



# **ENHANCED IX OPERATIONAL GUIDELINES**

**Version 5**

## **Copyright Notice**

**©xoserve Ltd 2008. All intellectual property and other proprietary and use rights are reserved in the UK Link software, the UK Link Manual, the selection and arrangement of the data accessed through UK Link and the trademarks "xoserve" and "UK Link".**

## TABLE OF CONTENTS

<b>1 Introduction</b>	Page 5
1.1 Purpose	Page 5
1.2 Scope	Page 5
1.3 Structure of Document	Page 5
<b>2 Configuration</b>	Page 6
2.1 Control File Transfer Mechanism (XFTM)	Page 6
2.2 UK Link User Gateway Configuration	Page 7
2.3 UK Link User Data Directories - e:\shp01	Page 7
2.4 File Naming	Page 8
<b>3 Sending a file to another user</b>	Page 10
3.1 Moving to the export directory with a LAN connection	Page 11
<b>4 Receiving a file from another user</b>	Page 14
4.1 Moving from the import directory with a LAN Connection	Page 15
<b>5 Contingency</b>	Page 16
<b>6 Audit logs</b>	Page 16
<b>7 Housekeeping</b>	Page 17
<b>8 Help</b>	Page 17
<b>9 Summary</b>	Page 17
<b>10 Questions &amp; Answers</b>	Page 18
<b>11 Appendix A Key to variables</b>	Page 21

## **12 Appendix B File Name Values**

Page 22

# **1 INTRODUCTION**

## **1.1 Purpose**

The purpose of this user guide is to help UK Link Users exchange files with xoserve. For the purposes of this document, all users of the Information 'Xchange Network (IXN) requiring batch file transfer facilities are referred to as UK Link Users.

The guide assumes some familiarity with Microsoft<sup>®</sup> Windows and DOS on the part of the user.

## **1.2 Scope**

This guide describes the principles of the Controlled File Transfer Mechanism (CFTM) and the procedures that UK Link Users should follow when transferring files to and from xoserve.

## **1.3 Structure of Document**

Section 2 describes the overall hardware/software configuration and file naming convention supporting file transfers.

Sections 3 and 4 discuss how a UK Link User sends and receives files.

Subsequent sections discuss contingency and housekeeping arrangements, audit logs, and where to go for help.

Appendix A lists variables involved if UK Link Users use the TCP/IP-based file transfer protocol (*ftp*).

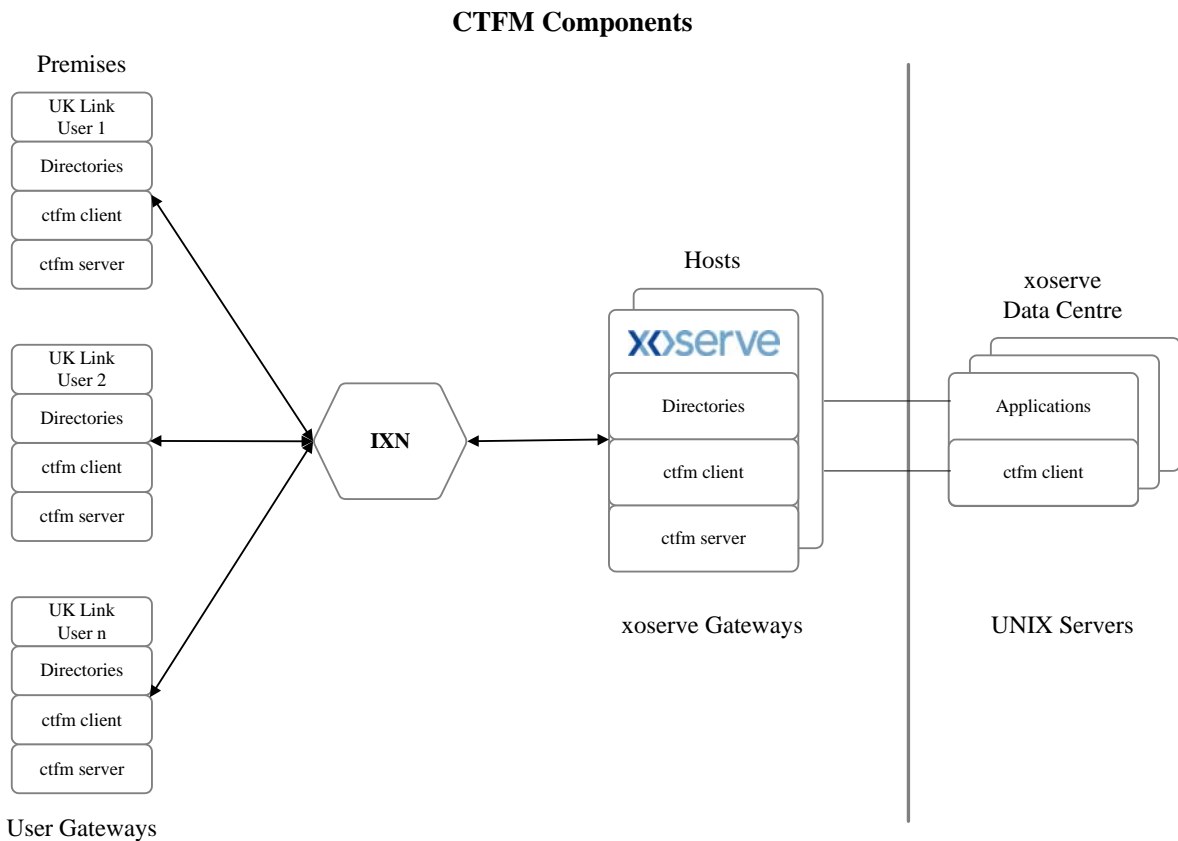
Appendix B lists values of the environment and priority indicators in the file name.

