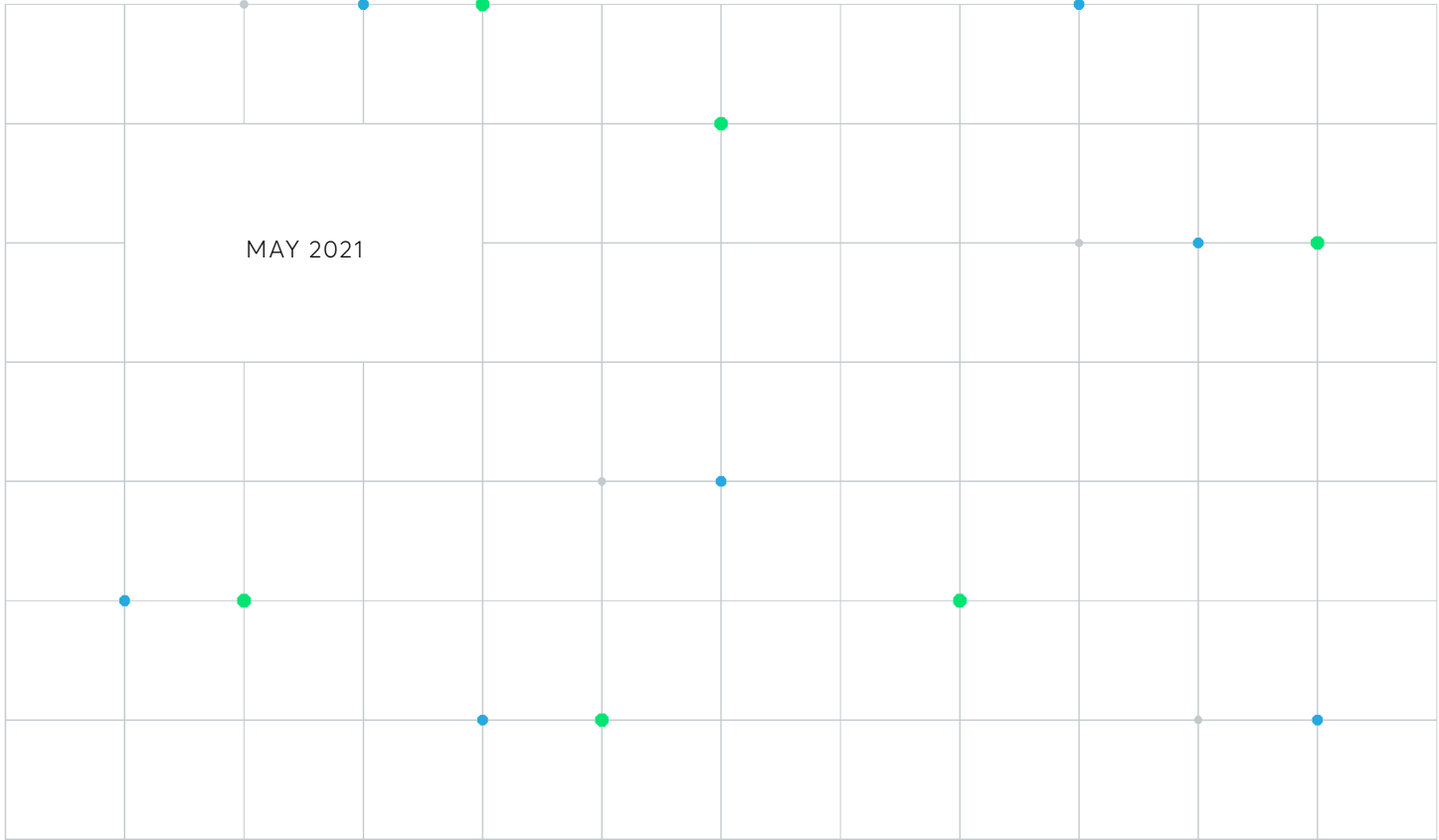


# BrokerTec Upload Facility User Guide

Version 3



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## 1. Introduction

MiFID II (and the UK's retained law of MiFID following Brexit) requires MTF and Regulated Market operators to be able to identify member firms, their users and their trading algorithms for regulatory reporting and record keeping.

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Under MiFID II Regulatory Technical Standards, BrokerTec has Transaction Reporting obligations for deals executed by non-MiFID (non-EEA for EEA trade venues/non-UK for UK trade venues) firms (RTS 22) and more general Record Maintenance obligations (RTS 24). To comply with these regulations, BrokerTec must collect and retain the following customer information for trading on the BrokerTec MTF (BTec MTF) and the BrokerTec Regulated Market (BTec RM):

- Legal Entity Identifier (LEI)
- Natural Person User Identification
- Algorithm Names and Algorithm Owners

Trading venue participants are required to supply and maintain updated records of this data in order to qualify for trading privileges – see the relevant trading venue rulebooks at <https://www.cmegroup.com/trading/market-tech-and-data-services/brokertec/regdocs.html>

The NEX Upload Facility (NUF) is a secure channel available for MiFID II customer data submission, whereby each customer can upload to their own folder and download back any Error Record files (see below). We can accept these CSV template submissions via either Secure File Transfer Protocol (SFTP) or Hyper Text Transfer Protocol Secure (HTTPS).

The purpose of this guide is to describe Personal Identification Information (PII) data flow and security, the process to access the NUF, the required data and format for submission, mechanisms for initial upload and daily updates (if required), plus troubleshooting and support contact details.

## 2. Process Overview

### 2.1. Customer Obligations

Trading venue participants must complete the initial upload of natural person data for manual and algo traders trading products offered by BTec MTF or BTec RM. The upload should be completed using the NEX Upload Facility (<https://sftp.nex.com>). Failure to pre-register active traders will result in traders not being allowed to trade.

For manual traders, the natural person data is linked to trader ID and for algo traders the natural person data is linked to the short code provided by the participant. Please review the mandatory data upload template outlined in section 6.2 for further information.

Participants must ensure natural person data is accurate and that new data is input for any new manual or algo traders before they commence trading on BrokerTec. Any data submitted through the NEX Upload Facility will be valid until a new dataset is uploaded and it is the participant's responsibility to submit any changes by **19:15 London-time on the trading day**.

For any problems or questions with regards to submitting PII data please contact Market Support at [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com)

## 2.2. NUF Admin Set-Up and Initial Upload

BrokerTec customers should take the following steps on receipt of the NUF start-up pack:

- 1) Complete [NUF registration form](https://www.cmegroup.com/trading/market-tech-and-data-services/brokertec/regdocs.html) – see link to <https://www.cmegroup.com/trading/market-tech-and-data-services/brokertec/regdocs.html>

NEX Upload Facility - Registration Form

| Customer entities          |                      | Venue Access    | MIFID Administrative Contacts |          |                                                                  |
|----------------------------|----------------------|-----------------|-------------------------------|----------|------------------------------------------------------------------|
| Firm name                  | LEI                  | Products Traded | Firstname                     | Lastname | E-Mail                                                           |
| XYZ Bank Limited           | 213800UUGANOMFJ9X100 | CABV Products   | Jane                          | Doe      | <a href="mailto:jane.doe@xyzbank.com">jane.doe@xyzbank.com</a>   |
| XYZ Bank International Plc | 549300U22BCHOFUH9X10 | BEL Products    | John                          | Doe      | <a href="mailto:john.doe@xyzbank.com">john.doe@xyzbank.com</a>   |
| XYZ Bank Deutschland GmbH  | 935300U22BFGROFUH9X1 | BEL Products    | Janet                         | Doe      | <a href="mailto:janet.doe@xyzbank.com">janet.doe@xyzbank.com</a> |
| XYZ Bank Deutschland GmbH  | 935300U22BFGROFUH9X1 | CABV Products   | Janet                         | Doe      | <a href="mailto:janet.doe@xyzbank.com">janet.doe@xyzbank.com</a> |

