



# How to set up and use secure file transfer protocol (SFTP)

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Guidance for employers

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# 01 Background



## Important information

This guide is only for employers who are able to set up and run SFTP (secure file transfer protocol).

This document is of a very technical nature because it covers the IT processes involved in setting up an automatic file transfer process.

We make every effort to keep all our communications as clear and simple as possible. But we can't avoid including a lot of technical information in this document.

Secure file transfer is only suitable for employers who have the support of technical specialists who can set up and maintain file transfer systems for them.

## What is SFTP?

It's an extension of FTP that uses secure shell (SSH) protocol to secure the transfer of files.

If you want to upload files using SFTP you'll need an SFTP client software service provider to connect to our SFTP server. There are lots of SFTP clients, both freeware and licensed, available across different operating systems.

Popular freeware SFTP clients in Windows are FileZilla, WinSCP, psftp (from PUTTY) and CoreFTP. When you choose your software you should make sure it supports both username/password and the use of keys. NEST doesn't have expertise in all the SFTP software available, so we may not be able to support you in setting it up.

Those for UNIX/LINUX include the OpenSSH suite.

To set up SFTP with NEST each party must generate their own public and private keys and then send the public key to the other party. For SFTP to work successfully an employer's FTP software must hold a copy of their own private key and a copy of NEST's public key.

Any employer or third party delegate can set up secure file transfer (SFTP) within their NEST account. This means you can send member enrolment and contribution schedules and collect return files such as enrolment and opt-out confirmations from NEST in a secure way. Read only delegates won't be able to do this.

You'll need to involve your IT suppliers in the set-up process, particularly when:

- selecting an SFTP client software service provider, if you don't have an in-house solution
- interacting with NEST while taking into account your IT security policy
- setting up your SFTP connection to the NEST file gateway
- generating and installing any public and private keys
- running the initial transfers.

You may want to use SFTP if you have large numbers of members to enrol or large numbers of members to pay contributions for.

## Have you considered the other options NEST offers?

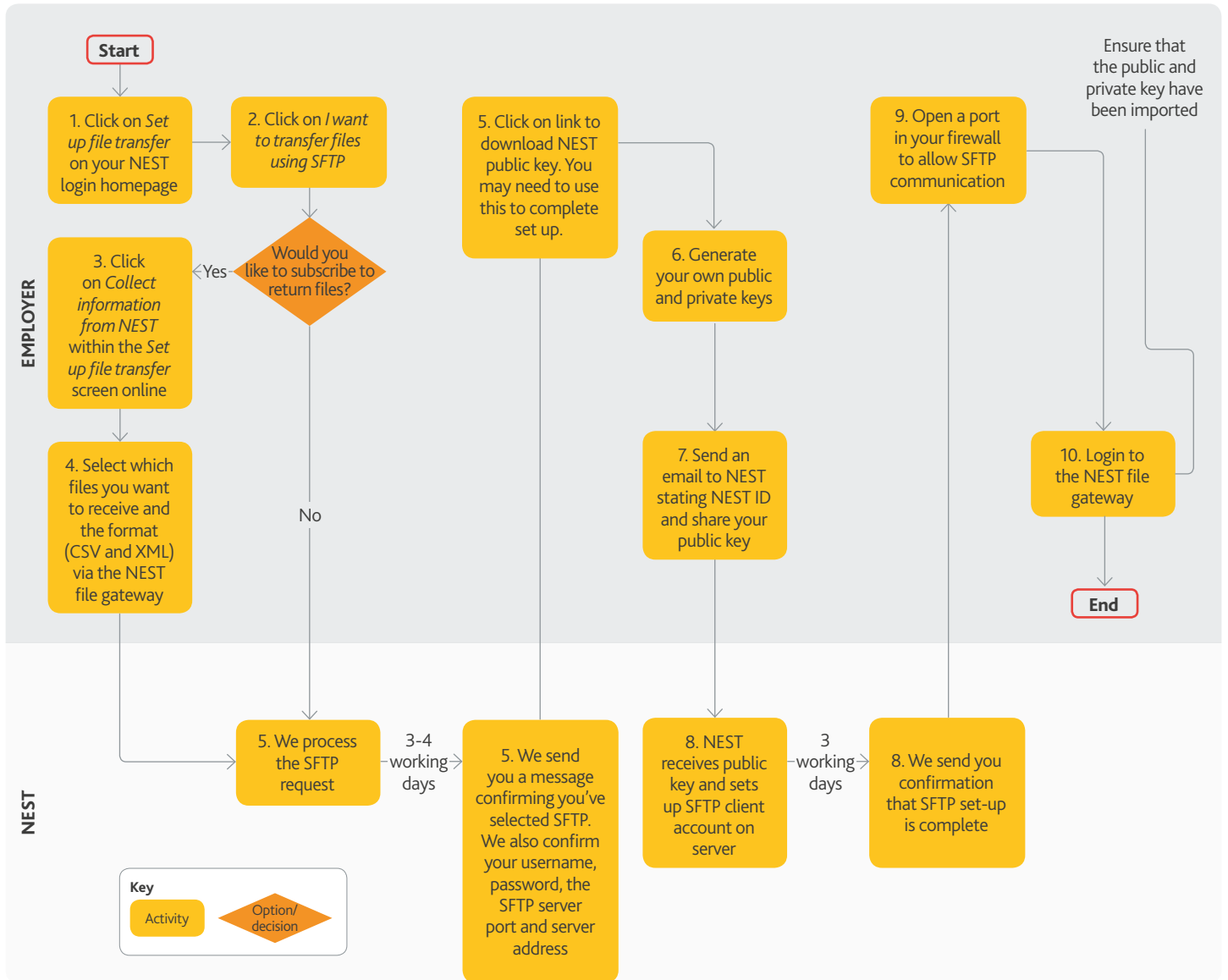
If SFTP doesn't look as though it's the right solution for you, we offer an alternative file upload process. This is for files in CSV format, which you can upload on the NEST website. Alternatively, you can complete tasks without sending us a file, by modifying and updating one member at a time online.