## 2 CONFIGURATION

### 2.1 Control File Transfer Mechanism (CFTM)

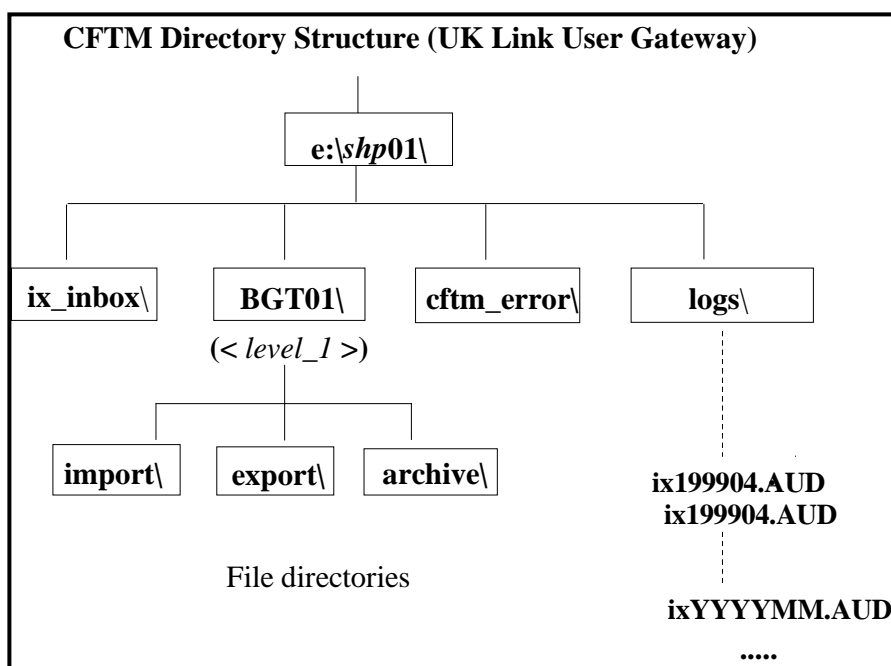
Each UK Link User has a UK Link User Gateway located at their premises. Each UK Link User Gateway has Controlled File Transfer Mechanism (CFTM) client software and relevant directories loaded on it by xoserve as shown in the following diagram.

Audit logs generated on the UK Link user gateway will record details of all file transfers using CFTM. These are explained in more detail in Section 6.



### 2.2 UK Link User Gateway Configuration

There are a number of directories configured on each UK Link User Gateway. The structure of these directories is shown in the following diagram:



### 2.3 UK Link User Data Directories - e:\shp01

The directories for sending and receiving files are located on the E: drive of the UK Link User Gateway under e:\shp01 (where *shp* will be the 3 letter UK Link User shortcode assigned by xoserve). These directories will hold the incoming (*import*), outgoing (*export*), and archived (*archive*) files. There is also a directory (*cftm\_error*) to hold invalid files that the UK Link User has attempted to send to xoserve. All activities performed by the CFTM will be recorded in the audit logs (*logs*) directory. The content of the monthly audit logs are discussed in more detail in Section 6.

