Information Exchange (IX)

Xoserve

An overview of the Information Exchange (IX).

For more technical information on how to exchange files within UK Link, please visit our File Transfer Guide

Overview
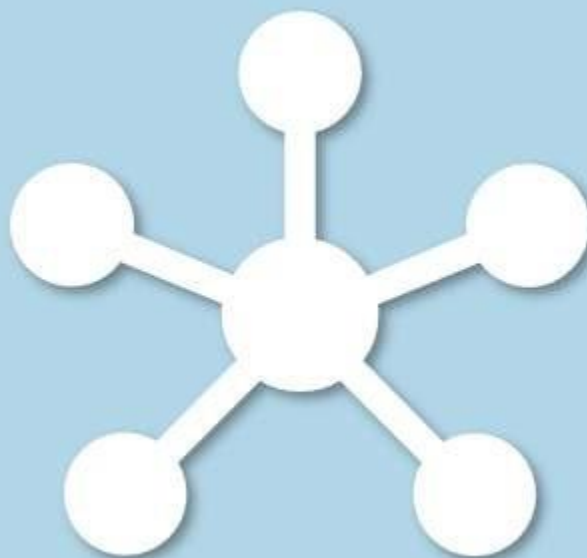
What is IX?

Information Exchange (IX) Network is a wide area network (WAN) used to transfer files between Xoserve and external parties, it is also the secure route to access Gemini.

It is provided to all new Data Services Contract (DSC) and UK Link User Agreement (UUA) customers as part of the customer User Administration Service (UAS).

The IX network is also known as:

- Information Exchange

- Information Exchange Network

- UK Link Network

- IXN

The IX Service Provider

Our service provider is Gamma. Gamma provide our IX Network service including the Server, Router and Internet connectivity. They are responsible for the installation, setup and maintenance of the equipment.

> **As we transition to Gamma some of the existing hardware will be managed by Vodafone. All new Organisations to the service will be installed by Gamma and relevant third-party contractors.**

Why do I need IX?

Installation of IX is necessary for system access and to enable a range of processes, depending on your customer type…

Installation of IX is necessary:	Shippers	User Agent	Independent Gas Transporter (IGT)	Gas Transporter (GT)	Market Operator	Claims Validation Agent	Supplier	Meter Asset Manager (MAM)	Meter Asset Provider (MAP)	Daily Meter Service Provider (DMSP)
To access the Gemini gas trading/balancing system	✓			✓	✓	✓				
To register your customers onto the Supply Point Register (UK Link) via Supply Point Administration	✓		✓	✓						
To use UK Link to receive response files to supply point updates	✓		✓	✓						✓
For invoicing (receiving Transportation and Energy Invoices from the Transporters)	✓									
For SPA business-to-business file exchange (RGMA)							✓	✓	✓	✓
To support Shipper activities as described on the Shipper tile		✓								

IX equipment installation

To access the IX network, hardware needs to be installed in line with the IX terms of agreement(arranged by the Xoserve teams detailed further below). This can either be installed at an appropriate place within your operational address, or a third-party provider can be used.

Setting up equipment installation

There are different routes to follow when setting up IX arrangements, dependent on your customer type:

> **If you are using somebody else's equipment, please liaise with the relevant Xoserve team for your customer type below**

New Shipper / IGT

Xoserve's Customer Lifecycle Team will be liaising with you during your onboarding journey on how to arrange set up of the IX. If you would like to know more, please email…

customerlifecycle.sp a@xoserve.com

Existing Shipper / IGT / GT

A **Specific Service order form** will need to be completed and emailed to the Customer Lifecycle Team…
customerlifecycle.spa@xoserve.com

MAM / MAP / User Agent / DMSP / CVA

You will need to request this service via email to Xoserve's Commercial team…

commercial.enquiries@xoserve.com

What to expect during the IX installation phase

Before the start of your installation, an IX questionnaire (see below) will be issued to you

to understand your chosen location requirements and business needs…

IX CustomerQuestionnaire.xlsx
35 KB

Your IX customer journey will be split into key milestones:

Circuit installations

The onsite contact will receive a call from the Gamma provisioning team confirming the data provided for the circuit installation. The IX has a primary and secondary circuit that could be delivered on separate dates, therefore two site visits are required.

Gamma router installation

This is dependent on the completion of milestone 1 (circuit installations). Following the successful installation of the circuits, Gamma will be in contact to arrange the installation of the routers. A Gamma field service engineer will install the routers and test the connectivity.

Server installation

Gamma will start the build of the server based on your Short Code and Site Node requirements. For example, a Shipper will have a 01 Node and may require a 10 Node for the various flows it is required to send and receive. Gamma will advise in advance of the proposed installation date.

Your IX username and password will be provided by Xoserve or the Service provider upon completion. You will then be asked to test connection to the relevant IX folder and/or the Gemini landing page.