Please note that even if you've registered and are using SFTP you can still use one of the other options as well as or instead of SFTP.

# 02 How to set up secure file transfer protocol

In this section we'll show you how to set up SFTP. Each step is numbered and relates to the numbers used in the subsequent pages of this document.

**Figure 1:**  
SFTP Registration





If an employer is using delegates to manage their account, each delegate will need to set up SFTP for their personal delegate account.

If a delegate acts for two or more employers and they've merged these employer accounts, they only need to set up SFTP once.

Only one delegate needs to click on *Collect information from NEST* on behalf of the employer.

Please note that the screenshots in this section may be subject to minor changes.

**1** Select *Manage secure file transfer* on the *Welcome to your NEST* homepage.

The screenshot shows the NEST homepage for Adams Engineering. The page layout includes a top navigation bar with the NEST logo, links for Home, Contributions, Workers, and Mailbox, and a search bar. Below the navigation bar, there is a main heading 'Welcome to your NEST home for Adams Engineering' and a sub-heading 'Your NEST home is your personal area where you can manage your account.' The page is divided into two columns. The left column contains a grid of management options, each with a title, a brief description, and a right-pointing arrow. The 'Manage secure file transfer' option is highlighted with a red box and a red circle containing the number 1. The right column contains user information, including 'You are logged in as', 'Your NEST employer ID:', and 'Your NEST delegate ID:'. At the bottom of the page, there is a footer with links for Glossary, FAQs, Useful tools, News and media, Legal, Sitemap, Accessibility, and Cymraeg, and a copyright notice for NEST 2014.

**1** Manage secure file transfer  
Use secure file transfer to send us large enrolment or contribution files.

Would you like to set up a new employer?  
[Add a new employer](#)

Glossary | FAQs | Useful tools | News and media | Legal | Sitemap | Accessibility | Cymraeg © Copyright NEST 2014

## 2 The *Set up your secure file transfer* page contains background information

What is NEST? NEST for savers NEST for employers NEST for advisers About us My account

You are logged in as

Your NEST employer reference:

### Set up secure file transfer

To make it easier to update and maintain large numbers of workers, you can transfer files containing their information to us by secure file transfer.

Using secure file transfer you can:

- enrol your workers into NEST
- send your contribution and exception schedules
- choose to collect daily notifications from NEST about your worker's enrolments, opt outs and any workers who have stopped contributions
- help manage your contribution process.

To make sure your files are sent and/or collected securely, you'll need a File Transfer Protocol (FTP) program. You'll also have to be able to exchange information with us using the Secure Shell File Transfer Protocol (SFTP).

#### Choosing to use secure file transfer

If you choose to use secure file transfer we'll send an email to your NEST mailbox with all the details you need.