Please complete a row for each Product group per LEI.  
We offer the following:  
BrokerTec EU RM (CABV) - EGBs & EU Repos  
BrokerTec UK MTF (BEL) - UK & AUD Repo

| NUF Test System             |                 | Host | NUF Prod System          |                 | Host | Set-up Request   |                   |                   |
|-----------------------------|-----------------|------|--------------------------|-----------------|------|------------------|-------------------|-------------------|
| User name                   | IP Address      |      | User name                | IP Address      |      | Key Authenticate | Upload Automation | Upload Encryption |
| <a href="#">testjanedoe</a> | 123.456.789.013 |      | <a href="#">janedoe</a>  | 123.456.789.012 |      | Yes              | Yes               | Yes - PGP         |
| <a href="#">testjdoe2</a>   | 234.567.890.124 |      | <a href="#">jdoe2</a>    | 234.567.890.123 |      | Yes              | Yes               | Yes - PGP         |
| n/a                         | n/a             |      | <a href="#">janetdoe</a> | 345.678.901.234 |      | Yes              | No                | No                |
| n/a                         | n/a             |      | <a href="#">janetdoe</a> | 345.678.901.234 |      | Yes              | No                | No                |

Please insert preferred Test User Name  
**NB** Must start with "test" and be > 6 characters and <20, only upper or lower case alphanumeric i.e. no special characters

Please insert preferred Prod User Name  
**NB** Must be > 6 characters and <20, only upper or lower case alphanumeric i.e. no special characters

Please request either Key Authentication (select **Yes**) or password (select **No**) for NUF access. If **Yes** please provide your firm's Public key with this form.

Please select whether you intend to automate data upload (select **Yes**)

Please select whether you intend to encrypt, by which method, or not. If **Yes** we will send you the Public key after registration.

- 2) Please populate the fields as follows:

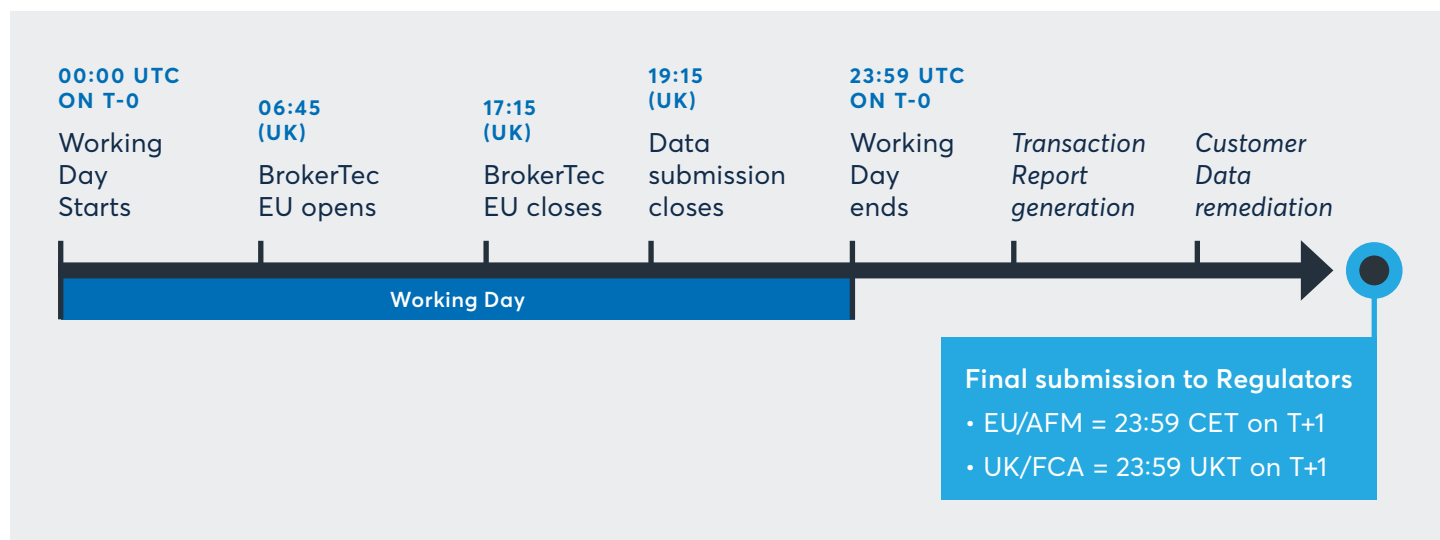
- a. Firm name – Full legal entity name
- b. Legal Entity Identifier (LEI)
- c. Venue Access – Chose the Products Traded from "CABV Products" or "BEL Products. If you are trading multiple product types from the same LEI, please complete a row for each one, as each has a related MTF mapping.
- d. MiFID Administrative contact(s) – please supply at least 2  
i.e. Who will contact us about the NUF service and is authorised to request key/password changes
- e. NUF Test System User Name - Customers wishing to conduct optional upload testing should suggest a Test User Name, which must be more than 6 and less than 20 characters with no special characters, so only a-z, A-Z, 0-9, and start with "test" e.g. "testusername123"  
N.B. NUF must have unique User Names, therefore BrokerTec Market Support may need to modify a customer's suggested User Name
- f. NUF Prod(uction) System User Name – Customers must suggest a Prod User Name, which must be more than 6 and less than 20 characters with no special characters, so only a-z, A-Z, 0-9 e.g. "username123"

- g. IP addresses of the connecting systems
  - h. Request for Key Authentication (or Password)
  - i. Whether the intention is to automate uploads to NUF
  - j. Whether the intention is to encrypt upload files using GPG2/PGP
- 3) Return completed NUF Registration Form to [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com)
  - 4) Customers should instruct their own technical support teams to open firewalls to allow access to the NUF test and production IP addresses – see section 5.1.3 below
  - 5) Send your Public encryption key for SFTP or HTTPS authentication to [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com)
  - 6) BrokerTec will send NUF Users test and production system login passwords, if requested for HTTPS
  - 7) Customers to complete initial SFTP or HTTPS authorisations for <https://sftp.nex.com>
  - 8) Customers to submit test or initial production files using the file template provided in the start-up pack, further detail to be found in section 6 of this guide
  - 9) Please contact [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com) for any troubleshooting on file upload or data verification
  - 10) Customers receiving Error Record email notifications should access the secure folder to download Error Record files

### 3. Daily Schedule

#### 3.1. BAU Daily Schedule

Please see the following representation of the schedule for a "Working Day", submission of any changes to participants' data and BrokerTec's submission to the relevant National Competent Authority (NCA):



## 4. Data Flow and Security

BrokerTec's customer data has 3 main lifecycle stages following Connectivity and Authentication:

- Upload and verification
- Database and reporting
- Backup storage and destruction

### 4.1. Upload and Verification

#### 4.1.1. NUF Over SFTP

Customers can automate submissions to the NUF using the authentication procedure described in section 5.1.1 below and may upload files which have been encrypted using PGP/GPG2. These files will be decrypted on receipt at the NUF. BrokerTec provides a public key in the NUF start-up pack and we store our equivalent private key in a Key Manager.

The NUF operates on the following PGP customer compatibility matrix:

| CUSTOMER                    | KEY ALGORITHM | ENCRYPT | DECRYPT |
|-----------------------------|---------------|---------|---------|
| PGP Desktop 9.x (and above) | DSA ElGamal   | Yes     | Yes     |
| PGP Desktop 9.x (and above) | RSA           | Yes     | Yes     |
| GPG 1.4.x (and above)       | DSA ElGamal   | Yes     | Yes     |
| GPG 1.4.x (and above)       | RSA           | Yes     | Yes     |

Customers will be provided with a dedicated folder to upload their data. The NUF has a file and directory permissioning capability, which is used to ensure that customers can only write to their own data folders. Whilst you cannot access current or past file submissions in your NUF folder, you may access Error Records (see below). Customers may not create additional folders in their NUF data area.

#### 4.1.2. NUF Over HTTPS

Customer administration staff can also access the NUF website at <https://sftp.nex.com> by either following the account opening and key authentication or the password generation procedures described in section 5.1 below. Data transmission to BrokerTec is encrypted via HTTPS.

#### 4.1.3. NUF IP Blocking

The NUF has been configured to block all connections from an IP address when more than 5 invalid login attempts are detected from that address within 5 minutes.

All IP blocking events are logged so that they can be reviewed by BrokerTec Market Support [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com).