The network diagram below shows how a typical install will look:
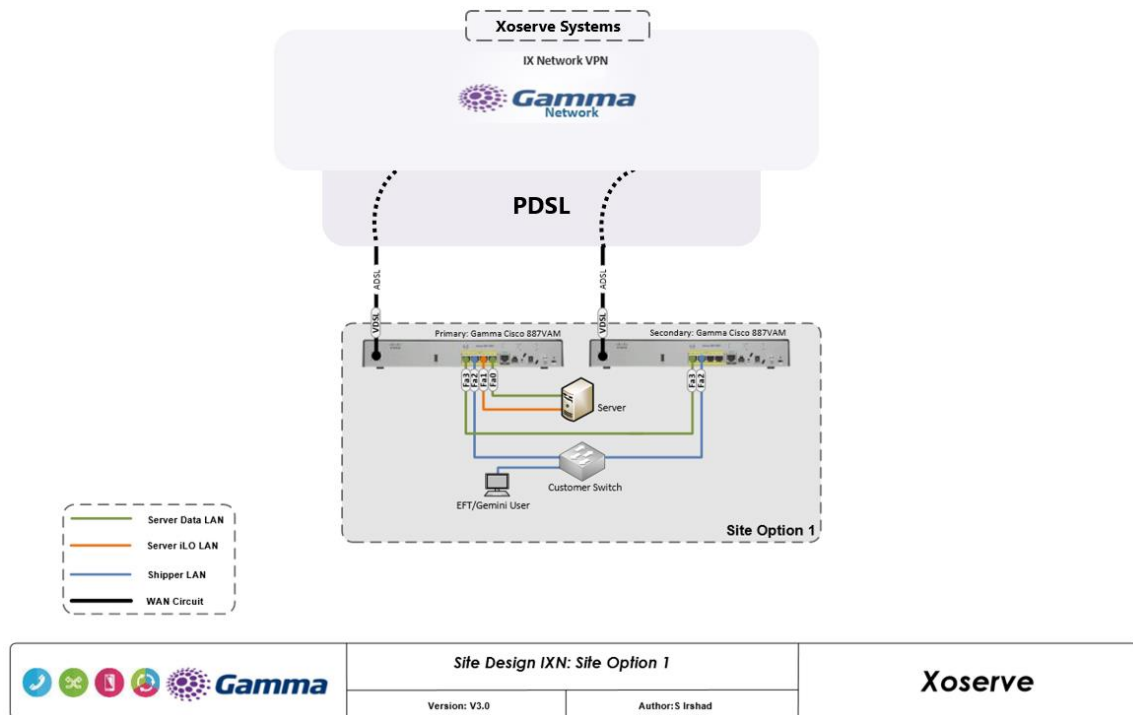
Connecting to Gemini

Connection to the Gemini application and/or Gemini Application Programming Interface (APIs) requires access to the IX router to securely connect from the Xoserve data centre to your client.

Access to Gemini via the web browser will need the support of your IT or Network Team using the instructions in the Gemini guide to connectivity.

For more information on how to access Gemini, please refer to the Xoserve website, here.
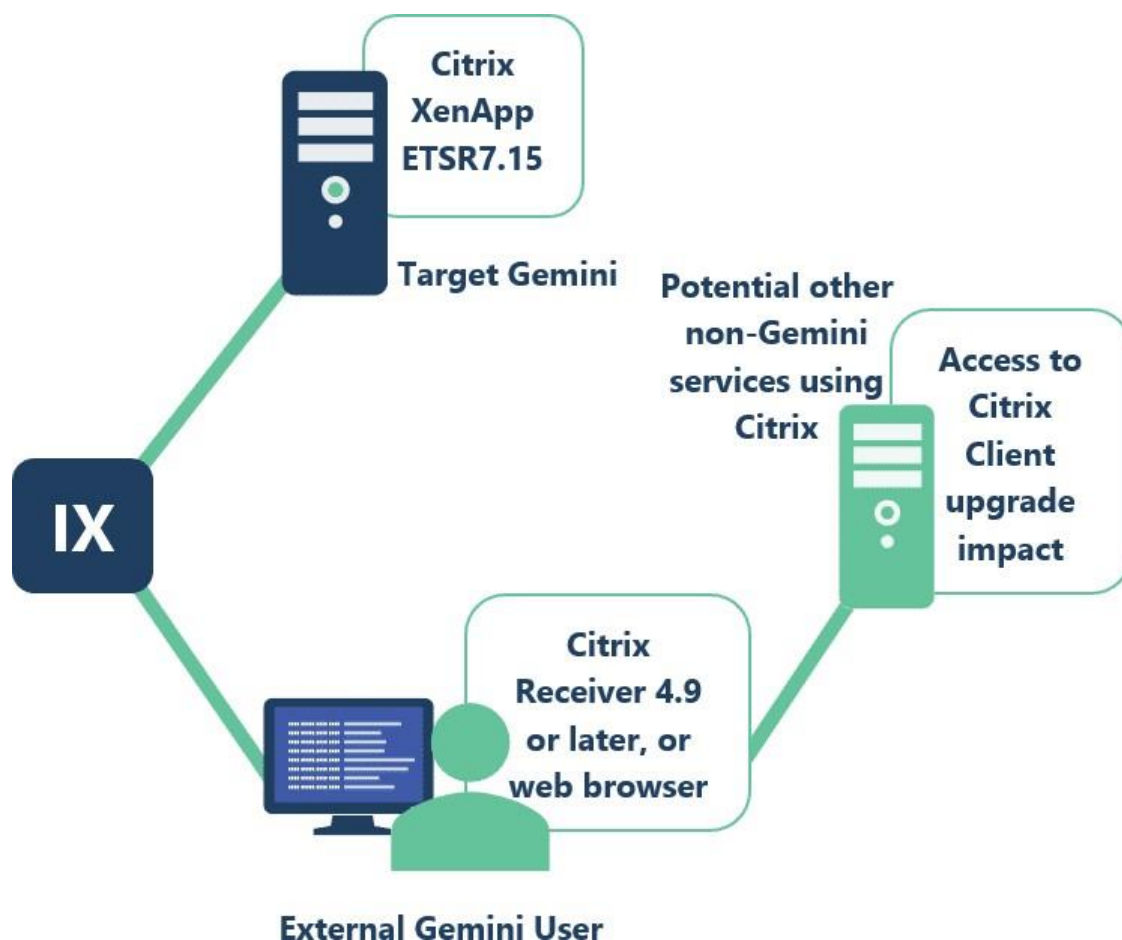
Connecting to the IX