#### Secure Shell File Transfer Protocol (SFTP)

Choose this option if you want to set up secure file transfer using SFTP.

**2** I want to transfer files using SFTP →

#### Collect information from NEST by secure file transfer

Use this option to select the information you wish to collect from NEST.

Collect information from NEST →

Done

**About this page**

Use this page to tell us you want to use a file transfer facility to enrol workers in NEST or send contribution details.

Once set up, you can manage and transfer files that have been created from a payroll or other system you use for managing your workers.

**Useful tools and information**

Guide to collecting information from NEST →

Select *I want to transfer files using SFTP*.

## 2 You receive confirmation that you've chosen SFTP.

What is NEST? NEST for savers NEST for employers NEST for advisers About us My account

You are logged in as

Your NEST employer reference:

### Set up secure file transfer

**i** You have chosen to use Secure Shell File Transfer Protocol (SFTP).

Now that you've chosen to use SFTP

We'll send an email to your mailbox giving you the details you'll need to set up your secure file transfer. To send and collect files from NEST, you'll have to collect them from us via our NEST File Gateway.

#### Connecting to NEST

To connect to the NEST File Gateway you'll need a secure key. You'll find this in the email we've sent to help you set up secure file transfer. Please keep this in a safe place, as you'll need it whenever you want to connect to the NEST File Gateway.

#### Transfer files to NEST

To transfer files to NEST you'll first need to decide which file format you want to use. This can be either CSV or XML.

If you choose CSV, NEST provides templates to make it easier for you to give us the details we need in CSV format.

If you choose XML, you will need to download an XSD file. This will describe the data requirements for the XML file.

#### Collect files from NEST

To collect files from NEST you'll also need to decide which file format you want to use. Please follow the link below to find out more.

#### Collect information from NEST by secure file transfer

Use this option to select the information you wish to collect from NEST.

[Collect information from NEST](#)

#### Download CSV templates and XSD files

Here you can download either CSV templates or XSD files. You can use these to send or collect information.

[Download a template](#)

**About this page**

This page confirms which method of secure file transfer you want to set up and tells you what happens next.

You can also find out about collecting information from NEST on this page.

**Useful tools and information**

[Guide to collecting information from NEST](#)

A notification email is sent to your email address within three working days. It advises that there's a communication in your secure inbox. Refer to step 5.

- 3** You'll be able to select *Collect information from NEST* in the *Set up your secure file transfer* screen to register for SFTP updates. This allows you to collect files from NEST telling you the results from any files you sent for processing the day before. They'll also let you know of any members who've opted out or stopped contributions the day before.

What is NEST? NEST for savers NEST for employers NEST for advisers About us My account

You are logged in as  
Your NEST employer reference:

## Set up secure file transfer

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**Collect information from NEST by secure file transfer**

Use this option to select the information you wish to collect from NEST.

**3** [Collect information from NEST](#) →

**Download CSV templates and XSD files**

Here you can download either CSV templates or XSD files. You can use these to send or collect information.

[Download a template](#) →

**About this page**

This page confirms which method of secure file transfer you want to set up and tells you what happens next.

You can also find out about collecting information from NEST on this page.

**Useful tools and information**

[Guide to collecting information from NEST](#) →



- 4 In the *Collect information from NEST by secure file transfer* screen select *Edit* to update your preferences.

In this example the delegate is registering to receive contribution and exception schedule updates by clicking on *Edit* next to *Help manage your contribution and exception schedules?*

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You are logged in as  
Your NEST employer reference:

### Collect information from NEST by secure file transfer

Below you can choose to collect daily notifications from NEST about your worker's enrolments, opt outs and any workers who have stopped contributions.

You can also choose to help manage your contributions process via Secure File Transfer instead of through the *Manage your schedules* section of your NEST online account.

[View previous SFTP settings](#)

Collect daily notifications of opt outs and stopped contributions?	No	<a href="#">Edit</a>
Collect daily notifications of enrolments?	No	<a href="#">Edit</a>
<b>4</b> Help manage your contribution and exception schedules?	No	<a href="#">Edit</a>
Choose file format:	Not provided	<a href="#">Edit</a>

**Useful tools and information**

[Guide to collecting information from NEST](#)

You'll see Yes and No buttons. Click Yes and then click Save. You also have the option to cancel the request.