#### **4.1.4. Verification (Automatic)**

BrokerTec conducts a basic verification check of the NUF entries, as required under RTS 22, before they are written to any databases. This check takes place in on-premises CME systems and verified records are then added to the customer database (see below). If there are any issues, then the exceptions are returned to the customer's NUF secure folder as an Error Response file along with an email to the Customer Administrator contact.

#### **4.1.5. Verification (Manual)**

In some cases, automatic NUF verification may require additional manual intervention from our Customer Onboarding team. They have controlled, role-based access to relevant systems and will contact customers to remedy any issues.

### **4.2. Database**

#### **4.2.1. Customer Database**

Verified MTF/RM customer data is written to the customer database in on-premises CME systems. Access to our systems is penetration tested by a CHECK accredited third party on an at least annual basis. We commit to remediate any resultant issues within 60 days and inform any affected parties of potential risk exposures. Additionally, CME runs a "test the testers" protocol and rotates penetration test providers. Data storage complies with ISO 27001 standards.

#### **4.2.2. Operating System Patching**

The NUF will be subject to regular operating system patching. The minimum requirement is to patch "Urgent" and "Critical" security vulnerabilities, as identified by the security scanning tool operated by CME.

#### **4.2.3. General Security Protocols**

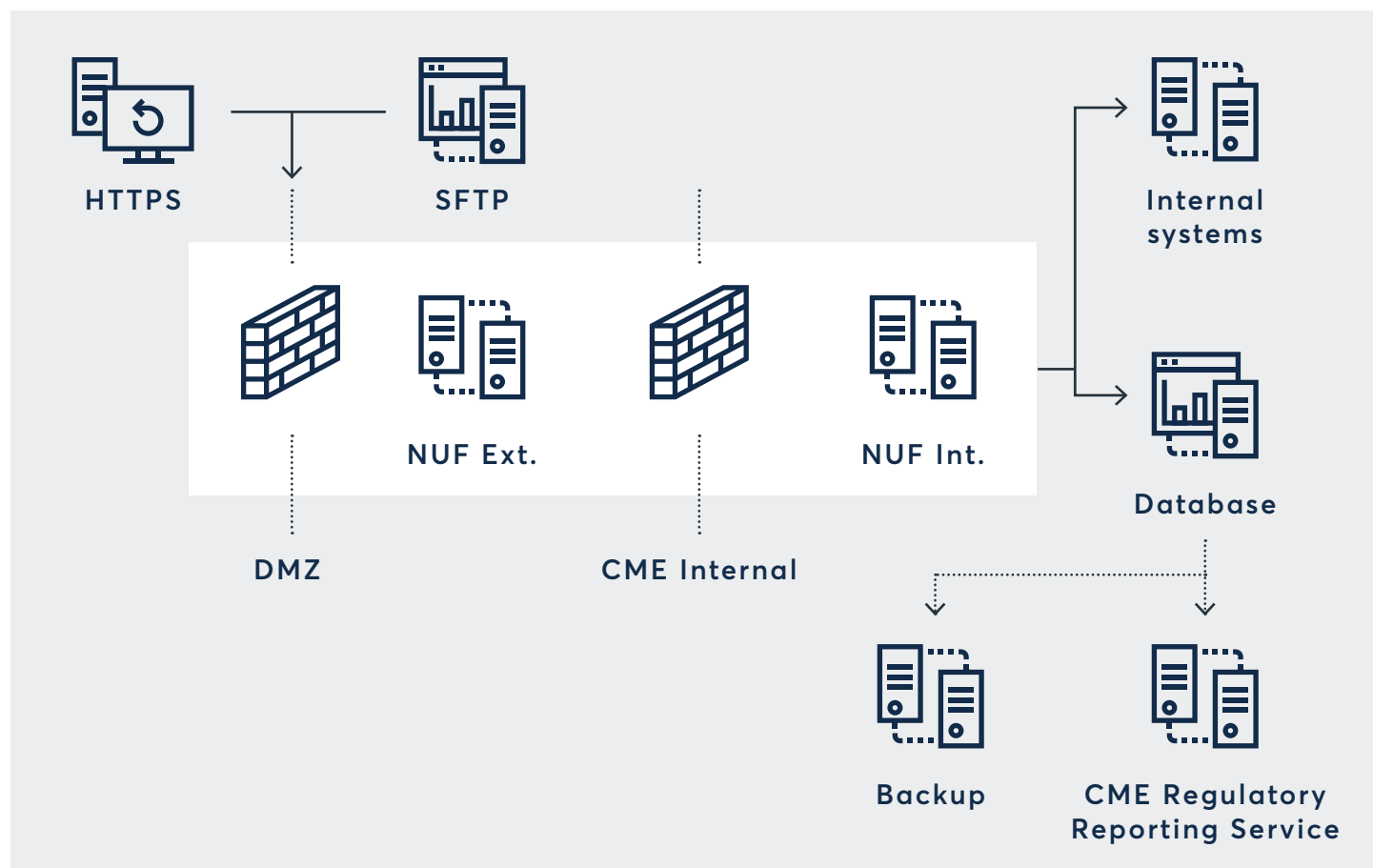
CME is a FS-ISAC member and subscribes to other specialist bodies for Advanced Threat warnings. CME also regularly run internal and external scans against their services to determine if there are known exploits or vulnerabilities. Remedial action is taken as necessary based upon the results of the scans.

### **4.3. Backup Storage and Destruction**

BrokerTec's trade and customer data is encrypted and stored for backup purposes in an encrypted state (to the FIPS US government security standard). We store this data for 7 years, as per RTS 24 record maintenance and local NCA regulatory obligations, after which time the data auto-expires.



#### 4.4. NUF Network Topgraphy



#### 4.5. Customer Data Handling Disclaimer

The following applies to the use by BrokerTec of the Natural Persons information provided in the NEX Upload Facility relating to the individuals named in it.

BrokerTec collects and uses the personal information for the purposes of compliance with its legal obligations, including under laws and regulations implementing the Markets in Financial Instruments Directive (2014/65/EU) (MiFID II) and the retained version of MiFID II in UK law following Brexit.

The legal basis for BrokerTec's collection and use of the personal information is that it is necessary for compliance with legal obligations. Provision of the information is, therefore, mandatory, and BrokerTec may not be able to treat an individual as authorised to represent the client if the information is not provided. BrokerTec also has a legitimate interest in collecting and using the personal information for legal compliance purposes and in order to provide and manage services for its client.

BrokerTec may share the information provided in the NEX Upload Facility with the other members of its group of companies, with NCAs and other regulatory and governmental authorities and with its service providers holding and processing the information on its behalf. Some of these disclosures may involve transfers of personal information to countries outside the European Economic Area, including countries which do not have data protection laws as strict as those in the UK.

The personal information provided in the NEX Upload Facility will be retained for as long as the relevant individual remains authorised to represent the client before BrokerTec and for seven years in accordance with MiFID II.

## 5. Connectivity and Authentication

### 5.1. Supported Protocols

There are 2 supported protocols for connecting to the NUF, although BrokerTec recommends the use of SFTP in almost all cases:

- SFTP Tools/Commands
  - Commands are normally used in scripts for automation e.g. in batch mode. – SFTP client software such as WINSCP/FileZilla
- HTTPS
  - Normally interactive via an internet browser.
  - Alternatively using command line tools such as "wget" and "curl".

There are 2 methods of authentication when connecting to the NUF. NEX Markets recommends Key Authentication from both a security and efficiency perspective.

#### 5.1.1. Key Authentication

- The customer supplies a "SSH Public Key" from a pair of keys their IT team create on their servers. The customer's IT team keeps the Private Key from this pair of keys.
- This guarantees the authenticity of the incoming traffic from a specific server or set of servers (provided the customer protects the Private Key from unauthorised access or copying).
- Keys lend themselves to better scripting and automation of file transfers, so that they can be more easily scheduled and controlled.
- No hard-coded passwords in scripts or credential type files.

#### 5.1.2. Password Authentication

- Customers are able to request a personalised User Name on the NUF Registration Form for test and production accounts
- NUF User Names must be in the following format:
  - More than 6 and less than 20 characters
  - Only combinations of a-z, A-Z and 0-9 (so no special characters)
  - Test account User Names should start with "test" e.g. "testusername123"
- N.B. NUF User Names must be unique across the service and so BrokerTec Market Support may need to modify a suggested User Name.
- Upon receipt of a NUF login request, User Name will be confirmed and then a password will be issued by email.
- Passwords are more commonly used if the customer wants to connect manually or ad-hoc via an Internet Browser. Any requests to reset password must be made by contacting BrokerTec Market Support on [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com).