Connecting to IX using File Transfer Protocol (FTP)

Before you connect to the IX via an Active FTP connection, you will need...

- **IX IP Address or IX Server Name**
- **Port Number:21**
- **User Name**
- **Password**

These are provided by the Service Provider or Xoserve's Customer Lifecycle Team during your IX installation phase.

There are usually two main ways of connecting to IX using FTP:

1 Command Line

2 3rd Party Application e.g. FileZilla

> ⟩ **Xoserve do not endorse a specific way of connecting to IX, please ensure any protocol is in line with your organisational requirements.**

A typical session might be as follows:

The text in bold is what Users would code in their local environment; the normal text shows the prompts and responses.

C:\ftp **ixn-xxx-01** or **194.xxx.xxx.xxx**

Connected to **ixn-xxx-01** or **194.xxx.xxx.xxx**
220-Microsoft FTP Service
Do not proceed unless you are an authorised user.
Failure to comply may result in prosecution under the Computer Misuse Act 1990.
User (**ixn-xxx-01**:(none)): **xxxuser**
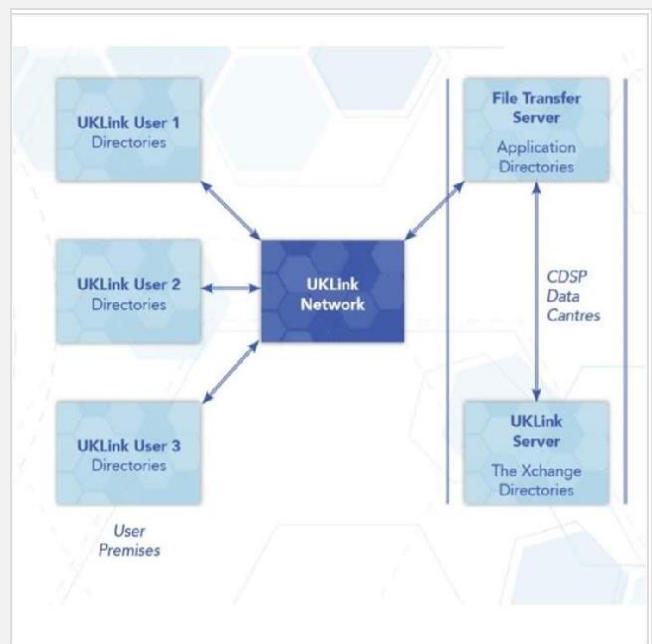331 Password required for **xxxuser.**
Password: 230 User **xxxuser**
Logged in.

Understanding file directories

Accessing your IX file directory

User Gateways have various directories (a file which consists of a set of other files) loaded onto it by the CDSP.

What the file directories mean
Throughout this e-learning module, ORG01 is used for example purposes only…