What is NEST? NEST for savers NEST for employers NEST for advisers About us My account

You are logged in as  
Your NEST employer reference:

### Collect information from NEST by secure file transfer

Below you can choose to collect daily notifications from NEST about your worker's enrolments, opt outs and any workers who have stopped contributions.

You can also choose to help manage your contributions process via Secure File Transfer instead of through the *Manage your schedules* section of your NEST online account.

View previous SFTP settings

Collect daily notifications of opt outs and stopped contributions? No Edit

Collect daily notifications of enrolments? No Edit

4 Help manage your contribution and exception schedules?  
 Yes  No

Cancel Save 4

Choose file format: Not provided Edit

Useful tools and information  
Guide to collecting information from NEST

Choose your preferred file format, either CSV or XML. Select 'Save'.

Please note that the format you choose will be the same for all delegates. For example if you choose CSV then all users will receive files in CSV format.

4 Choose file format:  
 CSV  XML

Cancel Save 4

- 
- 5** Following on from step 3, a message is sent to your secure NEST mailbox. We'll also send an email to your own email address telling you there's a message waiting for you in your NEST mailbox. This can take up to three working days. If you choose to receive return files from NEST at the same time as you set up file transfer, then the return files will take an extra working day to set up.

The message contains important information such as your username, password, the NEST file gateway server address and server port. It also includes a link that you need to click on to download the NEST public key. There's a chance you might not need to use the NEST public key as not all SFTP software requires it. .

- 6** You'll also need two of your own keys - a public key and a private key. There are online utilities that can generate public and private keys for you. You'll need to generate these using RSA or DSA algorithms and they can be 1024 or 2048 bits.

You must generate a new pair of keys. You can't re-use a pair you've used previously.

Please note that because this is a process you can manage outside your NEST account, there's no onscreen assistance provided by NEST for this.

- 7** Send an email from your NEST-registered email address to **[FileTransfer\\_Key@nestpensions.org.uk](mailto:FileTransfer_Key@nestpensions.org.uk)**. You'll need to attach your public key and provide your NEST ID. This is the 12-digit reference beginning *EMP* at the top of the Welcome to NEST letter we send you when you register. It's also shown on each screen in your secure area of the NEST website.

If you're unable to send an email from your registered email address we'll also need you to include your registered email address in the body of the email. This email must come from the person requesting the access. This will help us to confirm that the public key is from your organisation.

- 8** Once we receive your public key we'll check it's in the correct format. If it is, we'll set up your account on the NEST file gateway server. This can take up to three working days. If the public key isn't in the correct format we'll contact you.

The password, but not the username, will be the same as the one you use to log in to your NEST online account. Please note the username provided won't contain any apostrophes, so O'Neill will be ONeill. The SFTP server address and port number are also confirmed.



You won't be given a separate IP address. All you need to do is use the website address, which already includes the IP address.

- 9 You or your IT department/supplier will need to set the appropriate IT security settings. A port in your firewall must be opened to connect to the NEST file gateway.
- 10 Finally, log in to the NEST file gateway using the SFTP username and SFTP password provided by the communication in step 8.

## 03 How to send and collect files

### 3.1 Process description

This section of the document describes the process for sending and collecting files. To use this process you'll need to follow the specific instructions from your chosen SFTP client software.

You can send these types of files to us by SFTP. They must be in either a CSV or XML format:

- › member enrolment XML
- › member enrolment CSV
- › contribution schedule XML
- › contribution schedule CSV.

You can collect confirmation files back from us after you've sent us a file. You can request the following files:

If you've selected *Collect daily notifications of enrolments?*

- › successful enrolments file
- › unsuccessful enrolments file
- › enrolment error log file.

If you've selected *Help manage your contribution and exception schedules?*

- › successful contributions/payment submission file
- › unsuccessful contributions file
- › contributions error log file
- › payment submission outcome file
- › payment submission rejection file.