### 5.1.3. IP Addresses for Firewall Rules

Customers need to allow access from their organisation to the following IP addresses in order to connect to the NUF service via the internet: <https://sftp.nex.com>

|                | NEX EXTERNAL IP | NEX SFTP FQDN (PORT 22) | HTTPS CONNECTION (PORT 443)                                        |
|----------------|-----------------|-------------------------|--------------------------------------------------------------------|
| Test Primary   | 185.186.5.17    | testsftp.nex.com        | https://sftp.nex.com<br><br>(Select the Test or Production domain) |
| Test Secondary | 185.186.5.145   |                         |                                                                    |
| Primary        | 185.186.5.16    | sftp.nex.com            |                                                                    |
| Secondary      | 185.186.5.144   |                         |                                                                    |

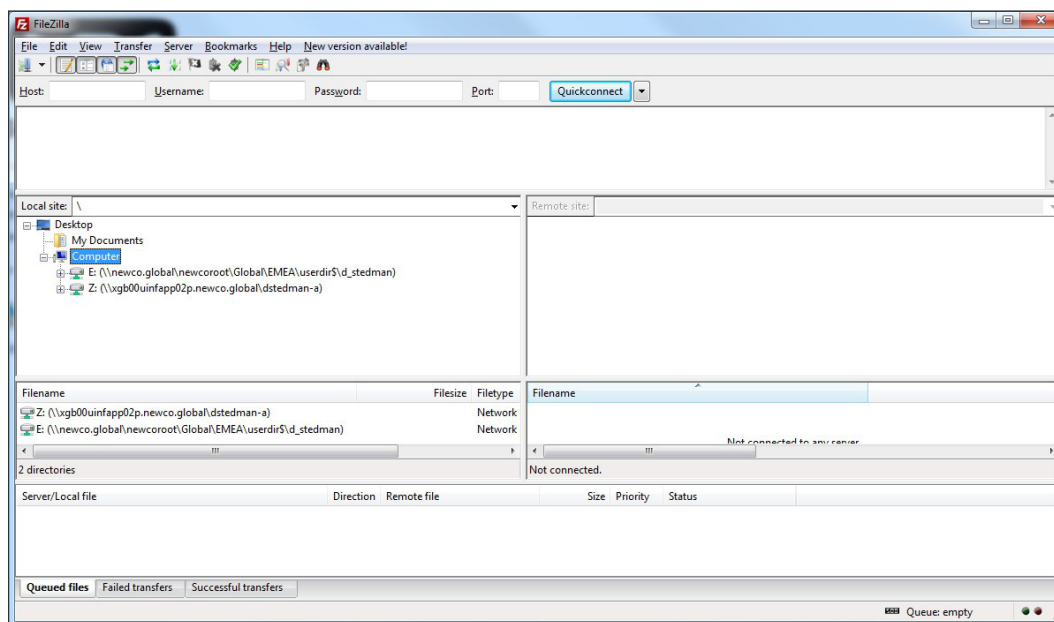
Secondary sites are available only in the event of a failure in the primary site.

## 5.2. Using an SFTP Client to Connect

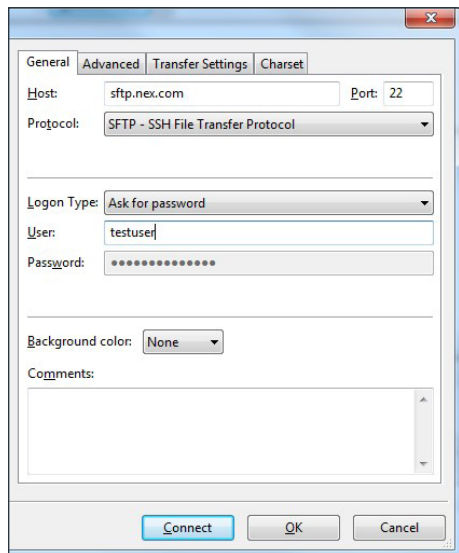
Customers can connect to the NEX SFTP services using client software such as **WinSCP**, or **Filezilla**. These are free SFTP GUI applications which work from the PC and will perform File Transfers using the SFTP protocol.

### 5.2.1. Configuring Filezilla

Once a customer has installed Filezilla onto a client system, the next step is to configure this application to connect to file transfer services.



- Use File->Site Manager and add the details for the file transfer service that you need to access. Use the **"New Site"** button and fill in the relevant connection details.

