



ASX

ASX SFTP

External User Guide



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1. Solution Overview

To facilitate delivery of reports to Customers from ASX, a Secure File Transfer Protocol (SFTP) service is being made available at ASX. Reports will need to be collected by the Customer from the SFTP service.

The production SFTP solution domain name is FTP.ASX.COM.AU. ASX also provide a replica solution for the testing services which has a domain name of FTPtest.ASX.COM.AU.

SFTP provides end to end encryption of data between the SFTP client and server.

Authentication to the SFTP server will require creation of SSH keys that will be registered in the SFTP server.

1.1. Business Continuity Solution

The ASX production solution will have a replicated Business Continuity instance. ASX will have a single presentation of the domain name, meaning ASX Customers will not need to make any changes in an event of an ASX site issue.

It is the responsibility of the ASX Customer to validate access from their primary and secondary sites and ensure the SSH keys are configured correctly and access to ASX SFTP is regularly tested.

1.2. User Manual Audience

The ASX SFTP External User Guide is to provide technical administrators of ASX Customers the necessary detail to connect to the ASX SFTP server and collect reports.

Users of the ASX SFTP Service:

- ASX Clear (Futures) Clearing Participants (OTC and / or Futures)
- Clients of ASX Clear (Futures) Clearing Participants (OTC and / or Futures)
- ASX Energy Data Centre Subscribers

Readers of this manual should refer to the relevant section(s) that are applicable to their or their Clearing Participant's ASX membership or ASX Energy Data Centre subscription type.



Note:

ASX Energy Data Centre subscribers should also refer to the [ASX Energy Daily Files User Guide](#) for further details on the report content structure.

2. Requesting SFTP Access

ASX Customer Technical Support (CTS) provides support for the SFTP service. Customers requiring access to the SFTP environment will be required to submit a provided [SFTP Account Request Form](#) [ASX Energy SFTP Account Request Form](#) to:

ASX Customer Technical Support:

Email the completed form to: cts@asx.com.au

Phone: +612 9227 0372

Customers will also need to provide CTS an SSH Public Key.

2.1. SFTP Accounts

The naming convention utilised for SFTP accounts is:

- A three character customer code (e.g. XYZ, as in XYZ_Download)
- A sub-group name that identifies either:
 - The ASX product/service (e.g. OTC, as in XYZ_OTC or Futures, as in XYZ_ETD)
 - A specific name from the requester (e.g. XYZ_UserDefinedName).

The following account types are provided:

- **Multiple Service Account** - This is a generic account to access multiple ASX services, i.e. an account for an automated service. For firm code XYZ, a generic account to access multiple ASX Services (e.g. both ASX OTC and ASX Clear (Futures)), will always be set as XYZ_Download (where XYZ represents the 3 character firm code).
- **Single Service Account** - This is a generic account to access a specific ASX service, i.e. specific accounts for when different business units require segregated access to particular ASX Services. For firm code XYZ, a generic account to access a specific ASX product/service (e.g. ASX OTC), will always be set to include the name of the product/service, (e.g. XYZ_OTC (where XYZ represents the 3 character firm code)).
- **Additional Accounts** - Multiple customer defined accounts can be requested for a particular service, i.e. accounts for automated processes and an account for an operational team to troubleshoot the service via an SFTP client. In this case, the account created is based on a name provided by the requester, (e.g. for Firm XYZ, the account created will be XYZ_[Requested ID]).



Note:

Each connecting device (i.e. primary and backup server) will require an SSH key, however one account can have more than one SSH key. Alternately, more than one instance of a Multiple Service Account may be requested.

2.2. Authentication (SSH Key Usage)

The SFTP service utilises SSH public and private key combinations for secure access. The requester (ASX customer) generates the SSH key combination. The SSH private key is retained by the requester and the public SSH key is provided to ASX. An SSH key combination can be utilised by more than one account. The key ensures that a very strong password is used for access to the SFTP and that no manual intervention (to enter a password) is required.



Note:

ASX enforces use of 2048 bit generated SSH-2 RSA keys

For ASX Customers to be able to download reports from the SFTP server, customers will need to provide ASX with their public key and Public IP address in addition to the SFTP Account.

OS X or Linux users can generate a key pair utilising the “ssh – keygen” command. E.g. ssh –keygen –t dsa (example only).

Microsoft users can utilise Appendix 1 – Windows SFTP for key generation and usage guidelines.

2.3. Account Permissions

Accounts provided for approved ASX customers will have the following access rights/permissions on the SFTP server:

- Download reports
- View their own folders
- Resume transfers.

2.4. Simultaneous Login

Multiple simultaneous logins are not allowed per Account on ASX SFTP.