User Gateway Directory Structure for File Transfers
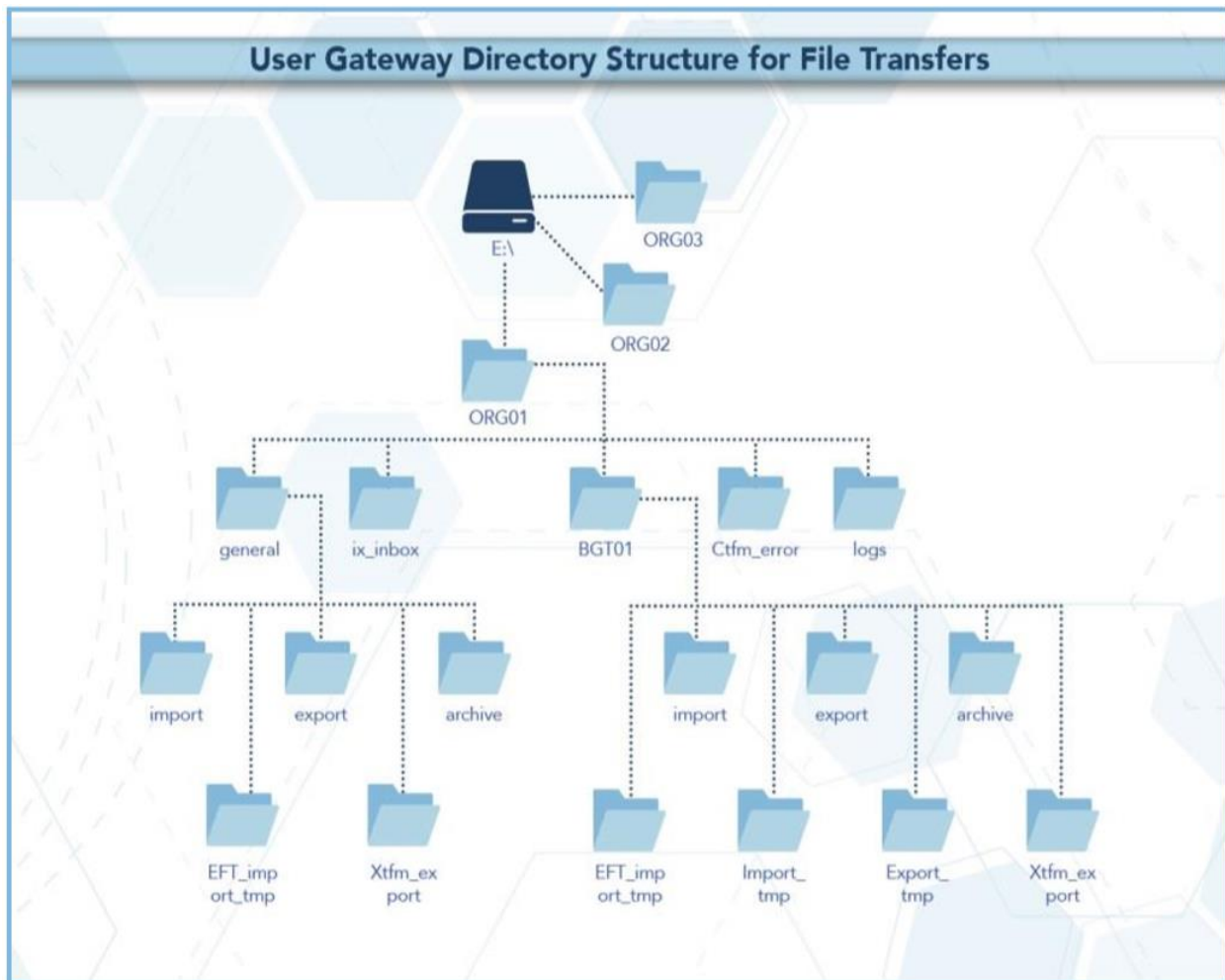
File directory	Definition
ORG	3 letter User short code assigned by the CDSP
general	Incoming and outgoing files to and from Xoserve (UK Link / Gemini). Used by Communication Type 2*.

*IGT files sent to Xoserve using the General folder as Type 2

communications should use the 5.8.3 file format, using

UKL01 to target UK Link e.g. UKL01.PN000000.SFX |
| ix_inbox | A staging directory. Files to be sent should be copied here, then either moved or renamed to the export directory. This prevents transferring a file that has only been partially created (*note that copying the file directly into the export directory may pick up the file before all the data has been copied and result in a partial file being transferred). |
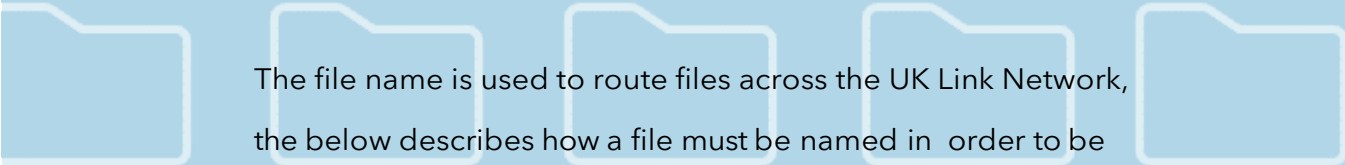
	If the file is valid it will be submitted for export sent over the UK Link Network to the import directory on the User Gateway.
	If the file name is invalid or the file is of zero bytes, upon detection the file will be moved to the Cftm_error directory on the originating UK Link User's Gateway.
archive	Archived files.
export	Outgoing files.
import	Incoming files.
Cftm_error	Holds invalid files that the UK Link User has attempted to send.
BGT01	Incoming and outgoing files to and from industry companies. Used by Communication Type 1.
01	A number assigned to the node by the CDSP for unique identification purposes.