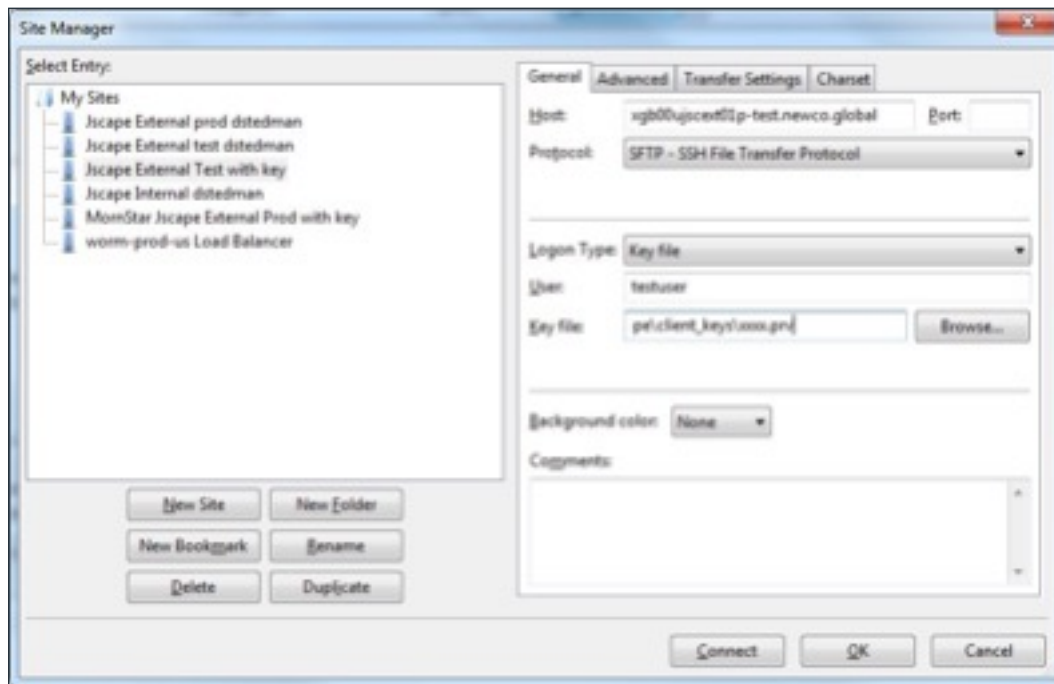


• **Host:**

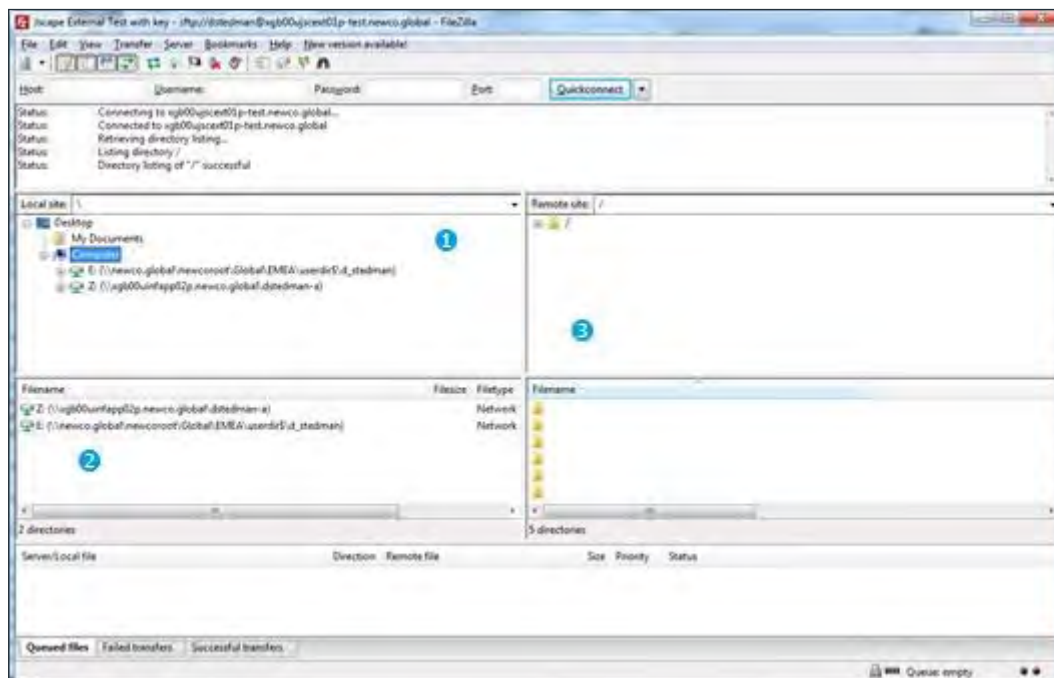
| SOURCE   | TEST DOMAIN      | PRODUCTION DOMAIN |
|----------|------------------|-------------------|
| Internet | testsftp.nex.com | sftp.nex.com      |

- **User Name:** The chosen or allocated User Name (normally in lower case).
- **Password:** If using Key authentication, you should select "Key file" as the "Logon Type" and supply the "Key file" location. If using Password, input the provided password. If you do not wish the password to be stored by Filezilla, use "Logon Type" "Ask for password".
- **Connect:** Then click the "Connect" button to test the connection.
- When the connection has been tested successfully, click the "OK" button to save it. The "Rename" button in the left-hand pane can be used to give the connection a memorable name.

- Once saved in the Site Manager, the "Connect" button can be used to launch the connection when needed again.



Once connected, customers are presented with a split window. The right-hand side of the window displays directories on the SFTP repository, and the left-hand side displays local machine and mount points.



### 5.2.2. Uploading Files

- Identify the local source directory for MTF/RM customer data
- Click to highlight the chosen file and then drag it across to the remote destination directory
- File upload will execute

### 5.3. SFTP Scripts and Key Authentication

- Customers can login and upload files using SFTP/SCP scripting to automate the file upload process. SFTP commands are similar to the older FTP commands.
- It is recommended that Customers add Key authentication instead of Password authentication to ease connectivity and remove the risks around hard coded passwords within scripts.
- Example connection from Linux command line (bold items are typed-in):

```
<server>:> #sftp <userid>@testsftp.nex.com
Connecting to testsftp.nex.com...
Warning: the RSA host key for 'testsecurefiletransfer.icap.com' differs from the key for the IP address 'xx.xx.xx.xx'
Offending key for IP in /root/.ssh/known_hosts:2044
Matching host key in /root/.ssh/known_hosts:2163
Are you sure you want to continue connecting (yes/no)? yes
<userid>@testsftp.nex.com's password: <password entered>
sftp> dir
Archive  external test    sftp>
cd test
sftp> put SQU1664349.pdf
Uploading SQU1664349.pdf to /test/SQU1664349.pdf
SQU1664349.pdf                                100% 16KB 16.4KB/s  00:00  sftp>
dir
91025451.pdf  SQU1664349.pdf
sftp> bye
```

Other file transfer clients are available for Linux, such as "lftp", which can also be used for automation and troubleshooting.

#### 5.3.1. SFTP Error Messages

There are several error messages which may be encountered when attempting a file upload using a SFTP/SCP. When reporting any upload issues to BrokerTec Market Support, please include screenshots of any error messages that you experience in order to assist with troubleshooting.

#### Public SSH Key Not Provided/Invalid

If the customer's public SSH key has not been provided to CME and stored in the NUF, then it is only possible to connect using a password. This is an example of a customer failing to connect in such a case:

```
curl -v -x <PROXY> -U <PROXYLOGIN> --proxytunnel --insecure -u <LOGIN>
sftp://sftp.nex.com/PATH/FILE-2017-09-04.txt.gz
...
MD5 fingerprint: 13ef552196bc87d45180887595186dfb
* SSH authentication methods available: password,publickey
* Using SSH private key file '/opt/eta/.ssh/id_rsa'
 0    0    0    0    0    0    0    0    0  --:--:--  0:00:01  --:--:--  0* SSH
public key authentication failed: Waiting for publickey USERAUTH response
* Failure connecting to agent * Authentication failure curl: (67) Authentication
failure
```

**Attempting to use a Public Key when only password access is enabled (or vice versa)**

This kind of event can result in messages such as:

```
$ sftp <USER>@sftp.nex.com
Connecting to sftp.nex.com...
Received disconnect from 193.130.196.28: 11: Internal server error.
Couldn't read packet: Connection reset by peer
```

or:

```
"No more authentication methods available"
```

**Failure to negotiate Cipher**

It is possible that the connecting system and the NUF could not negotiate a mutual encryption cipher for the file transfer, but this is unusual. This will result in messages such as:

```
com.btrade.mft.exception.BtMftRtException: Unable to logon[user: <user>] into target
server [sftp.nex.com:22] via SOCKS proxy [nnn.nnn.nnn.nnn:7,702] because of error:
Failed to negotiate a transport component [hmac-sha2-256,hmac-
sha256,hmacsha256@ssh.com] [hmac-sha1,hmac-md5] [Unknown cause]

Supported ciphers;
  Encryption: aes256-cbc
  DH key exchange: diffie-hellman-group-exchange-sha256
MAC: hmac-sha2-256
```

or:

```
[deploy@HOST ~]$ sftp -P 22 <USER>@sftp.nex.com
no matching cipher found: client aes256-ctr,aes192-
ctr,aes128ctr,arcfour256,arcfour128 server blowfish-cbc,3des-cbc
Couldn't read packet: Connection reset by peer
```

### 5.3.2 Sample Commands for Scripting

#### SCP

```
scp -q -o IdentityFile=$IDFILE -o LogLevel=QUIET $file $USER@$JSC:/
```

#### Example:

```
scp -o IdentityFile=/admin/test-key.pem -o LogLevel=QUIET file.zip
testuser@sftp.nex.com
```

#### SFTP batch mode

```
sftp -b $BATCH_FILE $USR@$IP >> $TMPLOG 2>>$TMPLOG
```

#### Example:

```
sftp -b /admin/batchfile testuser@172.29.1.1 >> /tmp/log 2>> /tmp/log
```

#### SFTP batchfile

```
cd IN/
! echo "listing remote directory pre file upload"
ls -l
mput NEXFile1* mput NEXFile2*
! echo "listing remote directory post file upload"
ls -l
bye
```

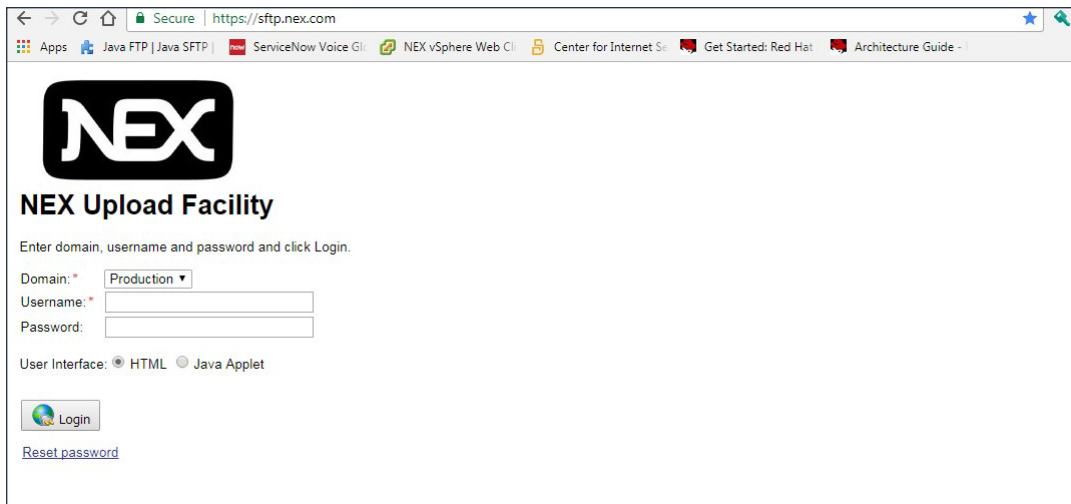
## 5.4. HTTPS Connectivity Via An Internet Browser

To connect to the NUF using https, use the following URL: <https://sftp.nex.com>

### 5.4.1. Logging In

You will be prompted for a domain, username and password (See section 2.2 for more information).