2.5. Account Policies

The following account policy settings have been configured:

Settings	Security Standard
Account Lockout	A banning function will be used to ban an attacker IP for a period of time when a number of unsuccessful password attempts are detected.
Expiring Accounts	An Account will be set to expire if it has been inactive for 3 months or 90 days. A customer can request for an Account to be re-activated through ASX Customer Technical Support. Accounts that have been inactive for 3 months will be deleted.

3. SFTP Folder Structures

The reports for each ASX service will be contained within a set structure for Customers (ASX Clear (Futures) Clearing Participants (OTC and / or Futures) and their Clients) and ASX Energy Data Centre subscribers to download. Readers of this manual should refer to the section or sections that are relevant to them.

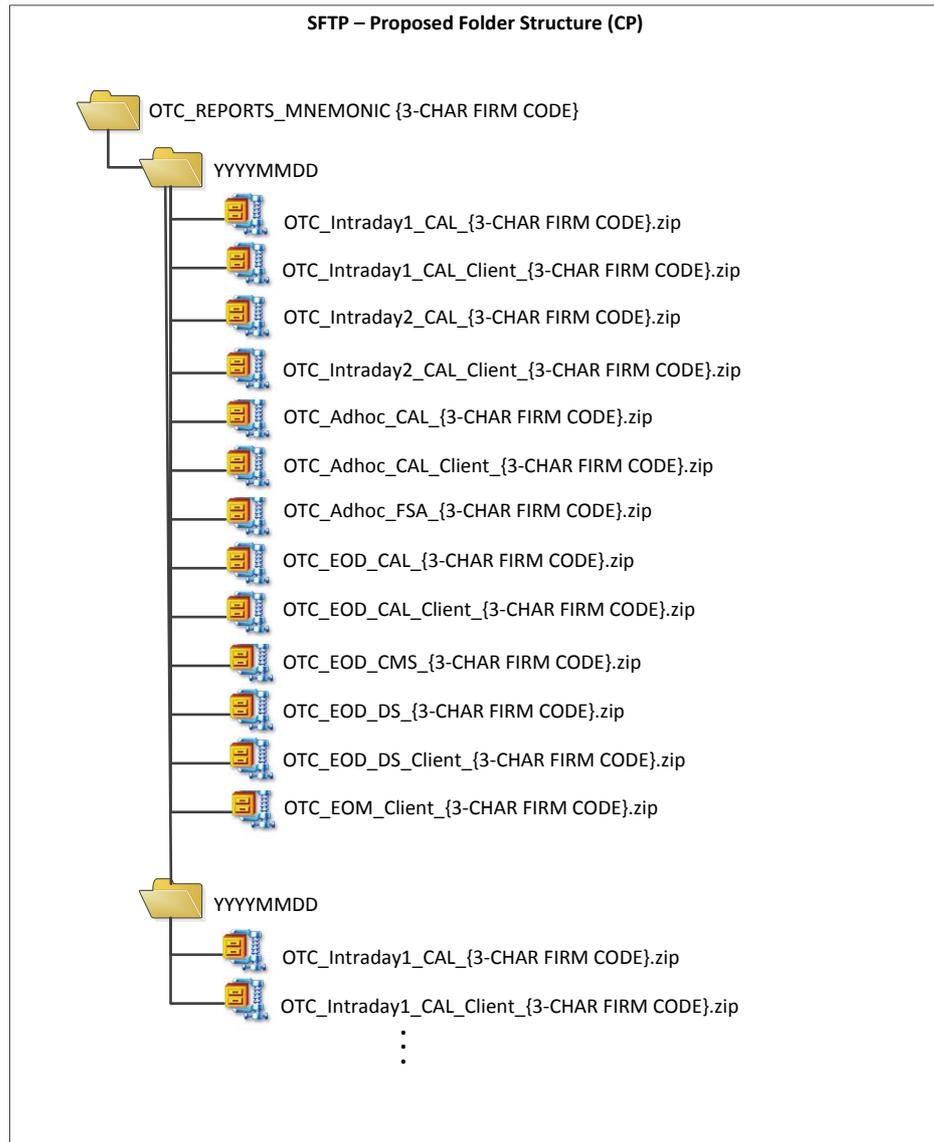
For further details on the reports contained within the folders, customers should refer to the relevant provided report specifications..

