XRN4780-C – SFTP Design Information

The information provided below is to support the answers given in the Frequently Asked Questions (FAQ's) and to provide a greater level of detail regarding the design of the Secure File Transfer Protocol (SFTP) solution being implemented as part of XRN4780-C.

The information has been categorised to aid reading and these categories have also been used in the FAQ's. These categories are;

- Connectivity
- File Formats
- Security
- Testing

Connectivity

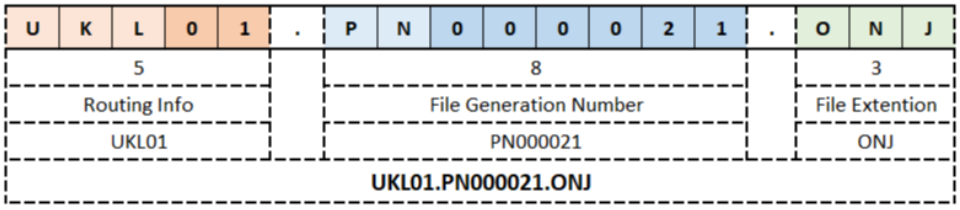
Customers (MAMs and MAPs) will connect to the SFTP service, MOVEit Transfer, using SSH port 22 (default port on which SFTP operates) and push their files to the MOVEit Transfer server at the CDSP. The CDSP will create individual accounts for all customers and send the required SFTP details to connect to its MOVEit Transfer server. MOVEit Transfer only supports FTP over SSH (or SFTP) and SCP2. SCP (SCP1) and all Terminal sessions will be denied access. MOVEit Transfer SSH Server uses SSH Protocol 2 only. A client will not be able to connect to the MOVEit Transfer server using only Protocol 1. MOVEit Transfer SSH Server recommends using the following encryption ciphers: AES, 3DES, and Blowfish.

To connect and send files to MOVEit Transfer, access will be based on SSH with Private Keys as its safe and secure method to transfer files. The CDSP will setup the customer account and provide Host, username and password. The 'key pair' will need to be generated by each customer log on and the private key submitted as part of the process to log into MOVEit Transfer. On first log in the private key will be stored by MOVEit Transfer and on subsequent log ins will be authenticated by the system to permit access. The customer will then use the key to access the server and upload files. The server will automatically authenticate the key and accept user access. Customers should have access to RFC based SFTP clients to be able to connect using this method.

As customer accounts are setup, default folders will be created where customers can upload the files and receive successful and error files back from the CDSP. Following data governance rules the files will be in customer entity specific folders, i.e. each MAM/MAP entity will have their own file structure set up that only they can access. There will be separate folders for inbound (Inbox) and outbound (Outbox) files and these will be based upon user account.

File Formats

Filename formats will be 5.8.3.



The 5 (Routing Info) is made up of:

- First 3 characters = UKL as this is the system destination of the file and in line with other files sent to the CDSP.
- Last 2 characters = 01 for consistency with other UK Link files.

The response files to the ONJ and ONU will be RNJ & RNU respectively, in line with the standard RGMA process from MAM to Supplier.

If a full file rejection occurs, the response file (RNJ, RNU & CMO) will be produced with a File Type Code of REJFL and sent back to the originator. No ERR and FRJ files will be produced as part of this process.

File Header

Meter Asset Managers (MAMs) are required to send RGMA transactions that contain a metering asset (that are issued to Suppliers in the ONJOB and ONUPD) to the CDSP as per the Metering Operations Schedule under the Retail Energy Code (REC).

For the avoidance of doubt, the file header must reflect the parties sending and receiving the file therefore, in this instance, the Originator information will be that of the MAM and the Recipient information will be that of the CDSP and is Recipient ID “TRA” and Recipient Role “GT”.

Where a MAM does not currently provide these details to the Supplier via formal RGMA flows (ONJOB/ONUPD) then, they may provide a non-RGMA file to the CDSP with the required data contained within. If parties would like to utilise the non-RGMA route then they should inform the REC Performance Assurance Board (PAB) and request the file format from the CDSP.

Files

- **MON** -This is a new file format which is to be sent to Meter Asset Providers (MAPs) to inform them of an update to the MAP Id assigned to, or the details of, an asset their MAP Id is associated with. It will also include organisation changes related to a Supply Meter Point (SMP) where their MAP Id is assigned. For details of the file format please refer to Record Format Documents:
    - .MON Hierarchy
      F01 / F02 / F03 Record Formats:
    - F01 – MAP NOTIFICATION DETAILS RECORD V0.1FA

- F02 – ASSET DETAILS RECORD V0.1FA
- F03 – ORG DETAILS RECORD V0.1FA

- **JOB & UPD** are existing RGMA flow files received from Shippers to CDSP to fulfil their UNC obligations, these files can result in a MAP Id being assigned or end dated, when this occurs then this information will be provided to the MAP within the MON file. JOB & UPD's can also result in asset changes (no changes to the MAP), and these will also be communicated to the MAP via the MON file.