- Select correct domain from drop down list: Test or Production.
- Enter the chosen or allocated User Name
- Enter the Password provided (case sensitive)



Secure | <https://sftp.nex.com>

Apps Java FTP | Java SFTP | ServiceNow Voice Gl NEX vSphere Web Cl Center for Internet S Get Started: Red Hat Architecture Guide -

**NEX**

**NEX Upload Facility**

Enter domain, username and password and click Login.

Domain: \*

Username: \*

Password:

User Interface: ☒ HTML ☐ Java Applet

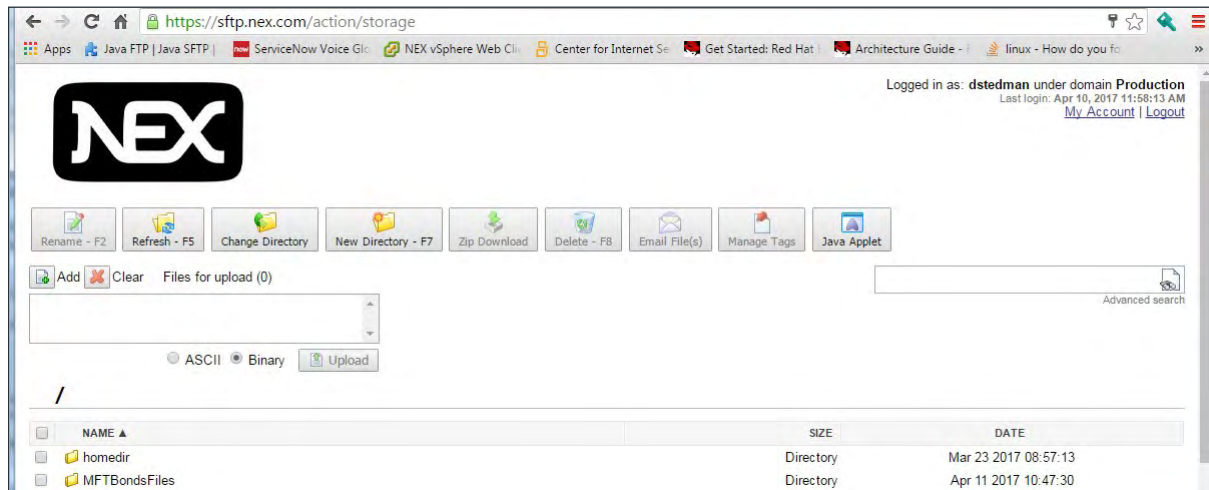
 Login

[Reset password](#)



### 5.4.2. Successful Login

On successful login, customers are presented with the NUF user interface to start the secure file transfer process. For MTF/RM Member Data upload, each user will be presented with 2 folders named "upload" and "errors".



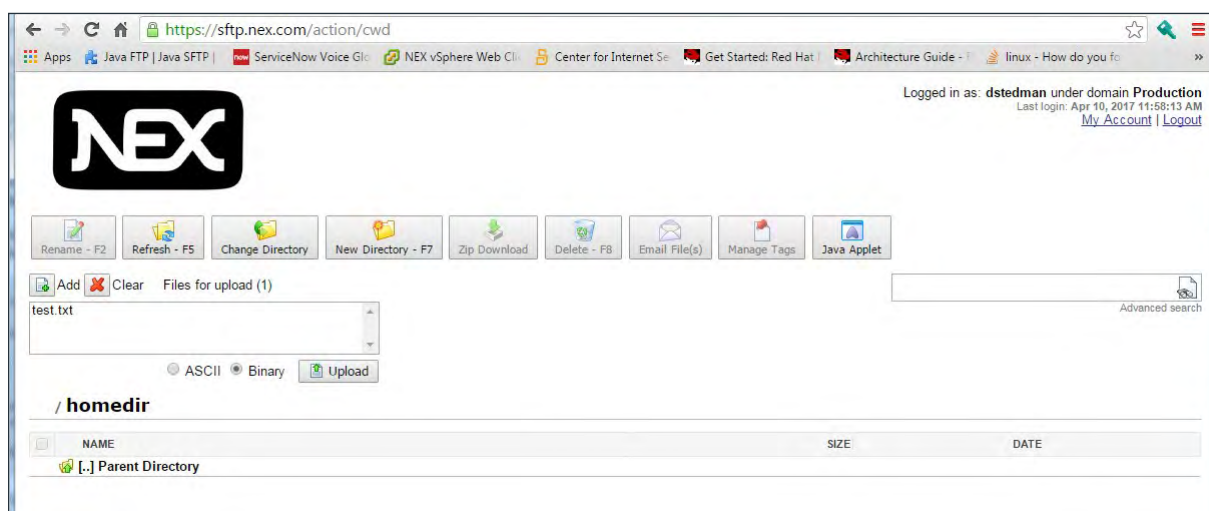
Use the "Add and Clear" buttons to add files for uploading into a chosen folder/path.

### 5.4.3. Uploading Files Via Browser

Select the file to upload from the relevant PC directory by clicking on the **Add** button, selecting the file and then clicking on **Open**.

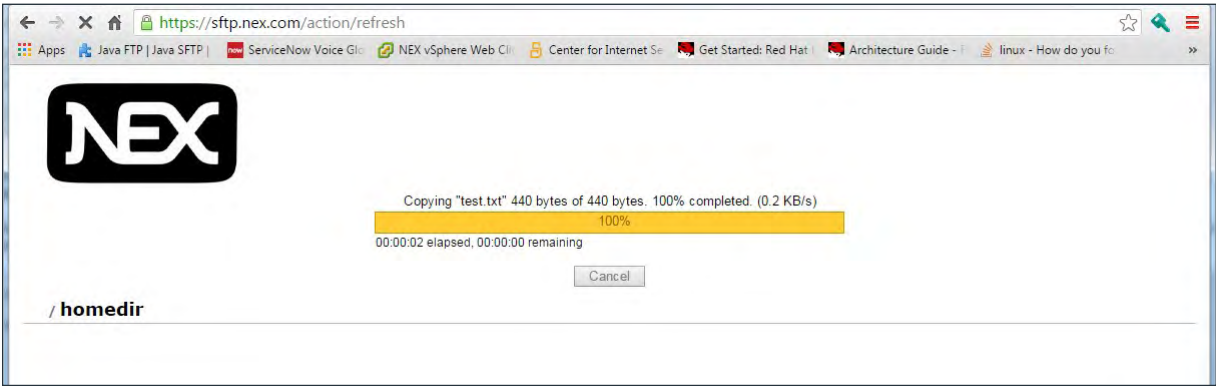
This can be repeated for multiple files, which then appear in the Upload box.

Once the target folder is specified, the files can be uploaded by hitting the **Upload** button.