In addition, there is a staging directory, the *ix\_inbox*. Files to be sent to xoserve should be copied to the *ix\_inbox* directory, then must be moved or renamed to the *export* directory. This latter step is required to prevent the CFTM from transmitting a file that has only been partially created, although the catalogue entry exists. Refer to Section 3 for further details.

The interrelationship of these directories will be shown in subsequent sections. Access to the directories, and to the files within them, are shown in the following table.

Directory	directory: read/exec	file: read	file: write	file: delete
e:\shp01	Y	Y		
\cftm_error	Y	Y		Y
\ix_inbox	Y	Y	Y	Y
\logs	Y	Y		
\BGT01	Y			
\import	Y	Y		Y
\export	Y	Y	Y	Y
\archive	Y	Y		

## 2.4 File Naming

The external file name is used to route files across the IXN. The UK Link external file naming standards are as follows:-

**< level\_1 >.< level\_2 >.< level\_3 >**

**level\_1** This level is the destination code in the format *XXXnn* where *XXX* is the UK Link User's or xoserve's shortcode, and *nn* is the node (default '01'). A *level\_1* directory exists for each recipient Gateway that is to receive/send files via the CFTM.

**UK Link Users can ignore this level.**

**level\_2** This level is 8 characters in length, in the format *EPNNNNNNN* where *E* indicates the environment, e.g. test or production, *P* is the priority, and *NNNNNN* is a 6-digit generation number. The currently supported Environment and Priority values are listed in Appendix B.

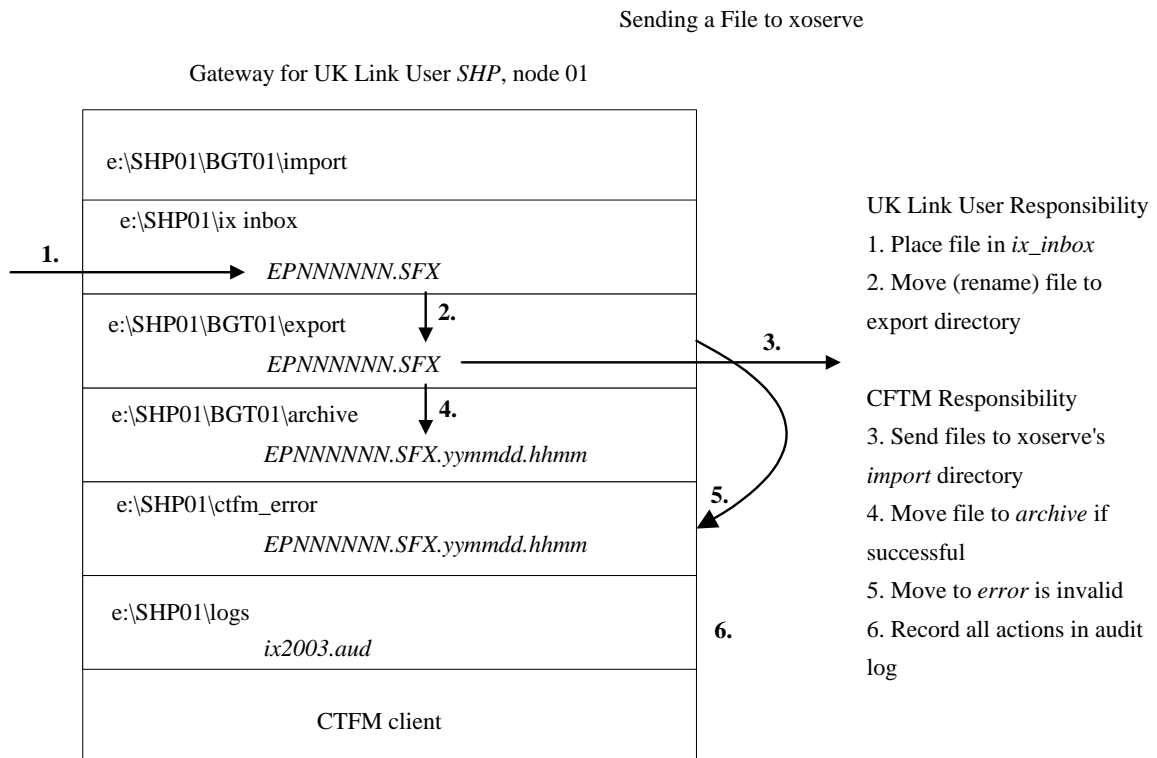
**level\_3** This 3-character suffix identifies the file type.