If you've selected *Collect daily notifications of opt-outs and stopped contributions?*

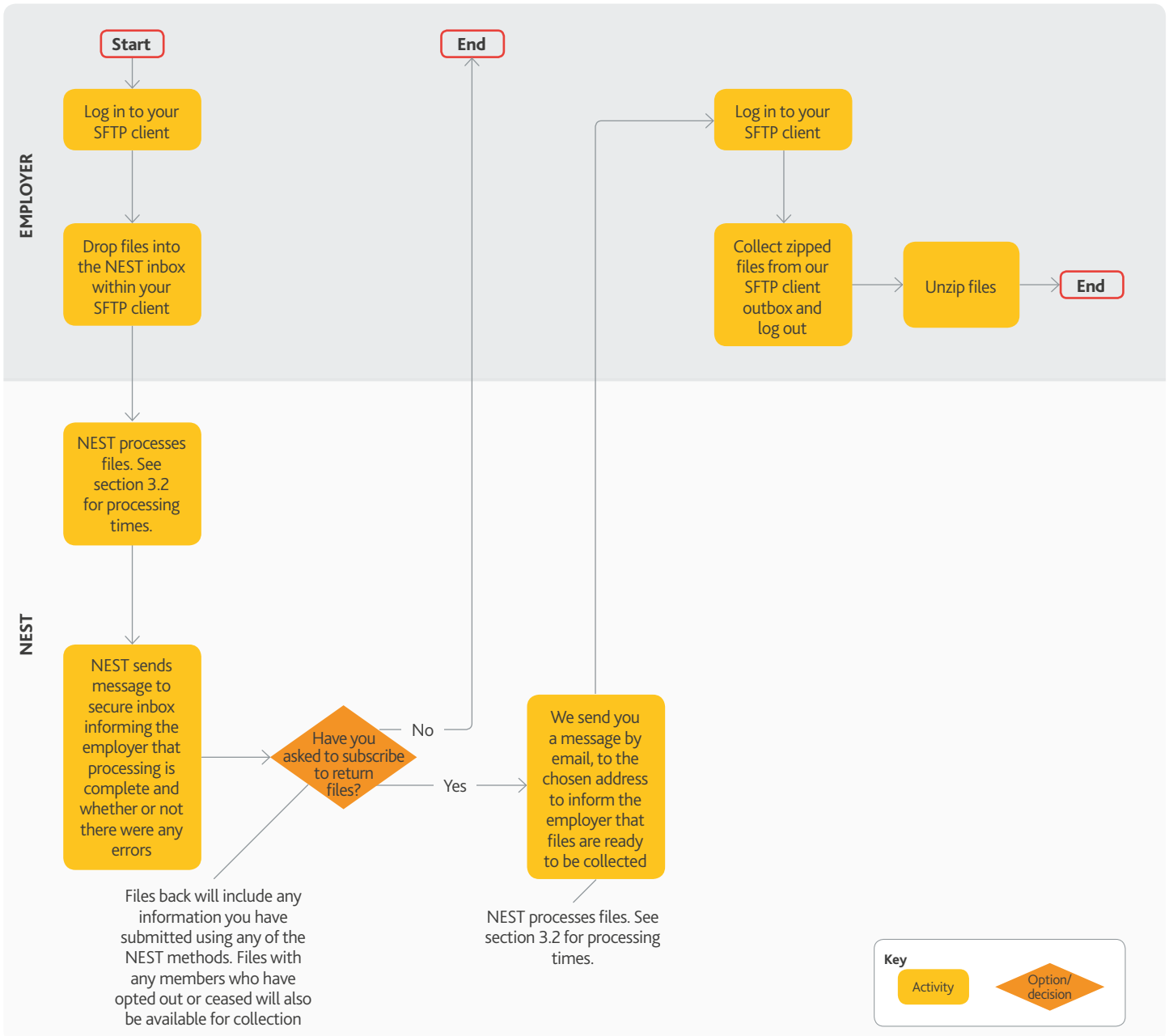
- › opt-out file
- › opt-out contributions expected file
- › contributions stopped files.

For more information on these files see our *Employer payroll guide*.

The files returned by us will be zipped and either in CSV or XML format, depending on your preference. They'll normally be available the next morning after the appropriate information has been processed but if the file processing is complicated it could take until 6pm that day to produce.

See the following page for the process map.

**Figure 2:**  
Using SFTP



## 3.2 Processing times

We normally process contribution schedule files seven days a week. There may be exceptions to this when we need to carry out system maintenance. When this happens we might only process files on business days from Monday to Friday, this doesn't include bank holidays.

### If you're uploading files through the secure website

We have a daily cut-off point of 6pm when we start processing files containing 1,000 records or more. If you miss this deadline your files won't be picked up for processing until after 6pm the following evening.

We'll normally process files using the following timelines.