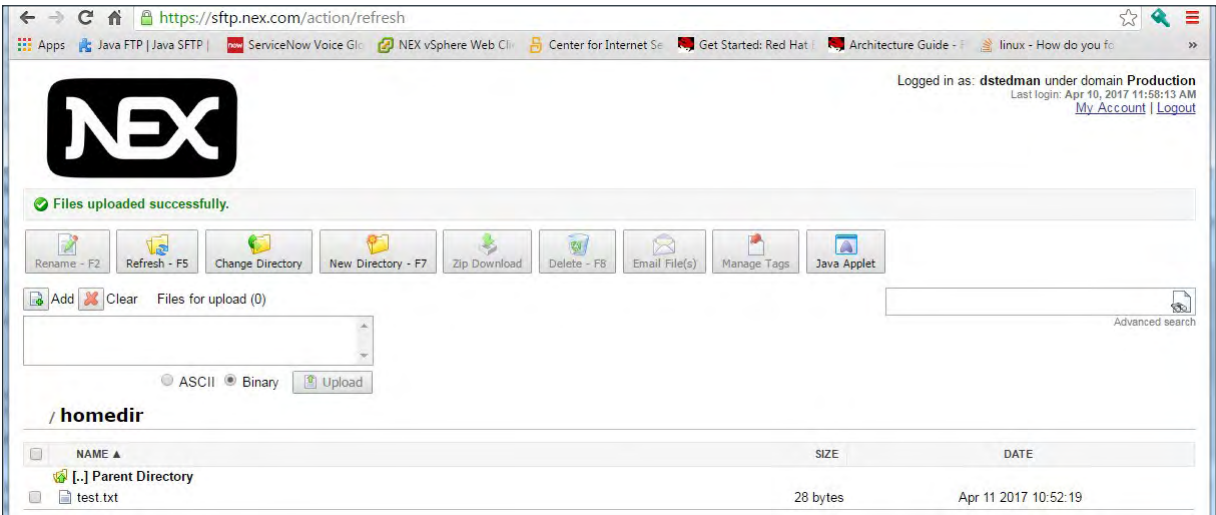


Unless instructed otherwise the radio button should remain set to "Binary".

Successful; upload will look like this:



Successfully uploaded files will then be shown in the customer's secure folder



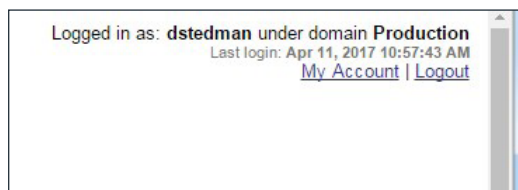
#### 5.4.4. Other Browser Operations

Renaming of files/directories can be done via the **Rename –F2** button after highlighting the file.

Deleting files can be done via the **Delete** button after highlighting the file.

#### 5.4.5. Completion

Once all files have been successfully uploaded and are showing in the target folder, use the **Logout** hyperlink on top right of screen to exit the application.



#### 5.4.6. Browser Error Messages

Browser users may encounter one of several error messages when attempting a file upload. When reporting any upload issues to BrokerTec Market Support, it will help with the troubleshooting process if customers take screenshots or other records or error messages.

#### Directory/Folder Permissions

The NUF enforces its own permissions which are layered on top of the Operating System permissions for a directory or folder. Messages such as "IO error" indicate that a login does not have sufficient permissions for a specific file or folder.

Customers are not permitted to create new directories or folders on the system



### 5.4.7. Unable To Login

If an incorrect username or password is supplied by the customer, the following message is displayed in the browser.



Customers should not re-attempt entry of the same credentials more than 4 times as a 5<sup>th</sup> invalid password attempt will cause their source IP to be blocked by the NUF. At this point customers should contact BrokerTec Market Support on [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com). If customers can recite the password correctly, BrokerTec Market Support can unblock the IP address, otherwise a password reset will have to be requested.

## 6. Upload and Verification

### 6.1. Filename

Files must be submitted to the NUF service in a prescribed comma separated values (CSV) format with the following filename structure:

{LEI}\_{LOCATION}\_{YYYYMMDDHHMISS}.csv

An example filename will look like the below (N.B. brackets are to distinguish between attributes and should not be included in the filename):

2138008LPQ92DIHKHY20\_GB\_20171022175400.csv

#### 6.1.1. Filename Attributes

{LEI} - The LEI of the submitting institution

{LOCATION} - The ISO 3166-1 alpha 2 standard country code for the submitting institution location

{YYYYMMDDHHMISS} - The Year, Month, Date, Time of the file submission where the hours are expressed in 24-hour format based on UTC.

## 6.2. CSV File Format

The NUF file in CSV format should contain the following values:

| ATTRIBUTE            | MANDATORY   | VALUE RESTRICTIONS             | DETAILS                                                                                                                                         |
|----------------------|-------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| LEI                  | YES         |                                | LEI of the submitting institution                                                                                                               |
| BANK CODE            | YES         |                                | BrokerTec Bank Code                                                                                                                             |
| ALGO/PERSON FLAG     | YES         | A = Algo; P = Person           |                                                                                                                                                 |
| SHORT CODE           | YES         | Numeric 19-digit max           |                                                                                                                                                 |
| TRADER ID            | SEE DETAILS |                                | Mandatory if a Natural Person, leave blank for Algos.<br>Trader ID = Manual trader ID                                                           |
| LOCATION             | YES         | ISO 3166-1 alpha-2             | Standard country code                                                                                                                           |
| ALGO NAME            | SEE DETAILS | Alphanumeric,<br>32-digit max  | Mandatory if an Algo, leave blank for a Person.<br><br>Only the following characters may be used:<br>capital Latin letters (A-Z), numbers (0-9) |
| FIRST NAME           | SEE DETAILS | Alphanumeric,<br>140-digit max | Mandatory if a Natural Person, leave blank for Algos                                                                                            |
| SURNAME              | SEE DETAILS | Alphanumeric,<br>140-digit max | Mandatory if a Natural Person, leave blank for Algos                                                                                            |
| DOB                  | SEE DETAILS | YYYY-MM-DD                     | Mandatory if a Natural Person, leave blank for Algos                                                                                            |
| NATIONALITY          | SEE DETAILS | ISO 3166-1 alpha-2             | Mandatory if a Natural Person, leave blank for Algos                                                                                            |
| IDENTIFICATION TYPE  | SEE DETAILS | CCPT, NIDN, CONCAT             | Mandatory if a Natural Person, leave blank for Algos                                                                                            |
| IDENTIFICATION VALUE | SEE DETAILS |                                | Mandatory if a Natural Person, leave blank for Algos                                                                                            |
| STATUS               | YES         | ACTIVE, INACTIVE               | If you wish to indicate that a Trader or Algo is no longer active on the venue, flag as inactive.                                               |

### 6.2.1. PII Data Submission Post Brexit

For each natural person or algorithm trading on BrokerTec, participants are required to upload a national client identifier. The national client identifier is assigned in accordance with the priority levels provided in the table below which can be found at RTS22, Annex II ([https://www.esma.europa.eu/sites/default/files/library/2016-1064\\_rts\\_22\\_annex\\_ii.pdf.pdf](https://www.esma.europa.eu/sites/default/files/library/2016-1064_rts_22_annex_ii.pdf.pdf)) using the highest priority identifier for that given nationality.