UK Link Users are responsible for placing a file in the ***ix\_inbox***, then moving (or renaming) the file into the ***export*** directory. **Note that copying the file to the export directory may have unpredictable results, as the CFTM may pick up the file before all the data has been copied.**

The CFTM product 'listens' for the arrival of files in the ***export*** directory, and once arrived, sends them over the IX Network to the ***import*** directory on the xoserve IXN Gateway. If the file name is invalid or the file is of zero bytes, the file will be moved to the ***ctfm\_error*** directory. If the file is valid it will be submitted for export.

This process is summarised in the following diagram:



Note that file names in the archive and error directories are appended with the date and time they are moved to those directories.

A record of each action is recorded in the audit log.

### 3.1 Moving a file to the ***export*** directory with a LAN connection

The following two sections describe ways in which UK Link Users can send files to xoserve.

Network communication between the UK Link Users local network and the Gateway uses the TCP/IP protocol. To connect using either FTP or Shared drive the UK Link User will require the following information (where *shp* will be the xoserve assigned 3 letter shortcode) :

Gateway Name : *shp01s1*

IP Address: 194.129.xxx.xxx

Username: *shpuser*

Password: *shppass* (this is default but can be changed by the UK Link User)

If technical information or assistance is required please call the the IS Helpline on 08705 216121 or Fax 0800 0328903; 24 hours, seven days a week.

Two methods are suggested for UK Link Users who have connected the IXN to their own internal LAN, FTP and Shared drive facility.

### **3.1.1 Using File Transfer Product (*ftp*)**

Assuming *ftp* is installed and configured on UK Link Users' systems, then a typical session might be as follows. Note the text in bold is what UK Link Users would code in their local environment; the normal text shows the prompts and responses. The variables within the code, designated by < >, are described in Appendix A.

```
c:\>ftp <IP ADDRESS>
Connected to <server ID>.
220 <server ID> Microsoft FTP Service (Version 3.0).
User (<server ID>:(none)): <user ID>
331 Password required for <user ID>. <password>

230-Do not Proceed unless you are an authorised user of this xoserve Computer System.
Failure to comply may result in prosecution.
230 User <user ID> logged in.

ftp> put PN123456.NOM /SHP01/ix_inbox/PN123456.NOM
200 PORT command successful.
150 Opening ASCII mode data connection for /SHP01/ix_inbox/PN123456.NOM
226 Transfer complete.
x bytes sent in x seconds (x Kbytes/sec)

ftp> rename /SHP01/ix_inbox/PN123456.NOM /SHP01/bgt01/export/PN123456.NOM
350 File exists, ready for destination name
250 RNT0 command successful.

ftp> bye
221 Goodbye
```

### 3.1.2 Shared Drive Facility

If UK Link Users are running MS Windows Operating Systems on their PCs it is possible for the PC to be configured to have a shared drive to the Gateway. The UK Link User needs to use the 'Map Network Drive' facility within Windows Explorer to connect to the UK Link User Gateway located on their premises. Enter `\\shp01s1\shp01` as the Path and connect as *shpuser* with the required password. Windows Explorer can then be used to "drag and drop" files from the shared drive to the local environment as required.