3.1. OTC Folder Structure

3.1.1. OTC Clearing Participant Reports

The following structure will be accessible for the OTC Clearing Participants on the SFTP server:

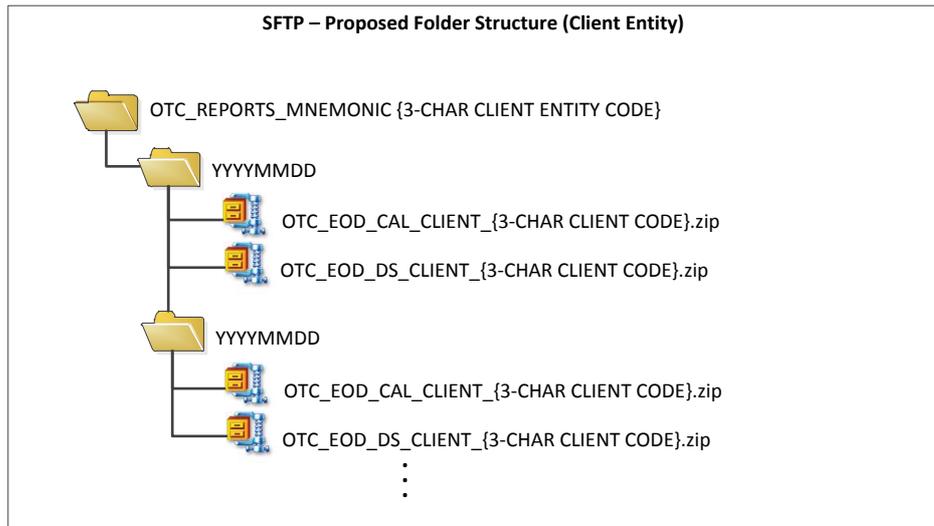
- OTC_REPORTS_<Three char Clearing Participant entity code>
 - YYYYMMDD
 - OTC_<frequency>_ [<source system if applicable>]_<Three char Clearing Participant entity code>.zip
 - OTC_<frequency>_ [<source system if applicable>]_CLIENT_< Three char firm or client entity code>.zip.



3.1.2. OTC Client Clearing Reports

For direct OTC Client reporting, the structure will be the same however reduced:

- OTC_REPORTS_< Three char client entity code>
 - YYYYMMDD
 - OTC_<frequency>_<source system if applicable>_< Three char client entity code>.zip.



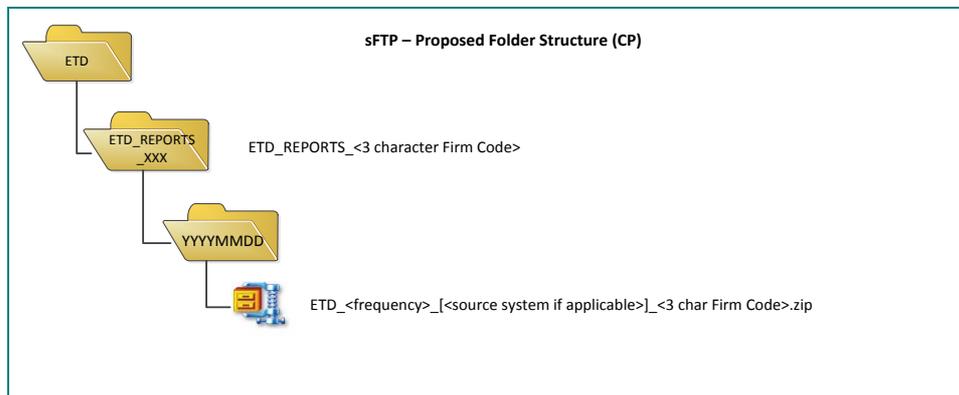
3.2. ETD Folder Structure

3.2.1. ETD Clearing Participant Reports

The following structure will be accessible for the ETD Clearing Participants on the SFTP server:

- ETD_REPORTS_<Three char Clearing Participant entity code>
 - YYYYMMDD
 - ETD_<frequency>_ [<source system if applicable>]_<Three char Clearing Participant entity code>
 - ETD_<frequency>_ [<source system if applicable>]_CLIENT_< Three char firm or client entity code>

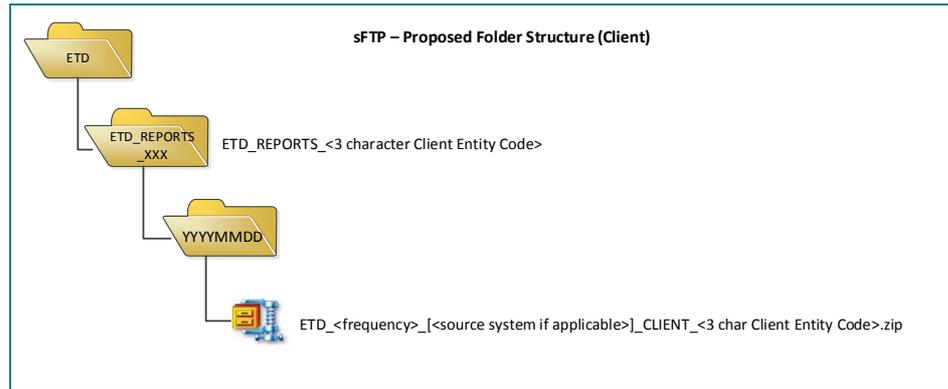
Note: unlike the OTC structure, these files will not be zipped.