Access to the directories, and the files within them

Directory	Can I read the directory?	Can I read the file?	Can I write in the file?	Can I delete the file?
E.G - ORG01	✓	✓		
\cftm_error	✓	✓		✓
\ix_inbox	✓	✓	✓	✓
\logs	✓	✓		
\BGT01	✓			
\import	✓	✓		✓
\export	✓	✓	✓	✓
\archive	✓	✓		
\eft_import_tmp	✓			
\general	✓			

The file name is used to route files across the UK Link Network, the below describes how a file must be named in order to be transported –(i.e. when a UK Link User places a file on or retrieves a file from, the User Gateway).

File name requirements:

o   All file names should be in UPPERCASE
o   The file name (i.e. all constituent parts – level 1, 2 and 3) has to be unique or they will get rejected

Example file names:

  o PN000001.MBR

  o UKL01.PN012345.SIF

  o PN123456.NOM

The below shows how a file must be named, files which aren't consistent with this will get rejected...

File naming convention: **< level_1 >.< level_2 >.< level_3 >**

ORGnn.PN000000.SFX

ORG	nn	PN	000000	SFX

The UK Link Users Short Code
A list of IX Short Codes can be found *here*

Production prefix of all files

File type

Location Node (e.g. '01')

6-digit generation number
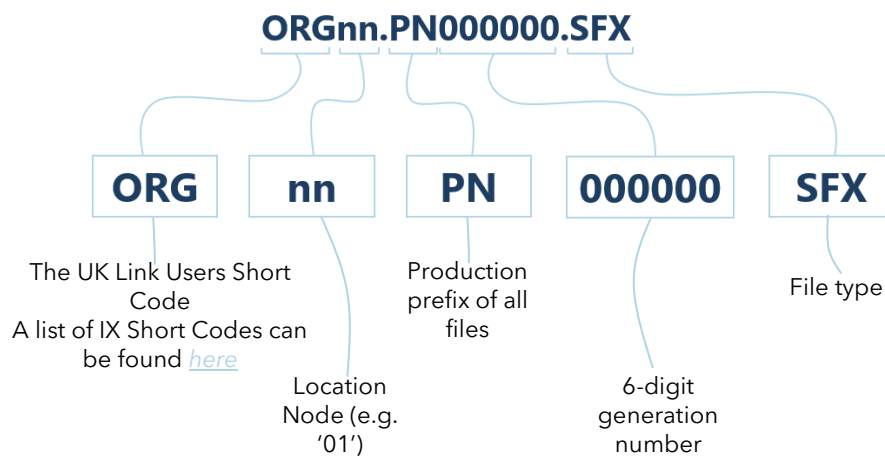
This is referred to as 5.8.3 naming convention

Breaking down the file name

LEVEL_1

  o The destination of files which are being received / sent   over   the UK Link Network

  o Used by Communication Type 2* (Suppliers, MAMs, IGTs)

  o If you are the sender placing the file onto the UK Link Network, use the Short Code and Node of the receiver

17

o   Before placing the file in the receiver's general\import directory, the UK Link Network will change the Short Code and Node of the receiver to that of the sender

o   Those that must observe the 5.8.3 naming convention must use UKL01 when sending a file to the CDSP. Files will appear in an import directory as UKL01

    *IGT files sent to Xoserve using the General folder as Type 2 communications should use the 5.8.3 file format, using UKL01 to target UK Link e.g. UKL01.PN000000.SFX.

LEVEL_2

o   Identifies the addressing information 8 characters in length

o   PN = Production prefix of all files

o   000000 = a 6-digit generation number used to provide a unique qualifier to the file name.

LEVEL_3

o   The File type e.g. "NOM" for the input site nominations

For further information on file suffixes and file formats please refer to the relevant User Interface Document contained in the UK Link Manual.

Sending and receiving files over the network

IX locations

Before transferring IX files over the Network, you will need to check that the location you are sending these to is valid.

A simple way to check is via the list of IX Site Nodes below:

complete-list-of-ix-nodes[1].xlsx

The information in the list:

- o *Is not confirmation about the correct way to transfer your Business-to- Business Flow*
- o *Is not a complete list of nodes available in the IX*
- o *Only shows nodes that match the correct short codes in our system*

When sending Business to business files you will need to speak with the receiving party to understand their requirements.

Sending and receiving files

The file transfer mechanism (EFT) (used to transmit files between Xoserve and its customers via the IX network) is responsible for remotely monitoring the export directory and downloading all the files.

The process of sending and receiving a Communication Type 1 and 2, and the User and File Transfer Mechanism (EFT), responsibilities are shown below:

> Note that copying files directly into the export directory may pick up the file before all the data has been copied and result in a partial file being transferred.