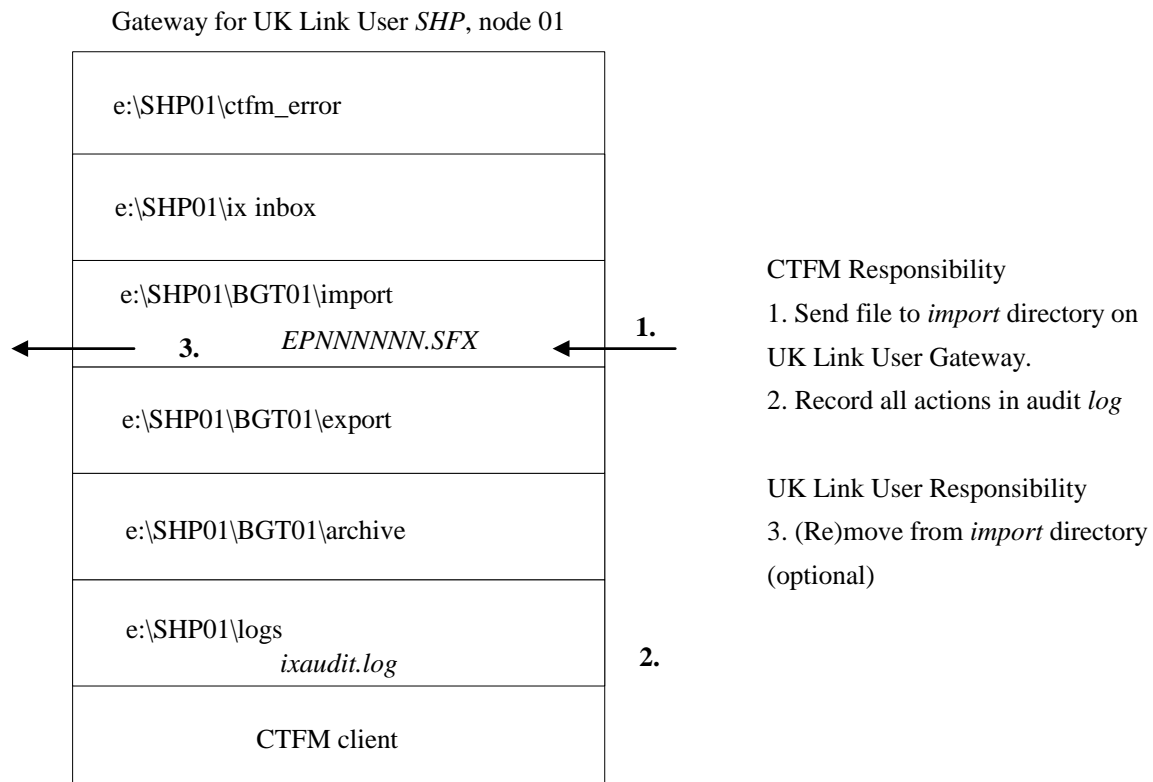
#### 4 RECEIVING A FILE FROM ANOTHER USER

Files from xoserve will be sent to the UK Link User Gateway and delivered into the *import* directory. It is a UK Link User's choice how and if the file is to be used. **Data files remaining in any directories on the e: drive other than the log directories will be deleted after 10 calendar days. Files are deleted irrespective of whether the files have been read or not.**

UK Link Users will use *ftp* or shared disk facility to transfer the data into their own applications. UK Link Users have the facility to remove files from the *import* directory.

The following diagram summarises this process:

Receiving a File from xoserve



## 4.1 Moving from the *import* directory with a LAN Connection

Two methods are suggested here for UK Link Users that have connected their Gateway to their own internal LAN.

### 4.1.1 Using *ftp*

Assuming *ftp* is installed and configured on UK Link Users' systems, then a typical session might be as follows. Note: the text in bold is what UK Link Users would code in their local environment; the normal text shows the prompts and responses.

```
c:\>ftp <IP ADDRESS>
Connected to <server ID>.
220 <server ID> Microsoft FTP Service (Version 3.0).
User (<server ID>:(none)): <user ID>
331 Password required for <user ID>. <password>

230-Do not Proceed unless you are an authorised user of this xoserve Computer System.
Failure to comply may result in prosecution.
230 User <user ID> logged in.

ftp> prompt off
Interactive mode off

ftp> mget /SHP01/bgt01/import/*.*
200 Type set to A.
200 PORT command successful.
150 Opening ASCII mode data connection for /SHP01/bgt01/import/*.* (x bytes).
226 Transfer complete.
x bytes received in x seconds (x Kbytes/sec)

ftp> get /SHP01/bgt01/import/PN000111.SC9
200 PORT command successful.
150 Opening ASCII mode data connection for /SHP01/bgt01/import/PN000111.SC9 (x bytes).
226 Transfer complete.
x bytes received in x seconds (x Kbytes/sec)

ftp> bye
```

### 4.1.2 Shared Drive Facility

If UK Link Users are running MS Windows Operating Systems on their PCs it is possible for the PC to be configured to have a shared drive to the Gateway. The UK Link User needs to use the 'Map Network Drive' facility within Windows Explorer to connect to the UK Link User Gateway located on their premises. Enter `\\shp01s1\shp01` as the Path and connect as *shpuser* with the required password. Windows Explorer can then be used to copy files from the *import* directory onto UK Link User's local environment as required.