3.2.2. ETD Client Clearing Reports

For direct ETD Client reporting, the structure will be the same however reduced:

- ETD_REPORTS_< Three char client entity code>
 - YYYYMMDD
 - ETD_<frequency>_ [<source system if applicable>]_< Three char client entity code>.



Note: unlike the OTC structure, these files will not be zipped.

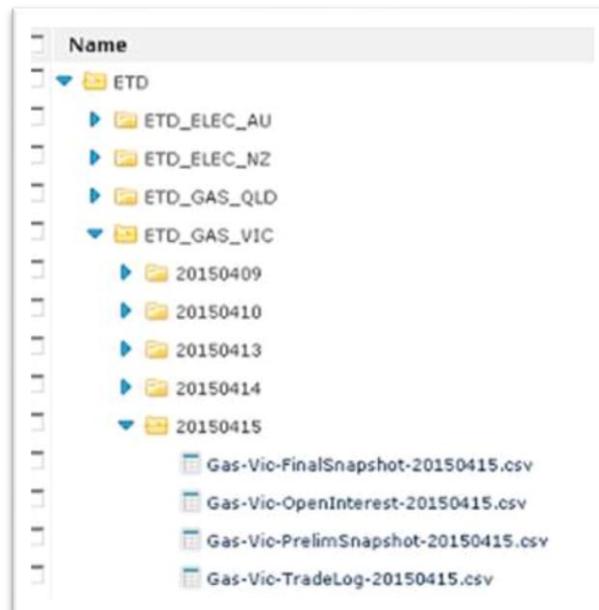
3.3. ASX Energy Data Centre Folder Structure

3.3.1. ETD ASX Energy Reports

There are two (2) report structures for ASX Energy Reports via sFTP.

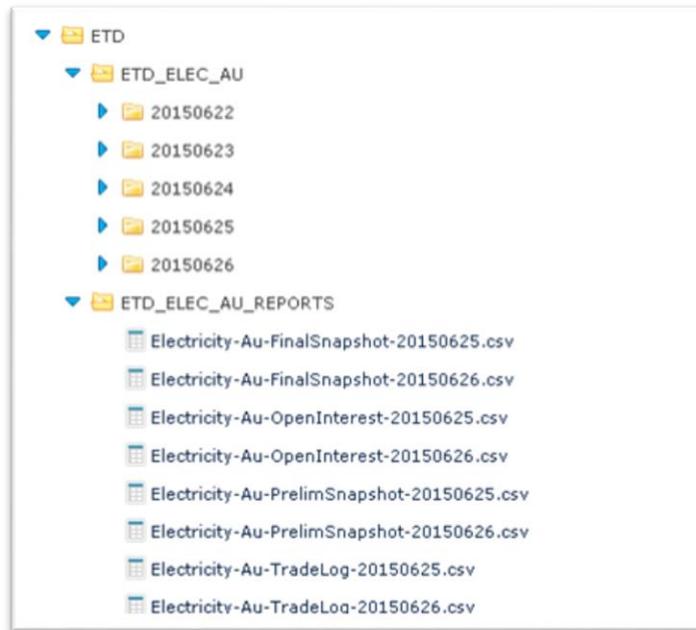
The following structure will be accessible for the ETD ASX Energy Data Centre subscribers who have developed to a dated (YYYYMMDD) sub-folder structure on the SFTP server:

- ETD_<MARKET>_<REGION>
 - YYYYMMDD
 - <Market>-<Region>-PrelimSnapshot-YYYYMMDD.csv
 - <Market>-<Region>-FinalSnapshot-YYYYMMDD.csv
 - <Market>-<Region>-TradeLog-YYYYMMDD.csv
 - <Market>-<Region>-OpenInterest-YYYYMMDD.csv



The following structure will be accessible for the ETD ASX Energy Data Centre subscribers who have developed to a non-dated sub-folder structure on the SFTP server:

- ETD_<MARKET>_<REGION>_REPORTS
 - <Market>-<Region>-FinalSnapshot-YYYYMMDD.csv
 - <Market>-<Region>-OpenInterest-YYYYMMDD.csv
 - <Market>-<Region>-PrelimSnapshot-YYYYMMDD.csv
 - <Market>-<Region>-TradeLog-YYYYMMDD.csv



3.4. Report Distribution Schedule

The distribution of reports will vary between services. Customers should refer to the service specific reporting specification to confirm the report distribution schedules.