Sending a file over the Network

o Gas Transporter (Distribution Network)

o Gas Transporter (Transmission Network)

o Market Operator

o Interconnector

o Trader

o Shipper

o Supplier

o Meter Asset Manager

o Independent Gas Transporter (IGT)

UK Link User to place a file in the ix_inbox

Communication Type 1

Communication Type 2

Move (or rename) the file in the export directory subordinate to BGT01

Move (or rename) the file in the export directory subordinate to general

EFT to download files from export directory and provide to recipient User, recording all actions in audit log

Key:

◇ UK Link Users responsibilities

▢ EFT's responsibilities

File is valid

File name is invalid or the file is of zero bytes

Submitted for export sent over the UK Link Network to the import directory on the User Gateway

File will be moved to the cftm_error directory on the originating UK Link User's Gateway

Receiving a file over the Network

```
                    Receiving a file over the Network
                                 │
        ┌────────────────────────┴────────────────────────┐
        ▼                                                  ▼
┌─────────────────┐                          ┌─────────────────┐
│Communication Type 1│                       │Communication Type 2│
└─────────────────┘                          └─────────────────┘
        │                                                  │
        ▼                                                  ▼
┌──────────────────────┐                     ┌──────────────────────┐
│ EFT sends file to    │                     │ EFT sends file to    │
│ import directory     │                     │ import directory     │
│ subordinate to BGT01 │                     │ subordinate to general│
└──────────────────────┘                     └──────────────────────┘
        │                                                  │
        ▼                                                  ▼
┌──────────────────────┐                     ┌──────────────────────┐
│ EFT will record all  │                     │ EFT will record all  │
│ actions in the       │                     │ actions in the       │
│ audit log and upload │                     │ audit log and upload │
└──────────────────────┘                     └──────────────────────┘
```

Key:

◇ UK Link Users responsibilities

▢ EFT's responsibilities

UK Link User will (re)move the file from the import directory

Maintaining the directories

Housekeeping needs to be carried out to ensure maintenance of the directories…

After 10 calendar days, Data files remaining in any directories on the IX Server, other than the log directories, will be deleted.

If any non-standard, unauthorised directories exist on the IX Server, they, and any files within them, may also be deleted.

Files are deleted irrespective of whether the files have been read or not.

Audit logs

Audit logs of the housekeeping actions are kept in the logs directory and are updated daily with the name EFTYYYYMMDD.DEL.
e.g. EFT20130301.DEL would be the housekeeping log for 1st March 2013 - this log shows the names of the files and the dates on which files were deleted.

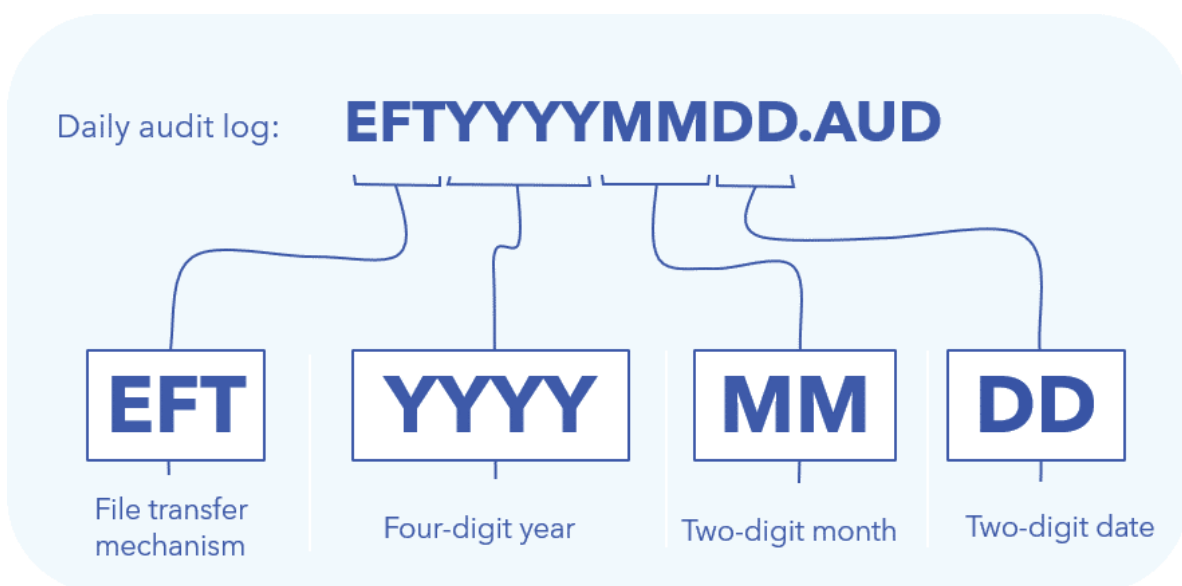Audit logs generated on a daily basis on the User Gateway will record details of all file transfers performed through the UK Link Network.
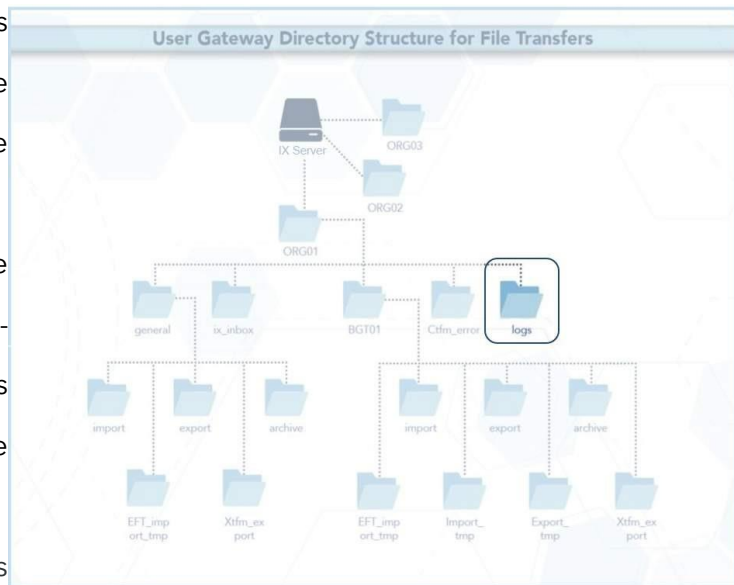
Audit Log of Successful File Transfers

