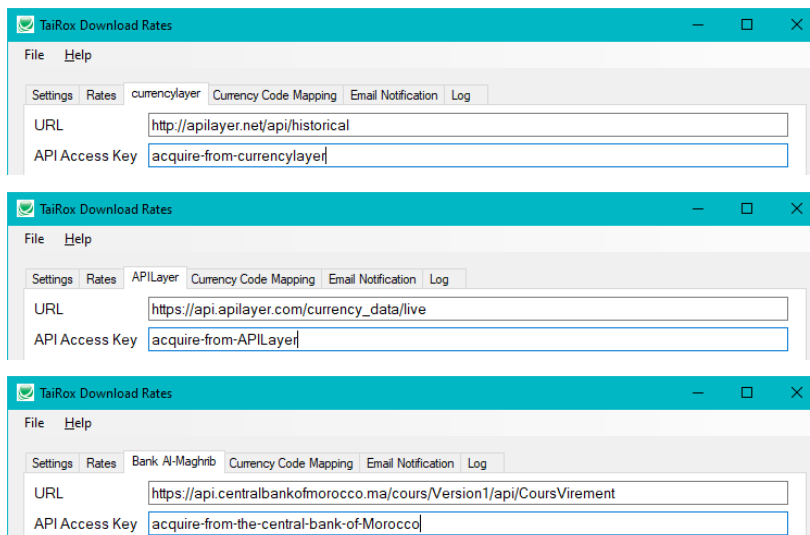
Maximum Delay Time - Once retries reach this limit, the attempt to download rates will be abandoned.

Delay Between Retry Attempts - This is the time that the program waits before the first retry attempt. An exponential back-off strategy is used - if 1 minute is specified as the delay, Download Rates will wait 1 minute, 2 minutes, 4 minutes, 8 minutes and so on until the Maximum Delay Time is reached.

currencylayer / APILayer / Bank Al-Maghrib Tab

The currencylayer, APILayer and Bank Al-Maghrib providers require that you subscribe to their services and obtain an account which you need to specify on this tab in order to use it. If you choose most free exchange rate service providers, such as Bank of Canada, this tab will not be visible.

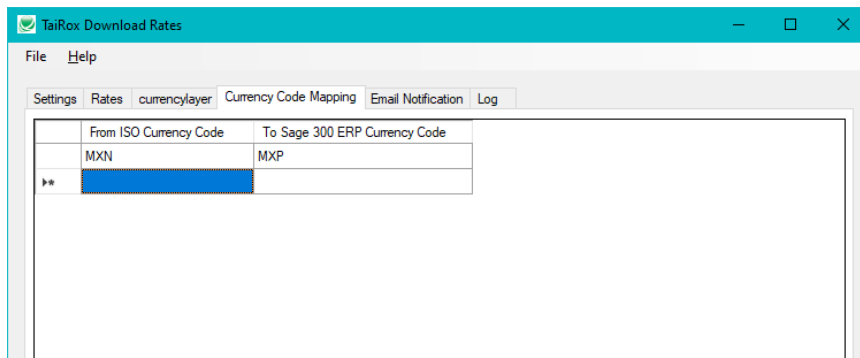
Important Note: The provider will supply you with a valid API key. The API key shown below is not valid.



Currency Code Mapping Tab

Providers use ISO Currency Codes, and Sage 300 Currency Codes are normally set up to match. However, if the rate codes don't match, Download Rates can remap them.

Note that an ISO code will sometimes change. For example, Mexico's currency code was changed from MXP to MXN when this country introduced the **nuevo peso** in January 1993. A client using an older code may not wish to convert their Sage 300 databases, and so will have to remap the currency codes.