- **JOB & UPD** files do not change MAM/Supplier organisations associated with a SMP's, but where changes to these do change via Supply Point Administration (SPA) processes then the incumbent MAP will be notified via the MON file.

- **ONJ & ONU, CMT –** The ONJ and ONU are existing files within RGMA, the CMT is newly proposed for those MAMs not utilising the formal RGMA file formats, that will now be issued by the MAM (Meter Asset Managers) to the CDSP. The MAM data provided will be stored within the CDSP system(s) and used to populate the MAP Id field where required (i.e. where no, or an invalid, MAP Id data item is received from the Shipper by way of existing RGMA flows). Once the Metering details in the UK Link system have been updated (via Shipper RGMA flows) the CDSP will, where MAP Id is missing/invalid, align the Shipper update to the Metering details received from the MAMs and populate the MAP Id accordingly.

- **RNJ & RNU, CMO –** The RNJ and RNU are the response files to the ONJ and ONU under RGMA and the CMO will be the response file to the CMT. Once file validations have been completed the CDSP will issue a RNJ/RNU respectively (in response to ONJ/ONU) or a CMO (in response to the .CMT file) notifying them of which transactions have been accepted or rejected. Reason codes/descriptions will be provided with rejected transactions to assist the MAMs in resolving exceptions prior to potential resubmission. The CDSP will load all accepted data into the CDSP system for potential use within the Supply Point Register.

Security

MOVEit Transfer is secure and only one firewall port (SSH Port 22) will be opened through which all file transfers will happen. The MOVEit Transfer server will enable authentication including two factor and private key based Authentication.

The server design is based on Xoserve's robust security principles. The Azure Virtual Networks are created as a system of Hub and Spoke with MOVEit Transfer Server hosted in a spoke, Services Virtual Network. The Services Virtual Network will have Production and Non-Production Subnets to host these environments and ensure separation. All of the Virtual Networks will have DDOS protection Standard plan enabled and any traffic flow from the external customer's will be controlled via Palo Alto Firewall rules. This will be done as part of the setup between the CDSP and the MAM's/MAP's.

The storage account where the customer files land will be end points and will not be communicating outside the Virtual Network. The only communication that the Virtual Network will have is to the hub Virtual Network protected by firewalls. McAfee will be installed along with Vmas for vulnerability management. Also, Security Events and Incident Management solutions will be deployed to ensure security events are captured and acted upon.

Testing

The solution will include a phase of connectivity testing to test connection with customers. This phase will ensure that connectivity between customers and the MOVEiT Transfer server can be established and ensure secure transfer of files. This would be done on a Non-Production environment. Connectivity testing would commence from 11th October and we will be testing the following:

- Test ONJ /ONU inbound file
- Response for above file (RNJ)/(RNU)
- CMT inbound file and response for same (CMO)

Notification file to MAP (MON)In addition to the above testing with MAM's/MAP's, there will also be a phase of Performance testing to ensure systems are capable to withstand production loads and processing can be complete. Penetration Testing is also planned to ensure that new SFTP transfer that is being setup is safe and secure.

XRN4780-C – Shipper Design Information

The majority of this document is targeted towards MAM/MAPs and the SFTP connectivity solution, however we have had a number of questions asked related to the SIM file that is issued to Shippers via the IX as part of the XRN4780-C Solution.

SIM (SHIPPER INFORMATION ON MAPS) – A new notification file (SIM) to industry participants will be sent by the CDSP to the Incumbent/Proposing Shipper informing them of MAP Id appointment/de-appointments. These cover the instances where a MAM provided MAP Id is utilised (due to the Shipper not providing or has provided an invalid MAP Id on their successfully processed RGMA flow) or a Shipper RGMA update being processed post the issuing of the TRF file to the incoming Shipper.

To facilitate this Shipper Notification, a new File Hierarchy has been created SHIPPER INFORMATION ON MAPS (.SIM) and will contain an existing **GENERIC ORG NOTIFICATION (K85)** Record (although the K85 is being amended as part of XRN4780-C). It is proposed that, in the case of both a MAP appointment and de-appointment that two GENERIC ORG NOTIFICATION (K85) records will be issued at the same time for the same Supply Meter Point, one containing details for the de-appointed MAP, within the same SIM file (along with all other notifications for that Shipper carried out on that day).

Example SIM file is provided below for MAP appointment and de-appointment on a single supply meter point, where 'IPL' is appointed MAP and 'MFA' is de-appointed MAP.

"A00",452,"SIM",20210927,123456,000000
"K85",9999999999,"IPL","MAP",20210927,"LI"
"K85",9999999999,"MFA","MAP",20210926,"ED"
"Z99",2