## 5 CONTINGENCY

In the event of complete file transfer failure xoserve will attempt to provide an alternate file delivery service within 48 hours of the failure. In the event of loss of file transfer service please call the IS Helpline on 08705 216121 or Fax 0800 0328903; 24 hours, seven days a week.

## 6 AUDIT LOGS

Monthly audit logs are maintained in the `e:\shp01\logs` area on the Gateway, labelled '`ixYYYYMM.aud`' where YYYY is a four digit year and MM is a two digit month e.g. `ix200805.aud` would be the log file for May 2008. **Users have READ ONLY access to this log.** The audit log holds details of all successful file transfers to and from UK Link, together with details of retries and failed transfers. The information is in text format and is self-explanatory. On a daily basis data in the current audit log will be archived by xoserve. The information in these audit logs is archived for seven years.

The log files are relatively small and currently all previous monthly audit logs are available on the Gateway. Users are advised to use these files as part of their own audit strategy. **It is important that no software is used which 'locks' the audit logs when reading these audit files.**

## 7 HOUSEKEEPING

Audit logs of the actions of housekeeping are kept in the logs directory with the name `ixyyymm.del` eg `ix200805.del` would be the housekeeping log for May 2008. This log shows the names and the dates on which files were deleted.

## 8 HELP

If UK Link Users have any queries or problems relating to file transfers over the IX Network, they should contact the IS Helpline on 08705 216121 or Fax 0800 0328903; 24 hours, seven days a week.

## 9 SUMMARY

With respect to the IXN, UK Link Users will have responsibility for:

- creating files whose names conform to the UK Link common standard, for example *PN000001.NOM*
- sending files to their *ix\_inbox*, followed by a move (or rename) to the *export* directory
- processing files received into the *import* directory, using them as required within 10 calendar days of receipt. File resends may incur a charge
- reviewing the audit log held on their Gateway to ensure that file transfers to xoserve have been successful

xoserve, via the CFTM software, will have responsibility for:

- the timely and complete transfer of data across the IX Network
- creating *archive* and *cftm\_error* files at source
- housekeeping (deleting) all files on the Gateway that are over 10 calendar days old

## 10 QUESTIONS & ANSWERS

**Q1. Why is it important when sending a file to xoserve not to copy or FTP it straight into the 'XXX01\BGT01\export' directory?**

A. Copying under Windows NT makes the file 'available' the moment data starts to be written to a file. The file transfer processes may try to send a file before the copy is complete.

The correct method of sending a file to xoserve is to copy (or FTP) the file into 'e:\shp01\import\_tmp' and when complete MOVE it (or rename) into 'e:\shp01\BGT01\export'.

**Q2. Where are the audit logs for file transfers and how do I examine them?**

A. Log files can be examined in 'e:\shp01\logs' using a non-record-locking program such as Microsoft Notepad. If a file needs to be examined with a program that 'locks' data the audit log file should be copied to the users computer and examined from there. Two types of monthly audit logs are currently written, those ending with **.aud** representing the file transfer log used for non-repudiation purposes, and those ending with **.del** being a history of which files have been deleted by the housekeeping process because they were over 10 calendar days old.

**Q3. How can I be certain that a file sent to xoserve has been transmitted correctly?**

A. Examine the relevant month's log file that will be located in the e:\shp01\logs directory (e.g. ix200805.aud will be the log file for May 2008). Providing you see an entry for the file stating 'Successfully Sent' the file HAS been sent to xoserve. **Checking the audit logs is important as xoserve DO NOT monitor invalid named files that are submitted by UK Link Users.** These files will be sent to the e:\shp01\cftm\_error directory. An entry in the log file will give the reason. An incorrectly named file will NOT have a 'Successfully Sent' message in the logs.

**Q4. Our file transfer services monitor the log files for successful file transfer. If we do not see a 'Submitted for Export' message should our processes automatically re-send the file?**

A. No. Check that your processes have MOVED the file into e:\BGT01\export. If they have and file transfer is still not happening raise a call with the IS Helpline on 08705 216121 or Fax 0800 0328903; 24 hours, seven days a week.

Do not resubmit the files as duplicate files may cause unexpected processing errors and file over-writing may occur.