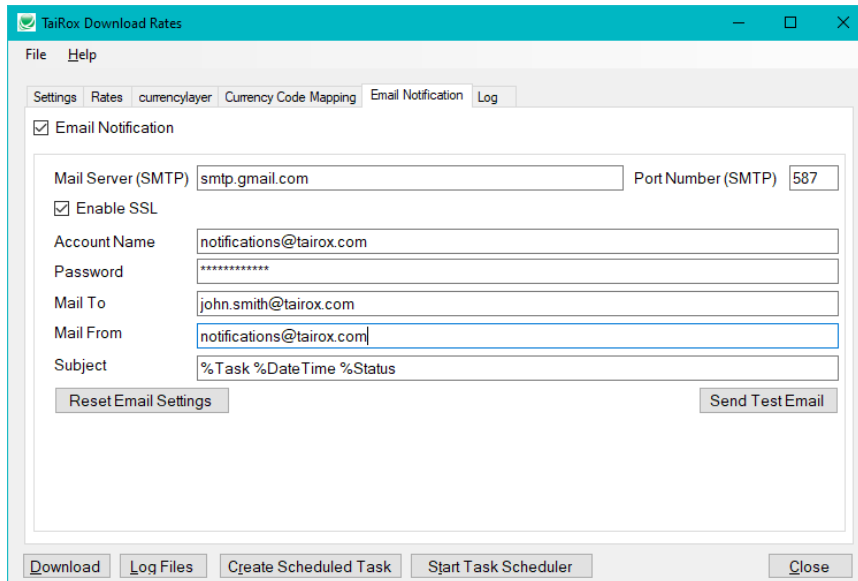
Email Notification Tab

Email notification may be turned on or off. You can use any SMTP server accessible from the server with credentials as you would set them up in an email client such as Outlook.

The settings shown below use notifications@tairox.com, a Gmail account for sending out notifications. (Note that this is not a publicly available email account.)

Select the Email Notification checkbox, enter your server information and email ID in the Mail To field, and click the Send Test Email button to check that the settings work.

You will need proper credentials that work from the computer running Download Rates.



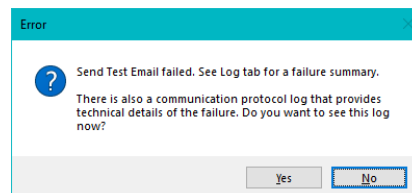
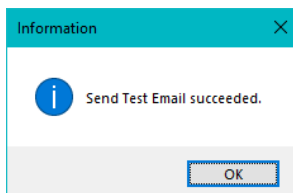
Mail To: You can include any number of email addresses, separated by commas or semi-colons.

Subject: Use any subject line you want.

The codes %Task, %DateTime and %Status will be replaced respectively by the Task Name on the Server Tab, the Date and Time that the job completes and the Status of the job (SUCCESS or FAILURE). For compatibility reasons %Job will be treated the same as %Task.

The Reset Email Settings button will blank all fields except the port number and the subject.

Send Test email: Click this button to test email settings. One of the following dialogs can appear depending on whether the test was successful. If the test fails, check the log file by clicking the Yes button in the error message.



Note regarding “Enable SSL” if unsupported by the SMTP server

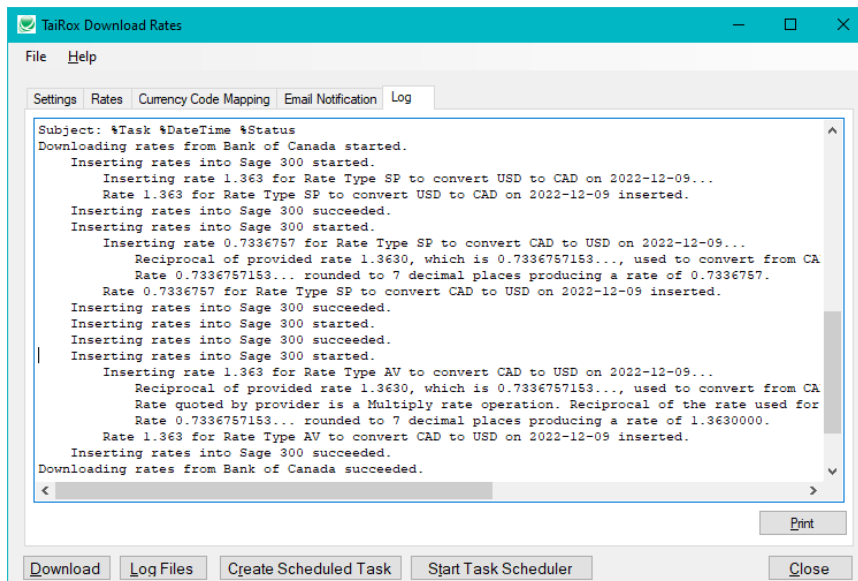
If you select the “Enable SSL” checkbox, the program will first try to send a test email securely. If it does not succeed, it will try to send a test email insecurely. The program will display an error message if the secure test fails, but the insecure test is successful.