Accessing Reports

The ASX SFTP solution is standard. ASX customers can access the FTPtest.asx.com.au site from the command line or from any SFTP client that supports SSH connections.

UNIX and LINUX customers are able to utilise native SCP commands.

Microsoft environments do not natively support secure copy commands. Appendix 1 – Windows SFTP provides a guideline for coping files.



Note:

Alternate solutions are available and it is the customer's responsibility to choose a solution appropriate to them and to licence appropriately.

4. Customer Firewall Configurations

ASX Customers connecting to the ASX SFTP solutions will need to allow the following configurations via their firewalls:

Environment	Domain Name	IP	Port
Test (IWT)	FTPtest.ASX.COM.AU	203.15.147.178	22
Production	FTP.ASX.COM.AU	203.15.145.110	22

5. SFTP - Frequently Asked Questions

5.1. Setting up

Can we use the same public keys for our Test and Production accounts?

No, to ensure the controls are in place (at the CP and the ASX) that enforce separation of test and production data we require separate keys for the test and production environments.

Can the ASX make a static folder for my files that doesn't change with the date?

No, this is currently not feasible with the ASX SFTP solution.

Can I supply 1024 bit generated public keys?

No, ASX enforces use of 2048 bit generated SSH-2 RSA keys.

Do I need a particular Operating System to use SFTP?

SFTP is a network protocol for secure file transfer. It does not depend on what OS is running on each side. Customers can access ASX SFTP server from any SFTP client that supports SSH connection, no matter it is running on Windows, Linux or other OS.

What will my SFTP account name be?

Once set up your account name will follow the naming conventions:

For Production accounts - [3-digit Participant Code]_[3-digit service]_Prod

For Test accounts - [3-digit Participant Code]_[3-digit service]_Test

Where multiple accounts are selected to be set up this will be followed by a number for the account.

e.g. Where Clearing Participant ABC is applying for two accounts for the Futures Clearing Reports, the following accounts will be set up.

ABC_ETD_Prod1

ABC_ETD_Prod2

Is the ASX SFTP solution available over existing ASX leased lines?

No, the SFTP solution is currently only available via the internet.

5.2. Troubleshooting

Please see the below Frequently Asked Questions and if this does not help to resolve your query, please contact Customer Technical Support CTS@asx.com.au and provide as much detail as possible on the error messages you are receiving.

I am unable to log in to SFTP due to Firewall issues

Firewall settings will need to be configured with your network support administrator. See Section 5. Customer Firewall Configurations for further details.

I am able to log in but unable to access my reports

Please ensure that the folder path name is correct – see user guide for more details on the specific report names, however the path to these reports should be

/ETD_REPORTS_[3-digit participant code]/yyyymmdd/[report name]

For users who are subscribed to more than one report type, the folder path will show the different report type folders and then the dated report folders.

I am no longer able to connect to ASX and download files error message “Connection Closed by remote host” / Connection reset by peer”

ASX has

Imposed restrictions on the server to limit multiple simultaneous attempts to access the folders by the same CP. This is particularly common during testing. This can result in an automatic ban on certain applications. Please contact ASX detailing the error message and we will rectify this issue.

6. ASX SFTP Contacts

6.1. Account set ups

ASX Customer Technical Support (CTS) provides support for the SFTP service. Customers requiring access to the SFTP environment will be required to submit a provided [SFTP Account Request Form](#) to:

ASX Customer Technical Support :

Email the completed form to: cts@asx.com.au

Phone: +612 9227 0372

6.2. Connectivity Issues

If you are experiencing issues with establishing connectivity to your ASX SFTP folders, please contact ASX Customer Technical Support providing as many details as possible (specific error messages) on:

ASX Customer Technical Support

Email: cts@asx.com.au

Phone: +612 9227 0372

6.3. Report Queries

If you have any queries about the ASX Clear Futures (OTC or ETD) reports that are available in the SFTP folders, (e.g. report specifications, missing reports etc) please contact:

ASX Clearing Operations

Email: asxclearfut@asx.com.au

Phone: +612 8298 8479

If you have any queries about the ASX Energy End of Day File reports that are available in the SFTP folders, (e.g. report specifications, missing reports etc) please contact:

ASX Energy

Email: data@asxenergy.com.au

Phone: 1800 330 101

7. Appendix 1 – Windows SFTP



Note:

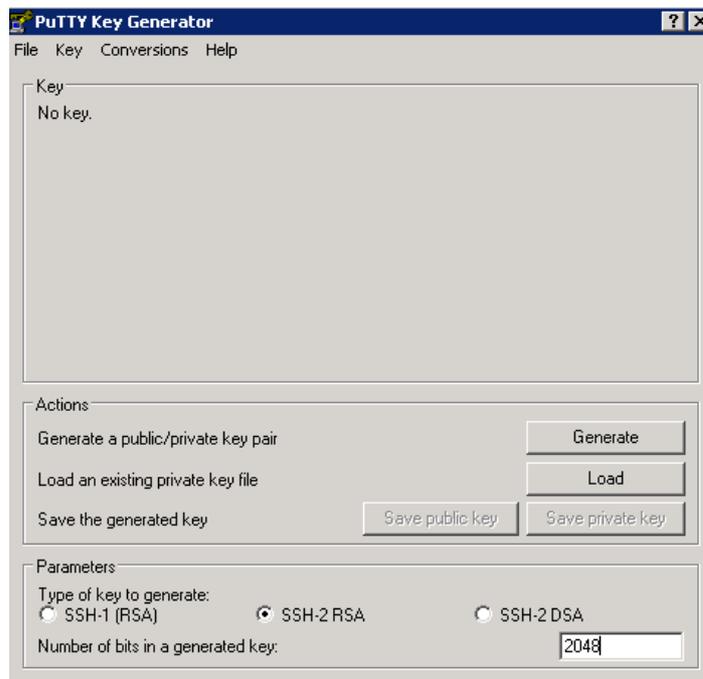
There are alternate SFTP client solutions available and it is the customer's responsibility to choose a solution appropriate to them and to licence appropriately. The details are provided as example only. ASX will not provide support for PuTTY utilities. PuTTY support calls will need to be directed to the vendor.

7.1. Generating an SSH Key on Windows using PuTTY

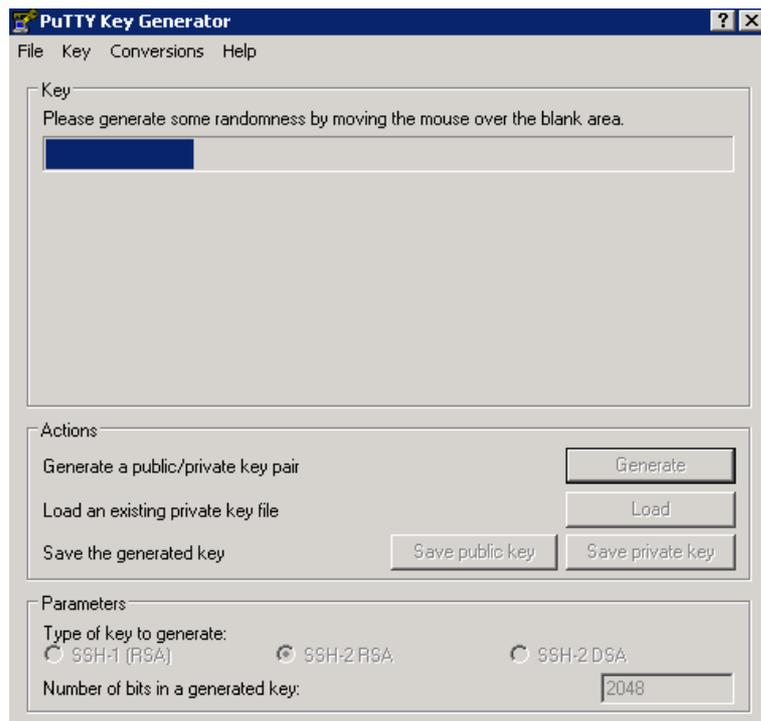
More details of this tool can be found at [PuTTY](#).

To generate an SSH Key on Windows using PuTTY:

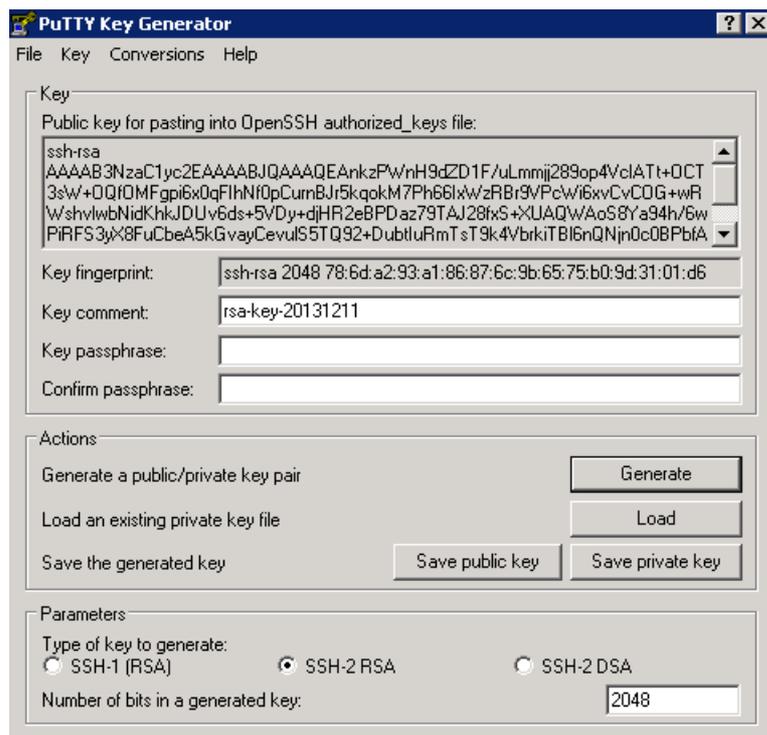
1. Download and start the puttygen.exe generator.



2. Select **SSH2 RSA** in the Parameters frame.
3. Set Number of bits in a generated key to 2048.
4. Click Generate.



5. Move your pointer in the small screen in order to generate the key pairs.

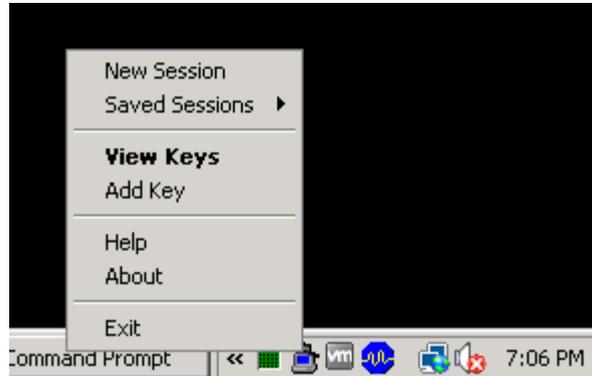


6. Enter a key comment, which will identify the key (useful when you use several SSH keys).
7. It is optional to type in the passphrase and confirm it. The passphrase is used to protect your key. However you will be asked for it when you connect via SSH.
8. Click "Save private key" to save your private key.
9. Click "Save public key" to save your public key.
10. Provide the public key to the ASX Customer Tehcnial Support.

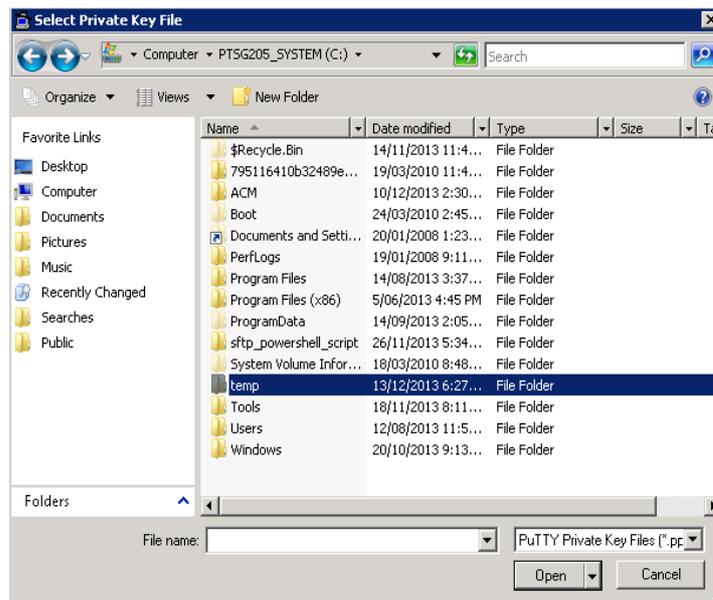
7.2. Using PSFTP Commands to SFTP Files with Windows

To download reports from the ASX SFTP server via Windows:

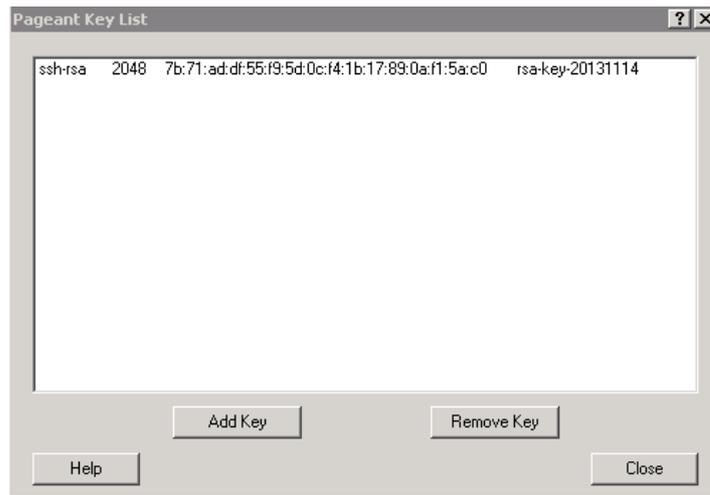
1. Download Pageant (SSH authentication agent) and PSFTP (SFTP client) from the [PUTTY website](#).
2. Start Pageant.exe. A Pageant icon will appear on the system tray.



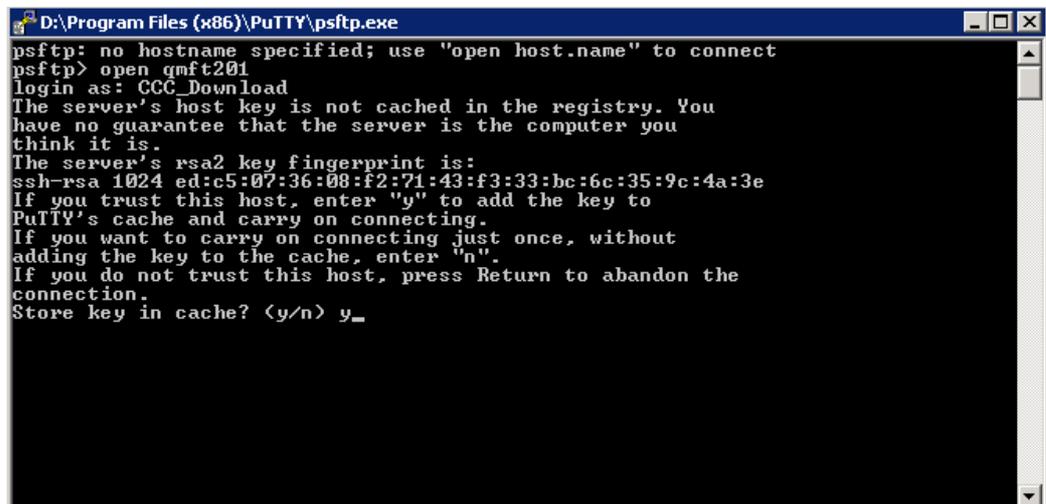
3. Right click the icon and select Add Key. Pageant will bring up a file dialog, labelled "Select Private Key File".
4. Find your private key file in this dialog, and press "Open".



5. Right click the Pageant icon and select View Key. The selected private key is displayed.



6. Start psftp.exe. A PSFTP command window will be launched.
7. psftp > open ftptest.asx.com.au ---- open a connection to ASX SFTP server.
8. For the first time connection PSFTP will ask if you trust the host and add the rsa2 key to cache. Enter "y".



9. Enter username.
10. psftp > ls --- list directories in remote server.
11. psftp > cd 20131213 --- change directory to where the file copy from e.g. 20131213.
12. psftp > ls --- list files under the directory.
13. psftp > lcd c:\temp --- change local working directory to where the file copy to e.g. c:\temp.

```

D:\Program Files (x86)\PuTTY\psftp.exe
psftp: no hostname specified; use "open hostname" to connect
psftp> open QMFT201
login as: CCC_Download
Using username "CCC_Download".
Further authentication required
CCC_Download@QMFT201's password:
Remote working directory is /
psftp> ls
Listing directory /
drwxrwxrwx  1 0      0          0 Dec 13 18:17 .
drwxrwxrwx  1 0      0          0 Dec 13 18:17 ..
drwxrwxrwx  1 0      0          1 Dec 13 16:22 20131213
psftp> cd 20131213
Remote directory is now /20131213
psftp> ls
Listing directory /20131213
drwxrwxrwx  1 0      0          0 Dec 13 18:18 .
drwxrwxrwx  1 0      0          0 Dec 13 18:18 ..
-rwxrwxrwx  1 0      0          166 Dec 13 16:22 OTC_Daily_CCC.zip
psftp> lcd c:\temp
New local directory is c:\temp
psftp> _

```

14. psftp > get OTC_Daily_CCC.zip --- copy the zip file e.g. OTC_Daily_CCC.zip from remote server.
15. psftp > quit --- terminate the session.

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