The CDSP (Xoserve) maintain an Automatic Audit Trail Facility. The audit logs are maintained in the

\\ORG01\logs area on the User Gateway, which are labelled as follows:

<u>e.g. EFT20150601.AUD would be the log file for 1st June 2015</u>

You (UK Link User) have read only access to this log. The audit log holds details of:

- Successful file transfers to and from the CDSP

- Retries

- Failed transfers

The CDSP will archive data (archived for 7 years) in the current audit log daily and will collate updates to the file transfer log in order to reduce administrative IX traffic. Currently all previous daily and monthly audit logs are available on the User Gateway.

File Naming Convention for Successful Files in the Audit Log…

Files written within the daily directory are written with the following naming convention:

PN000000.SFX.YYYYMMDD.HHMMSS

Where the file is Communication Type 1 this will not include <level_1> Where the file is Communication Type 2 it shall include the <level_1>

Audit Log of Unsuccessful File Transfers…

Unsuccessful files shall be written to the cftm_error directory.

File Naming Convention for Unsuccessful Files in the Error Log…

File names in the archive and error directories are appended with the date and time they are moved to those directories. These would be shown as:

PN000000.SFX.YYYYMMDD.HHMMSS

The error log will represent the file name as generated by the originating UK Link User.

Frequently Asked Questions

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1   What if I experience faults and issues with IX equipment?

If you have any faults or issues after the network has been installed, please get in touch with our Service Desk:

servicedesk@xoserve.com

Telephone from the UK: 0845 600 0506
Telephone from outside the UK: +44 121 623 2858

2   Are there any outages affecting the IX?

Although there is no maintenance window for IX, sometimes there may be issues or planned outages whereby essential work and business critical updates need to be processed.

You can check the current IX status here:
System Outages

If there are ever any planned outages within your organisation, please let us know as this will allow us to:

o   Arrange the appropriate support Reduce the volume of tickets raised
o   Issue any business-critical files requiring your immediate attention

o   The server will need to be de-crypted via Gamma, which has a short lead time, if there is a loss power or the server is reset

To let us know of any outage information, please contact the Service Desk: servicedesk@xoserve.com

Telephone from the UK: 0845 600 050

Telephone from outside the UK:+44 121 623 2858

3   What if I experience a loss of the file transfer service?

This is only applicable for UK Link Users who have set up arrangements for the Disaster Recovery Process.

o   If you (UK Link User) experience a loss of the file transfer service, The Disaster Recovery Process may be invoked

o   This involves a set of policies and procedures to enable the recovery or continuation of vital technology infrastructure and systems. It ensures a continuation of the services following a disaster and focuses on the IT or systems supporting critical business functions

o   For more information on The Disaster Recovery Process, please refer to Section 5 - Disaster Recovery Processes in the File Transfer User Guide

4   Where should I go for further help if I have any queries or problems relating to file transfers over the UK Link Network?

You can contact the CDSP Service Desk by:

TelephonefromtheUK: 0845 6000506

Telephone from outside the UK: +44 121 623 2858

Service Desk Portal... https://servicedesk.xoserve.com/ Portal/

Also accessible from the 'Contact Us' section of the Xoserve website.

5 Where should I go for further help?

If you have any general queries (non-related to faults or issues), you can contact our Customer Care Team...

- CustomerExperience@xoserve.com

6 Can I test the file exchange?

There is currently no test environment for the IX network, however please contact our customer Care Team for more information on how we can support your requirements...

- CustomerExperience@xoserve.com

> Please do not try testing without this engagement as this is a production environment.

7 What if I am missing a file?

Business to business files sent using IX will be delivered a quickly as the available capacity allows. Xoserve will be able to confirm if files are delivered but will not retain a copy of the file once delivered. Queries about file data will need the assistance of the sender.