If this message appears, it means that:

- Your SMTP server does not support current email communication styles on the port provided. (The "Enable SSL" checkbox has different meanings for different email sending mechanisms, particularly older ones.)
- You should uncheck “Enable SSL” to send emails without SSL protection.

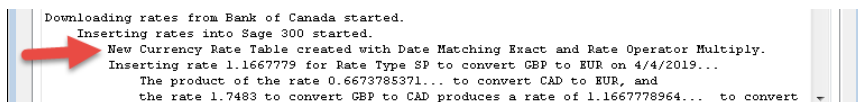
Sample Download Log File

Click the “Log” tab to view a log file after running Download Rates. The end of a sample log file shows values retrieved and any calculations performed.



Important Note: If a rate already exists for a given date, it will NOT be updated in Sage 300. This allows you to manually correct any mistakes made by a service or to have manual entries previously entered NOT be overridden.

When a currency rate table needs to be added to Sage 300 as a result of the download, the operation will be logged, and the date matching and rate operator settings from the rates tab will be used to create that table.



Create Scheduled Task

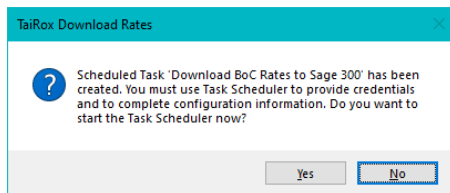
Download Rates will create a basic task with that can be managed with the Task Scheduler.

- You must save the settings file *before* you click the Create Scheduled Task button. Open the Task Scheduler *after* you click the Create Scheduled Task button.
- The task will be in the root folder and have the Task Name from the Download Rates Settings tab.
- Change security options to run the task whether the user is logged on or not.
- Set the task to run with the highest privileges.

We provide this feature to ensure that the Task Scheduler's Action tab will be populated with the correct path to the Download Rates program and also populated with the current XML path and name. These are the most common errors made by Sage 300 consultants not familiar with the Task Scheduler.

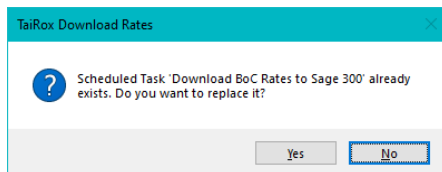
Important Notes: The task created by Download Rates will not run on a regular basis until you edit the task and provide credentials. Other important options will also need to be set up properly. Consult Task Scheduler documentation for important details beyond the scope of this document.