Size of file	Time to complete processing
Up to 50 worker records	You'll see an on-screen message confirming processing is complete within 30 seconds.
From 50 up to 999 worker records	We'll normally send a message to your mailbox confirming that we've processed your file within two hours.
1000 or more worker records received before 6pm	We'll normally send a message to your mailbox confirming that we've processed your file by 8am the following morning but we may need extra time for additional checking. In this case everything will be ready no later than 6pm that day.
1000 or more worker records received between 6pm and midnight	As the cut-off time was missed we won't process these files until the following evening. They'll normally be ready by 8am the next day but we may need extra time for additional checking. In this case they'll be ready no later than 6pm that day.

### If you're using secure file transfer protocol (SFTP)

We'll process files that contain less than 1,000 records within two hours. We process larger files overnight with a 6pm cut-off time.

If we receive your file before 11pm that day we put return files containing the processing results into the NEST file gateway in an overnight batch process. We'll normally process files sent using SFTP using the following timelines.

Size of file	Time to complete processing and receive return files
Up to 999 worker records received before 11pm	<p>We'll normally send a message to your mailbox confirming that we've processed your file within two hours.</p> <p>Return files are normally ready to collect by 8am the following morning. Sometimes we may need extra time for additional checking. In this case everything will be ready no later than 6pm that day.</p> <p>Any messages we send you using SFTP we'll also send to your secure mailbox. If you don't want to wait for files to be processed overnight you can log in to the secure area of our website to see them.</p>
Up to 999 worker records received between 11pm and midnight	<p>We'll normally send a message to your mailbox confirming that we've processed your file within two hours.</p> <p>As the cut-off time of 11pm was missed we won't send the return files until the following night. You'll normally receive these by 8am the next day. Sometimes we may need extra time for additional checking. In this case they'll be ready no later than 6pm that day.</p> <p>Any messages we send you using SFTP we'll also send to your secure mailbox. If you don't want to wait for files to be processed overnight you can log in to the secure area of our website to see them.</p>
1000 or more worker records received before 6pm	<p>We'll normally send a communication to your mailbox confirming that we've processed your file by 8am the following morning. By this time your return files will also normally be ready to collect. Sometimes we may need extra time for additional checking. In this case they'll be ready no later than 6pm that day.</p>
1000 or more worker records received between 6pm and midnight	<p>As the cut-off time was missed we won't process these files until the following evening. We'll normally send a message to your mailbox confirming that we've processed your file by 8am the next day. By this time your return files will also normally be ready to collect. Sometimes we may need extra time for additional checking. In this case they'll be ready no later than 6pm that day.</p>



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Once we process a file, we'll send you an email. The message will tell you if the file transfer has been successful or if errors have been found in the file.

Files returned to you will be in a subfolder in the NEST file gateway outbox the following day. There'll be different subfolders for files that relate to:

- member enrolment
- contribution schedules
- daily notifications on members who've opted out or ceased contributions.

Please note: if we are still setting up your return file facility when you complete a member enrolment or update a contribution schedule you could find there are already several days's worth of files when you log in for the first time.

### 3.3 Access rights

All delegates except 'read only' delegates can set up secure file transfer.

We validate files as soon as we receive them. If an enrolment delegate with an FTP account transferred a contribution schedule to NEST the file would be rejected. A message would be sent to that delegate telling them they don't have the appropriate levels of access to submit this file.

If you're managing NEST for several employers, we will split your file gateway outbox into separate employer sub-folders. You can access all these sub-folders using the same login details.

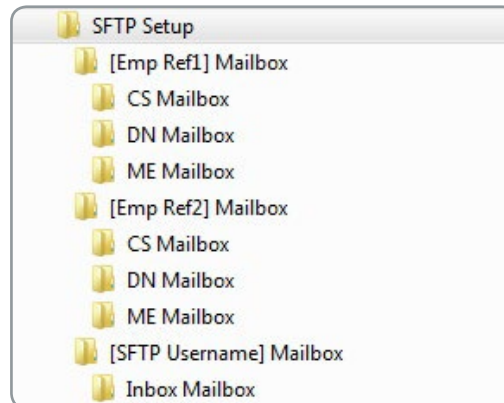
The collection of files from the NEST file gateway outbox is restricted depending on the file. The delegate restrictions are as follows.

Role	Member enrolment files	Contribution schedule files
Full access delegate (includes primary contact and initiator)	Yes	Yes
General delegate	Yes	Yes
Payment delegate	No	Yes
Enrolment delegate	Yes	No
Schedule delegate	No	Yes
Read only delegate	No	No

Please note that you'll receive daily notifications letting you know about files of opt-outs and workers who have stopped contributions.