**Q5. We are arranging to have a power outage for UPS installation/maintenance. Are there any special procedures we should follow?**

A. Yes. You should telephone the IS Helpline on 08705 216121 or Fax 0800 0328903 with details of the period and nature of the outage. xoserve 's service providers will provide details of powering safeguards and may arrange to shutdown the operating system on the IX file transfer box remotely. Failure to notify us may result in call-outs by xoserve's service providers or third party sources for problem investigation. This may be chargeable to the customer.

**Q6. We are attempting to read files that have been sent to us by xoserve but cannot find them. Where are they?**

A. Assuming you are logged onto the xoserve supplied Windows NT server and have connected by either drive mapping or FTP, the directory would be e:\shp01\BGT01\import. If using Windows Explorer or similar it is highly recommended that the 'View/Folder Options/View' settings have '**Show all files' enabled** and hide file extensions for known file types **disabled**. Most directories have automatic housekeeping run against them on a daily basis. **The housekeeping process deletes all files, except in the logs directory, once they are 10 or more calendar days old whether or not the files have been read or processed by the customer.**

It is therefore in the customer's best interest to copy files to their own equipment for processing and archiving in a timely manner. File re-send requests should be put to the IS Helpline on 08705 216121 or Fax 0800 0328903. **There may be a charge for re-sending files.**

**Q7. I can see files in the e:\shp01\bgt01\import directory and details in the log files about files with the extension .OBT. According to the log files we are sending as well as receiving these, but I know we do not have any jobs that create them. What are they and where are they coming-from?**

A. .OBT files are automatically generated test files and can be ignored. xoserve has monitoring software on the IX Network that generates alerts if a file transfer fails. Test files are generated a number of times a day from all live sites both to and from xoserve, to ensure file transfer integrity.

**Q8. Do we get a delivery receipt for files sent to xoserve?**

A. No. Some xoserve application programs may send a response file to the data you have submitted but there is no delivery receipt as such. Your knowledge of a successful file transfer, but not an acknowledgement of correct content, is by the examination of the audit log files (see question 3).

**Q9. Certain files need to be received by specific times. By what clock are these based on?**

A. The time stamping of a successful sent or received file is that time shown in the log files. xoserve use a number of time services to ensure that our machines are accurately synchronised. These times are also synchronised to the externally connected IX file transfer servers. These are generally accurate to within less than 500 milliseconds (half a second).

**Q10. I do not have any documentation for file types and connectivity information. Where do I obtain these?**

A. All new customers have access to documentation based on their business type regarding file transfers and file types, <https://www.xoserveextranet.com/uklinkdocs/default.asp>. The UK-Link manual consists of a number of individual documents; the Supplement Document contains the CFTM File Transfer User Guide.

**Q11. My application reports that a file is incomplete, what should I do?**

A. We recommend that you check your own file transfer process first. You should check the details held within the audit log, and compare the file at each stage of processing with that originally delivered to your inbox by xoserve. Refer to question 2 if you are unsure of where to find the audit logs.

## 11 APPENDIX A KEY TO VARIABLES

<b>Field</b>	<b>Description.</b>
<IP_address>	IP address of UK Link User's Gateway
<user_id>	format xx <b>user</b> or xxx <b>user</b> , where xxx is your 3 character xoserve short code (contact IS Helpline on 08705 216121 for clarification if required)
<password>	*****
<local_file_name>, <transient_file_name >	UK Link User-determined file name on local platform. Typically, the UK Link User may choose to use a directory structure to maintain local file names (e.g. on DOS <level_1>\<level_2>.<level_3>).
<SHP>	Three character UK Link User shortcode. Originating CFTM service name, required by CFTM to establish file originator.
<level_1>	Destination CFTM service name - " <b>BGT01</b> ".
<level_2>	Unique file name (reference section 2.4)
<level_3>	3-character file suffix , e.g. " <b>NOM</b> " for the input site nominations

## 12 APPENDIX B FILE NAME VALUES

This chart lists the possible values of the environment (*E*) and priority (*P*) fields within the file name *EPNNNNNN.SFX*:

Environment ( <i>E</i> )	<b>T</b>	Network Code Trial environment
	<b>P</b>	Network Code Production environment
	<b>D</b>	Domestic Production environment
	<b>X</b>	Domestic Trial environment
Priority ( <i>P</i> )	<b>N</b>	Normal (default) priority

Example file names:      PN123456.NOM  
                                  PN123789.SC9  
                                  TN001001.OBT (Test file)