If the task is successfully created, a message will appear:

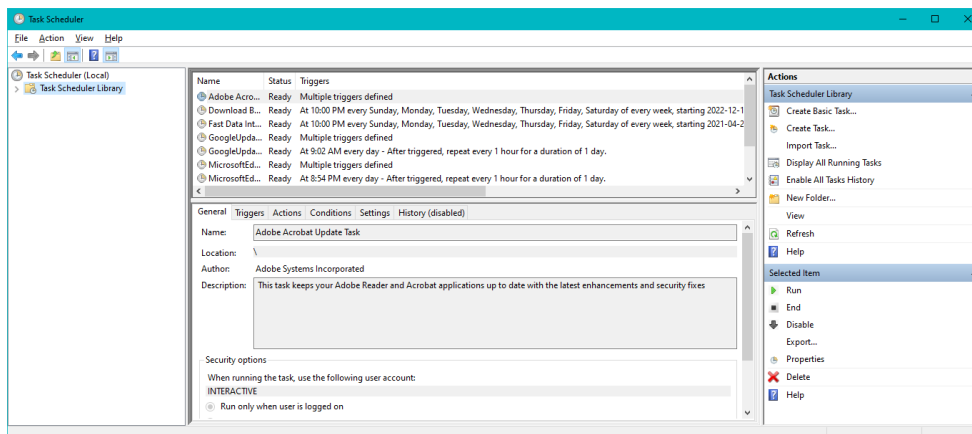


If a task with the same name already exists, you will be warned.

Note that replacing the task means not retaining any existing task settings:



The Task Scheduler varies in appearance from one version of Windows to another. Typically:



Troubleshooting Download Task Issues

Download Rates works interactively but the download fails when run as a task

First, check that the provider has rates at the time the download runs. When you run the download interactively, you can specify a date for the rates. When you run the download as a task, Download Rates will use the O/S date and time.

Check the following settings for the scheduled windows task:

- If the path to the XML file has blanks and there are no quotes (") around the path+file name.
- That the user account for the task has logged onto the machine running the task and has a user profile.
- That you selected "Run whether user is logged on or not".
- That other task settings – e.g. run with highest privileges – have been properly set up.

Note: Make sure that your user account can run Download Rates interactively and can run a scheduled task. Even if using an Admin account, you may have to change Active Directory security settings to run the Download Rates scheduled task with your account.

- Whether another task for DownloadRates.exe – created during testing – is already running. (Delete with Task Manager.)

Diagnosing Issues with Scheduled Tasks

If you are setting up as a Windows Scheduled Task, a good strategy is to set up a task and run it on a small test database first – such as SAMLTD. If that works, then set up your production database.

- Set up Download Rates for the small test database (e.g. SAMLTD) and store the settings in an XML file.
- ***Make sure that Download Rates works interactively before you set up the scheduled task.***
- Create a task using the Create Scheduled Task button in Download Rates to make sure that the paths are correct for the program and for the settings XML file. Incorrect path names are often the issue for tasks.
- Run the task from the Task Scheduler and see if it runs properly. This will prove that you have correct file names (with quotes if blanks are in paths).
- Set up the task to run in 5 minutes, then exit the Task Scheduler and log off. Check to see what happened in 6 minutes.
- Look at the Download Rates logs.
- Check the history of the task in the Task Scheduler. If tasks are still running, delete them.

Now set up the real databases and schedule tasks to run overnight. Come back and check the next day.

- If the notification emails didn't arrive, you'll have to see where they are being blocked.

Example of Settings and Permissions Required to Run a Batch File from a Scheduled Task

See [Fix Scheduled Task -- from Help Desk Geek](#) for an example of the permissions and settings to check to fix a scheduled task that runs a batch file (*.bat). If you can't run a batch file with your account, you cannot run Download Rates.

Download Rates FAQ

Read the user guide carefully in addition to reviewing this FAQ. The user guide provides specific guidelines for configuring Download Rates.

Issues with Running Download Rates from a Task

Note that Download Rates requires a LanPak license to access Sage 300. If there are no LanPak licenses available, the program will not run.

See [Troubleshooting Download Task Issues](#) for more information on diagnosing problems running download tasks.

Installation and Upgrade Issues

Q: Where can I get release notes for Download Rates, and what will they tell me?

A: Click the [Release Notes](#) link in the upper left-hand corner of the Download Rates product page on the TaiRox web site.