### 3.4 NEST file gateway – file hierarchy

When you access the NEST file gateway you'll see a hierarchy of files, which will look something like this:



If you're a delegate for more than one employer your file hierarchy will contain outbound mailboxes for each one. There'll be one mailbox for all inbound files labelled [*User Name*] Mailbox. The [*User Name*] Mailbox will contain the delegate's name. When uploading a file to NEST you should drop the file into the subfolder Inbox Mailbox.



If you place inbound files to NEST in any other folder they won't be picked up.

For return files issued by NEST there'll be one main folder for each employer labelled [*Employer Reference*] Mailbox. The [*Employer Reference*] Mailbox will contain the employer's reference number. Each employer folder will contain three subfolders. The return files will be placed in the subfolders as follows.

- CS Mailbox – return files relating to contribution and exception schedules.
- DN Mailbox – return files relating to members opting out or stopping contributions.
- ME Mailbox – return files relating to member enrolment.

The return files will only be available for 30 days. If you want to retain copies of these files we suggest you move them and save them in your own environment.

### 3.5 How to change your SFTP password

Your password to log in to the NEST file gateway is the same password you use to log in to your NEST online account. If you forget your password or need to change it you'll need to follow the instructions on the login page of our website. The maximum password length is 20 characters.

## 04 About this version

### Version history

#### Version Date

0.3 31 January 2013

#### What's changed?

- Still a pre-design early release version
- Changed title to reflect SFTP
- Removal of red text relating to features planned for release by February 2013 as these are already delivered.
- Clarified that return file format is per employer not per delegate
- Clarification on username format
- Clarified that an IP address isn't provided in production
- Return file hierarchy picture provided with supporting text

1 26 April 2013

- Language improved and content put into new design template
- General usability tips added to each section

2 04 April 2014

- New opt-out return files added to section 3.1
- Updated processing times added to section 3.2

3 09 September 2014

- Updated following NEST's September service update release.
- We've made the description of the processing times for enrolments and contributions clearer.
- Updated to include guidance for NEST's new delegate organisation functionality.
- We've removed the Refunded Direct Debit/debit card contributions files from the list of files you can collect if you choose to collect daily notifications of opt-outs and stopped contributions.
- We've added a screenshot showing an example of the NEST file gateway with two employer accounts.