| ISO 3166-1 alpha 2  | Country Name   | 1st priority identifier                                                      | 2nd priority identifier                        | 3rd priority identifier |
|---------------------|----------------|------------------------------------------------------------------------------|------------------------------------------------|-------------------------|
| AT                  | Austria        | CONCAT                                                                       |                                                |                         |
| BE                  | Belgium        | Belgian National Number<br>(Numéro de registre national Rijksregisternummer) | CONCAT                                         |                         |
| BG                  | Bulgaria       | Bulgarian Personal Number                                                    | CONCAT                                         |                         |
| CY                  | Cyprus         | National Passport Number                                                     | CONCAT                                         |                         |
| CZ                  | Czech Republic | National identification number<br>(Rodné číslo)                              | Passport Number                                | CONCAT                  |
| DE                  | Germany        | CONCAT                                                                       |                                                |                         |
| DK                  | Denmark        | Personal identity code<br>10 digits alphanumerical:<br>DDMMYYXXXX            | CONCAT                                         |                         |
| EE                  | Estonia        | Estonian Personal Identification Code<br>(Isikukood)                         |                                                |                         |
| ES                  | Spain          | Tax identification number<br>(Código de identificación fiscal)               |                                                |                         |
| FI                  | Finland        | Personal identity code                                                       | CONCAT                                         |                         |
| FR                  | France         | CONCAT                                                                       |                                                |                         |
| GB                  | United Kingdom | UK National Insurance number                                                 | CONCAT                                         |                         |
| GR                  | Greece         | 10 DSS digit investor share                                                  | CONCAT                                         |                         |
| HR                  | Croatia        | Personal Identification Number<br>(OIB – Osobni identifikacijski broj)       | CONCAT                                         |                         |
| HU                  | Hungary        | CONCAT                                                                       |                                                |                         |
| IE                  | Ireland        | CONCAT                                                                       |                                                |                         |
| IS                  | Iceland        | Personal Identity Code<br>(Kennitala)                                        |                                                |                         |
| IT                  | Italy          | Fiscal code<br>(Codice fiscale)                                              |                                                |                         |
| LI                  | Liechtenstein  | National Passport Number                                                     | National Identity Card Number                  | CONCAT                  |
| LT                  | Lithuania      | Personal code<br>(Asmens kodas)                                              | National Passport Number                       | CONCAT                  |
| LU                  | Luxembourg     | CONCAT                                                                       |                                                |                         |
| LV                  | Latvia         | Personal code<br>(Personas kods)                                             | CONCAT                                         |                         |
| MT                  | Malta          | National Identification Number                                               | National Passport Number                       |                         |
| NL                  | Netherlands    | National Passport Number                                                     | National identity card number                  | CONCAT                  |
| NO                  | Norway         | 11 digit personal id<br>(Foedselsnummer)                                     | CONCAT                                         |                         |
| PL                  | Poland         | National Identification Number<br>(PESEL)                                    | Tax Number<br>(Numer identyfikacji podatkowej) |                         |
| PT                  | Portugal       | Tax number<br>(Número de Identificação Fiscal)                               | National Passport Number                       | CONCAT                  |
| RO                  | Romania        | National Identification Number<br>(Cod Numeric Personal)                     | National Passport Number                       | CONCAT                  |
| SE                  | Sweden         | Personal identity number                                                     | CONCAT                                         |                         |
| SI                  | Slovenia       | Personal Identification Number<br>(EMŠO: Enotna Matična Številka Občana)     | CONCAT                                         |                         |
| SK                  | Slovakia       | Personal number<br>(Rodné číslo)                                             | National Passport Number                       | CONCAT                  |
| All other countries |                | National Passport Number                                                     | CONCAT                                         |                         |

- Where a natural person is a national of more than one European Economic Area (EEA) country, the country code of the first nationality when sorted alphabetically by its ISO 3166-1 alpha-2 code and the identifier of that nationality shall be used.
- Where a natural person has a non-EEA nationality, the highest priority identifier in accordance with the field referring to 'all other countries' shall be used.

- Where natural person has EEA and non-EEA nationality, the country code of the EEA nationality and the highest priority identifier of that nationality shall be used.
- Where the identifier assigned refers to CONCAT, the natural person shall be identified by the investment firm using the concatenation of the following elements in the following order:
  - (a) the date of birth of the person in the format YYYYMMDD;
  - (b) the five first characters of the first name;
  - (c) the five first characters of the surname.
    - CONCAT however should only be used where explicitly requested (i.e. Germany or France) but is not an option to use if the correct PII data is not available to be supplied

As a result of Brexit, the highest priority designation to identify UK natural persons on our Dutch trading venues (BrokerTec RM) is changing from National Insurance number to passport number.

For our FCA regulated trading venue (BrokerTec MTF) there is no change, so UK nationals when trading on the BrokerTec MTF will continue to be identified through their NI number.

UK nationals trading on both our UK and Dutch venues will be required to supply both National Insurance number as well as Passport number.

For information on how different national identifiers are specified in the above table (Annex II of RTS 22) are represented, please refer to <https://www.esma.europa.eu/press-news/esma-news/esma-updates-qa-mifir-data-reporting-8> (page 47)

### 6.2.2. Preparation of the data file

NUF Admins should follow the below steps to prepare the NUF Upload file:

1. Download the Sample Natural person and Algo data CSV file by clicking on the following link:  
<https://www.cmegroup.com/files/download/natural-persons-upload.csv>
2. Open the file and complete with the necessary values as per the table in 6.2 above. See below an illustration of the sample CSV file with an indicative header row. **N.B. The header row highlighted black should not be included in actual files submitted to the NUF Portal.**

| LEI                  | BANK CODE<br>/ FIRM SIG | PERSON SHORT<br>/ ALGO | SHORT<br>CODE | TRADER ID /<br>USER SIG | LOCATION | ALGO NAME   | FIRST<br>NAME(S) | SUR<br>NAME(S) | DOB        | NATION<br>ALITY | NAT ID<br>TYPE | NAT ID VALUE         | STATUS   |
|----------------------|-------------------------|------------------------|---------------|-------------------------|----------|-------------|------------------|----------------|------------|-----------------|----------------|----------------------|----------|
| 2138004MBJCDFEPTJW46 | NGHL                    | P                      |               | 123                     | GB       |             | JOE              | BLOGGS         | 1989-12-31 | GB              | NIDN           | NZ442266B            | ACTIVE   |
| 2138004MBJCDFEPTJW46 | NGHF                    | A                      | 987654321     |                         |          | MY ALGO 657 |                  |                |            |                 |                |                      | ACTIVE   |
| 2138004MBJCDFEPTJW46 | NGHF                    | P                      |               | 567                     | GB       |             | JULIE            | JULES          | 1992-09-16 | GB              | CCPT           | 123456789            | INACTIVE |
| 2138004MBJCDFEPTJW46 | NGHGE                   | P                      | 123456        | NGHGE_JSMITH            | GB       |             | JACK             | SMITH          | 1976-04-16 | DE              | CONCAT         | DE19760416JACK#SMITH | ACTIVE   |
| 2138004MBJCDFEPTJW46 | NGHGE                   | A                      | XYZ88AA       |                         |          | XAVIER      |                  |                |            |                 |                |                      | ACTIVE   |
| 2138004MBJCDFEPTJW46 | NGHL                    | A                      | ALGO1         |                         |          | NGHLALGO01  |                  |                |            |                 |                |                      | INACTIVE |

3. Save the file locally in .CSV format using the format in 6.1 above.
4. Right-click on the file and select "Open with" to review in Notepad **to ensure that the date has retained the YYYY-MM-DD format** above (Due to local auto-formatting in Excel, the date format may have been incorrectly updated on saving in Excel – see below incorrect example).

```
2138004MBJCDFEPTJW46,NGHL,P,,123,GB,,JOE,BLOGGS,31/12/1989,GB,NIDN,NZ442266B,ACTIVE
2138004MBJCDFEPTJW46,NGHF,A,987654321,,MY_ALGO,037,ACTIVE
2138004MBJCDFEPTJW46,NGHF,P,,567,GB,,JULIE,JULES,16/09/1992,GB,CCPT,123456789,INACTIVE
2138004MBJCDFEPTJW46,NGHGE,P,123456,NGHGE_JSMITH,GB,,JACK,SMITH,16/04/1976,DE,CONCAT,DE19760416JACK#SMITH,ACTIVE
2138004MBJCDFEPTJW46,NGHGE,A,XYZ88AA,,XAVIER,ACTIVE
2138004MBJCDFEPTJW46,NGHL,A,ALGO1,,NGHLALGO01,INACTIVE
```

5. The file is now ready to be uploaded

### 6.3. File Validation

All files submitted will initially be validated syntactically to ensure all mandatory attributes are provided and they meet the relevant data standards.

Should any error occur at this stage, an Error Response file will be written back to the NUF service portal and an email sent to the Customer Administrator(s) contact(s). No details will be provided in the email other than to alert to the presence of an issue and the Error Response file should be downloaded and checked for details.

The Error Response file will be in the format of: *error\_[original filename].csv*

Should no errors be found, a success response file will be generated and delivered to the Customer's NUF secure folder (but no email will be sent). This file will be in the format of: *success\_[original filename].csv*

**Please note**, if the file contains a mixture of valid and invalid records, the valid records will be processed and only the invalid records will be returned to the NUF folder. As such it is not necessary to resubmit the valid records. Details of the invalid records will be returned in the Error Response files with some basic troubleshooting guidance.

Indication of success at this stage is not a confirmation that we have accepted the file as there are certain circumstances where manual validation may be required. If questions arise at this point you will be contacted by our Customer Onboarding team.

## 7. Contact Us

Please use one of the following methods to contact BrokerTec Market Support:

Email: [Btec\\_eu@nex.com](mailto:Btec_eu@nex.com)

Telephone: **+44 207 818 9890**





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[cmegroup.com](https://cmegroup.com)

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