Among other things, the Release Notes will tell you about recent fixes and provide program compatibility information. For example:

Build 2019-12-12 (7285)

- Update will work with US Federal Reserve provider when running as a scheduled task (in some environments).

Build 2019-09-25 (7207)

- Improved handling of SSL email testing reports non-SSL connection results when SSL connection fails.

Build 2019-06-24 (7114)

- Support provided for Sage 300 2020.

- Support added for U.S. Federal Reserve (new RSS feed formats).

Email Notification Issues

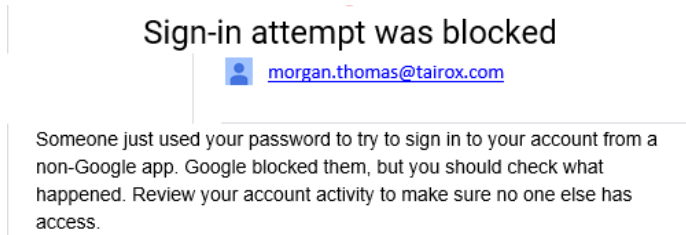
Note regarding “Enable SSL” if unsupported by the SMTP server

If you select the “Enable SSL” checkbox, the program will first try to send a test email securely. If it does not succeed, it will try to send a test email insecurely. The program will display an error message if the secure test fails, but the insecure test is successful.

If this message appears, it means that:

- Your SMTP server does not support current email communication styles on the port provided. (The “Enable SSL” checkbox has different meanings for different email sending mechanisms, particularly older ones.)
- You should uncheck “Enable SSL” to send emails without SSL protection.

Q: Why did Gmail reject my login credentials from Download Rates.



A: *The server login was rejected because it didn't come from a "Google" application.*

If you are using a Gmail server for email notifications, your server administrator can change the access restrictions to let Download Rates send notifications. Refer to Google support for details.

See Google support – for example,
<https://support.google.com/cloudidentity/answer/6260879?hl=en>

Q: What port number should I use for the SMTP server?

A: *A "typical" setting would be port 465 with SSL enabled. See the note, above, regarding "Enable SSL".*

The default SMTP server ports are as follows:

Default Ports:	Server:	Port:
SMTP Server (Outgoing Messages)	Non-Encrypted	25 (or 587)
	Secure (TLS)	587
	Secure (SSL)	465

Ports 465 and 587 are intended for email client to email server communication – sending out email using SMTP protocol.

Port 25 is generally used for communication between mail servers.

Rates Download Issues

Q: Why does Download Rates hang when run as a scheduled task?

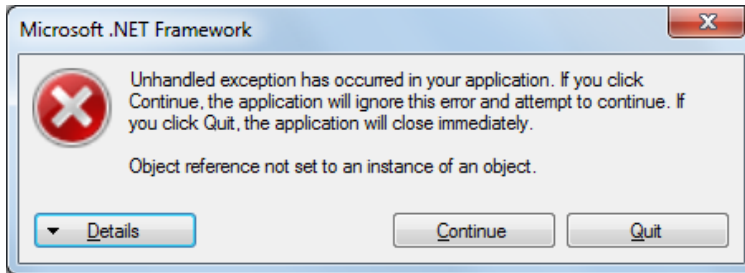
A: Check [Troubleshooting Download Task Issues](#) in this guide.

When the program is executed, it uses a command-line parameter (an XML file name) to provide all configuration information for running and downloading rates.

If the XML filename parameter is missing from the command-line, the program starts and waits for you to provide further input – however, the Download Rates screen is hidden. If you open the Task Manager, you can see and end the task.

If the parameter is there but invalid, the program will generate an error and close (if running from the Task Scheduler). If you run it from a command prompt with an invalid / inaccessible XML path, it will display an error message (shown below).

Q: Why does the following error message appear when I run Download Rates?



A: A common reason is that the path or filename of the XML settings file is incorrect.

Check that the XML filename and path are correct, and – if there are blanks in the path – check that the name is surrounded by quotes (").