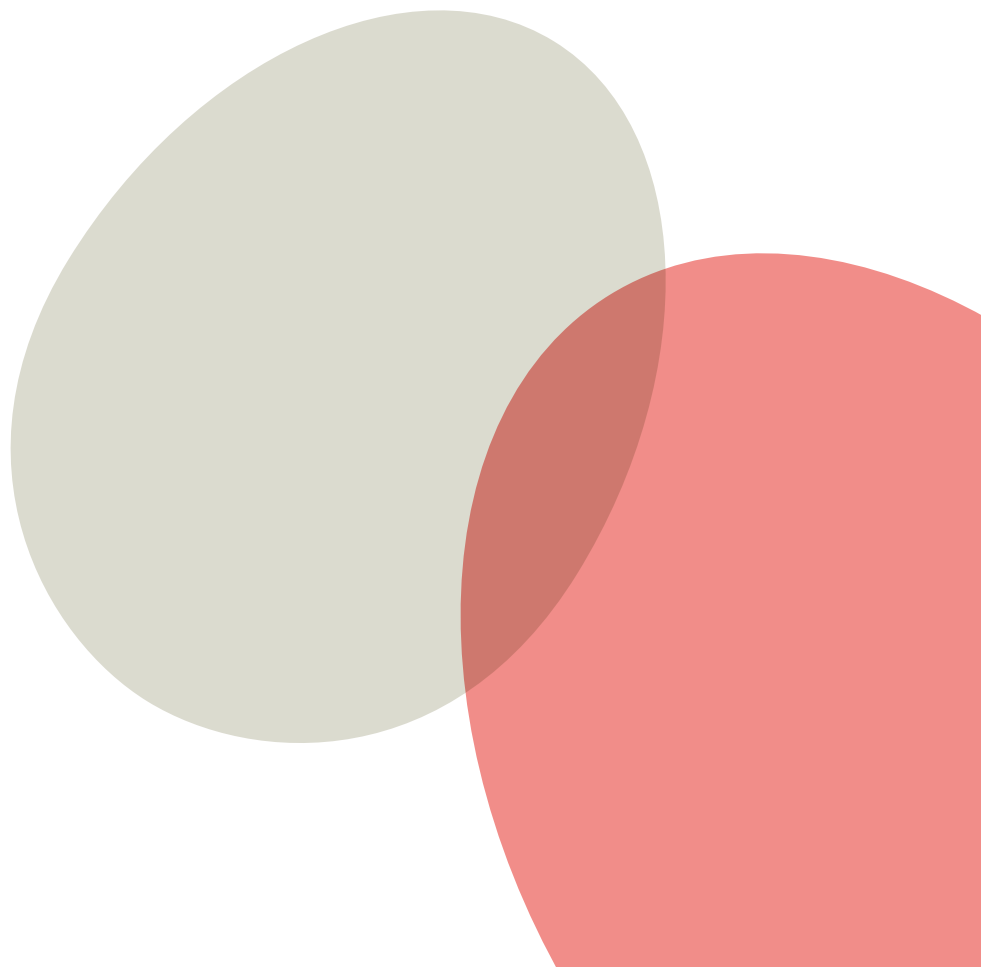
## **We keep changes to a minimum**

NEST's online accounts mean you and your delegates can do almost everything you need to online. We'll make regular updates so we can ensure you have the best possible experience of using NEST. We know you need NEST to work with your HR and payroll systems so we'll try to avoid changes that affect existing processes.

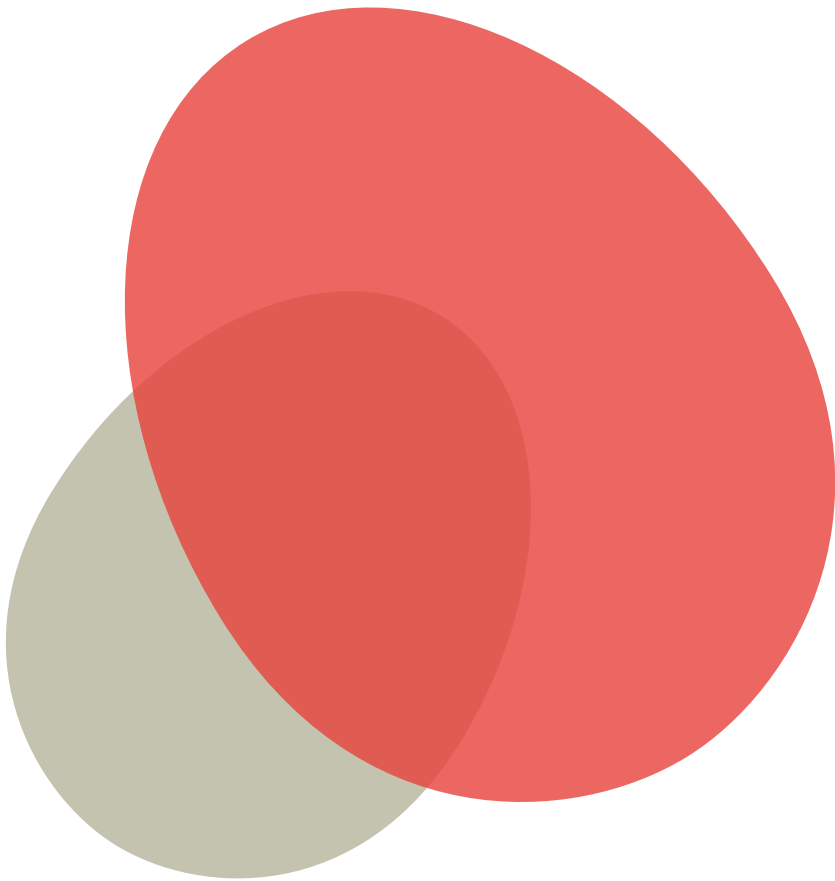
Sometimes we'll need to make changes to our file templates because of things outside our control, such as regulatory changes. If that happens we'll make sure we minimise disruption and we'll give you plenty of time to start using the new templates.

## **Future service releases**

Future service releases will include new functionality for both you and your members. The changes will usually be introduced in two or three service releases each year. You shouldn't need to change anything but we'll let you know in advance if you do.



NEST  
Nene Hall  
Lynch Wood Business Park  
Peterborough  
PE2 6FY  
[nestpensions.org.uk/contactus](http://nestpensions.org.uk/contactus)



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