Glossary

CDSP	**Central Data Service Provider**	The person for the time being appointed (Xoserve) by the Transporters as central data services provider pursuant to the CDSP Licence Condition.
CDSP Service Desk		UK Link Users are supported by a Service Desk. The purpose of the CDSP Service Desk is to: a) provide the first point of contact for UK Link Users to report any operational problems experienced in accessing or using UK Link; or b) to raise Service Requests
Claims Validation Agent		Responsible for determining the distribution of gas between a gas buyer and other buyers of gas at a system entry point (such as a gas reception terminal at the beach).
Communication Type 1		• Gas Transporter (Distribution Network) • Gas Transporter (Transmission Network) • Market Operator • Interconnector • Trader • Shipper
Communication Type 2		• Supplier • Meter Asset Manager • Independent Gas Transporter (iGT)
Command Line		An interface for typing commands directly to a computer's operating system.
CSV	**Comma Separated Value**	Used in file formats. Fields are delimited by commas.
DMSP	**Daily Meter Service Provider**	Responsible party for the provision of Reads & Adjustments for Daily Metered sites. Contracted by the transporter for Class 1 sites.
DSC	**Data Services Contract**	Data Services Contract is the contract between the Parties and the CDSP in the agreed form (as provided in Part I paragraph 3 of the Transition Document) as from time to time amended in accordance with its terms and the provisions of GTD.
DR	**Disaster Recovery**	Involves a set of policies and procedures to enable the recovery or continuation of vital technology infrastructure and systems to ensure a continuation of services following a natural or human induced disaster and focuses on the IT or systems supporting critical business functions.

EFT	Enhanced File Transfer	A file transfer mechanism used to transmit files between Xoserve and its customers via the IX network.
FTP	File Transfer Protocol	A standard network protocol used for the transfer of computer files between a client and server on a computer network. Followed by UK Link Users when transferring files.
Gemini	Gemini System	Application for energy balancing includes: Gas Nominations, Gas Trades, Energy Balancing, NTS Entry Capacity Booking, NTS Entry Capacity Trading.
GT	Gas Transporter	Also known as Network Operator or Distribution Network Operator. They are responsible for the movement of gas through the local distribution zones (LDZ).
iGT	Independent Gas Transporter	iGTs develop operate and maintain local gas transportation networks.
IX	Information Exchange	A wide area network (WAN) used to transfer files between Xoserve and external parties, it is also the secure route to access Gemini.
MAM	Meter Asset Manager	An organisation licensed to provide meter asset services: Fix meters, organise the replacement meters (age related)
MAP	Meter Asset Provider	The companies who manufacture and provide the meter for the Meter Asset Manager (MAM) to install.
nn	Node	A configured location to communicate with the CDSP and any other configured IX users.
Port Number		A network port – all FTP traffic should be targeting port 21 – this is very specific. HTTP (Web) traffic uses port 80 or 443.
RGMA	Review of Gas Metering Arrangement	Data flows between the various participants – Meter workers, Suppliers, shippers, Transporters.
SPA	Supply Point Administration	The maintenance and administration of gas supply points to ensure that all supply points that Xoserve holds on the National Database are up-to-date and reliable.
Suppliers		Suppliers sell gas to end consumers.
SSC	Stakeholder Short Code	An assigned 3-Alphameric short code for identification in Systems. Also known as: • business associate abbreviation • user id • routing id • short code • shipper short code
Shipper		Shippers are responsible for arranging gas to be conveyed to supply points selling it to gas suppliers.

Trader		Companies that buy and sell gas from the National Balancing Point
User Agent		A Shipper may choose to employ an agent to carry out Network Code processes on its behalf e.g. Sending code communications
UAS	**User Administration Services**	Covers the entry of New Customers into the gas market and any administrative work necessary to change or update contract details for Existing Customers.
UK Link		UK Link connects the complex information, technology and communications systems that are essential to the successful competitive retail gas market in Britain. The suite, which is used and managed by Xoserve in our role as Central Data Service Provider (CDSP), ensures the industry operates smoothly, effectively and efficiently, and in accordance with the Uniform Network Code (UNC). The component parts of UK Link are: • Information Exchange (IX) • System Application • Portal • Contact Management Service (CMS) • Data Enquiry Service (DES) • Gemini • Online Services
UK Link User		Those who are authorised to use the UK Link system, including: • Ofgem • UNC Parties • Meter Readers • User Agents • Delivery Facility Operators and Connected System Operators • Suppliers • Meter Asset Providers • Meter Asset Managers To gain access, your Local Security Officer (LSO) will need to complete and return a Secure Site Access Request form.
UNC	**Uniform Network Code**	It is a legal and contractual framework for gas supply and transportation.
User Gateway		Has relevant various directories (a file which consists of a set of other files) loaded onto it by the CDSP.
UUA	**UK Link User Agreement**	An agreement with users such as gas traders who need access to the UK Link service.