Q: Why did Download Rates fail and provide no log information?

The complete log entry is as follows:

```
TaiRox Download Rates Build 7206 created on 2019/09/24 Started on <server name>
```

```
TAIROX SOFTWARE INC
100030-000000-20201010-91495697010584717600659896109623
FAIL: There are no rates defined to download.
```

```
TaiRox Download Rates failed. on WIN-8KPJ32L4SDG Total time 00:00:00.01.
```

A: The program did not load the XML settings file. Check that the path or filename of the XML settings file is correct – and accessible to the user account running Download Rates.

Q: Why did the scheduled task for Download Rates suddenly stop working?

A: Check the errors logged for the Windows task and try to run Download Rates interactively to confirm that it still works. For example, one common reason for a sudden failure is that the license has expired.

Also check [Troubleshooting Download Task Issues](#) in this guide.

Q: I changed several settings in Download Rates, then resaved the XML file under a new name. The name is correct in the UI, but the task continues to run as it did before the changes. What's going on?

A: The scheduled task is still using the previous XML file. You have to edit the scheduled task in the Task Scheduler and specify a new file name on the Actions tab for the task properties.

Q: Why did the download fail from the US Federal Reserve?

FAIL: Download rates from U.S. Federal Reserve failed. Error=Object reference not set to an instance of an object.

06/19/18 16:38:12 - WARNING: There were no rates downloaded to process.

A: US Fed is no longer providing rates in a timely fashion.

We recommend currencylayer's and APILayer's services as they provide rates every day. Your client will have to subscribe to their monthly services.

If you want to use a free rate provider, you can use the Bank of Canada. While the Bank of Canada only posts versus the Canadian dollar, Download Rates will "triangulate" (CNY to CAD, CAD to USD) to get a correct rate.

Q: FAIL: System Error. Exception occurred at DownloadRates. Error='The requested security protocol is not supported.'. Please ensure to install all the latest Windows Updates to enhance your computer's security and performance.

A: *This error message originates from the .NET framework. You can Google the message to see suggestions from other users.*

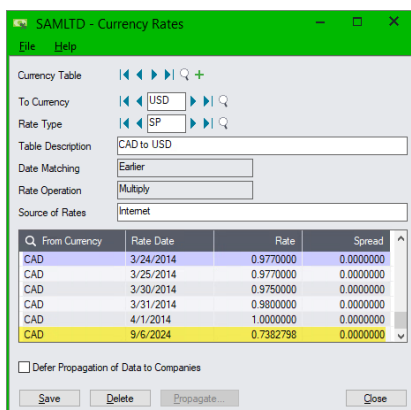
Check the versions of .NET Frameworks on your system and check that TLS 1.2 protocol is enabled on your server.

Note that although Download Rates uses .NET Framework 4, you also require .NET Framework 4.5 be installed if you are using some of the newer security protocols (TLS 1.2 specifically). Many websites now require that TLS 1.2 or later be used in order to communicate with them.

Install all Windows updates for your platform. For example, Googling shows that early versions of Windows Server 2012 SR2 and Windows 8 had TLS1.2 issues with other applications, typical support / update article:

<https://support.microsoft.com/en-ca/help/3140245/update-to-enable-tls-1-1-and-tls-1-2-as-default-secure-protocols-in-wi>

Q: I have “Propagate Rates to all Companies” unchecked, but Download Rates downloaded the rates to all companies that shared the same system database. Am I missing something? (Here is the Common Services Currency Rates screen.)



A: *The Currency Rates displayed in the above UI are from the system database table CSCRD. If you uncheck “Propagate Rates to all Companies,” the rates will not be copied to table CSCRD in any company databases. This is the equivalent of selecting the “Defer Propagation of Data to Companies” checkbox on the Sage 300 Currency Rates UI (shown above). We have tested Download Rates, and the “Propagate Rates to All Companies” checkbox works as expected.*

Currency Configuration Issues

Q: I have two system databases. Do I need two download rate “profiles” and two Windows scheduled tasks?

A: Yes, you need two Download Rates configurations.

Note that while a Basic Windows Task can be set up to run one program, you can also set up a single (Non-Basic) Windows Task to run several programs in sequence. This might be easier to manage than two Windows scheduled tasks.

Q: Tairox Download Rates is working, but rates are not updated for weekends or statutory holidays.

I have custom reports for this client that requires rates every day, and now the client is required to manually update rates for Week-ends and Statutory holidays.

A: Who is the rate provider? For example, the Bank of Canada does not provide new rates on weekends and holidays.

We recommend currencylayer's and APILayer's services as they provide rates every day. Your client will have to subscribe to their monthly services.

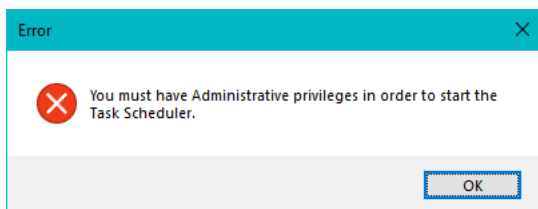
A few more points:

- Does your scheduled task run every day?
- The message "There were no rates downloaded to process" is logged most often when the provider has no rates for a day.

If you run the job early in the day, the rates provider may not have new rates for that day. The results should be the same when run interactively or as a task EXCEPT that interactively you can specify a date; whereas, when run as a task Download Rates will use the O/S date.

Scheduled Task Issues

Q: I'm running Windows 10. I get this message when I click “Start Task Scheduler”, and a similar message when I try to create a scheduled task. I am an administrator on the server, and I can start the Task Scheduler from the Windows Search field. What's wrong?



A: Try running Download Rates as an administrator. Go to Program Files (x86), right-click DownloadRates.exe, and select Run As Administrator.

Q Why does Download Rates hang when run as a scheduled task?

A: Check [Troubleshooting Scheduled Task Issues](#) in this guide.

When the program is executed, it uses a command-line parameter (an XML file name) to provide all configuration information for running.

If the XML filename parameter is missing from the command-line, the program starts and waits for you to provide further input – however, the Download Rates screen is hidden. If you open the Task Manager, you can see and end the task.

If the parameter is there but invalid, the program will generate an error and close (if running from the Task Scheduler).

Q: Why did the scheduled task for Download Rates suddenly stop working?

A: Check the errors logged for the Windows task and try to run Download Rates interactively to confirm that it still works. For example, one common reason for a sudden failure is that the license has expired.

Also check [Troubleshooting Scheduled Task Issues](#) in this guide.

Q: FAIL: System Error. Exception occurred at Download Rates. Error='The requested security protocol is not supported.'. Please ensure to install all the latest Windows Updates to enhance your computer's security and performance.

A: This error message originates from the .NET framework. You can Google the message to see suggestions from other users.

Check the versions of .NET Frameworks on your system and check that TLS 1.2 protocol is enabled on your server.

Note that although Fast Data Integrity uses .NET Framework 4, you also require .NET Framework 4.5 be installed if you are using some of the newer security protocols (TLS 1.2 specifically). Many websites now require that TLS 1.2 or later be used in order to communicate with them.

Install all Windows updates for your platform. For example, Googling shows that early versions of Windows Server 2012 SR2 and Windows 8 had TLS1.2 issues with other applications, typical support / update article:

<https://support.microsoft.com/en-ca/help/3140245/update-to-enable-tls-1-1-and-tls-1-2-as-default-secure-protocols-in-wi>

Q: I changed several settings in Download Rates, then resaved the XML file under a new name. The name is correct in the UI, but the task continues to run as it did before the changes. What's going on?

A: The scheduled task is still using the previous XLM file. You have to edit the scheduled task in the Task Scheduler and specify a new file name on the Actions tab for the task properties.

