

DLP MESH Setup Guide

How to download DLP data using MESH

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Information and technology
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Glossary of Terms

Abbreviation	Meaning
API	Application Programming Interface
CSV	Comma Separated Values
DLP	Data Landing Portal
DTS	Data Transfer Service
GP	General Practice
ID	Identification
MESH	Messaging Exchange for Social Care and Health
NDSD	National Data Services Development
NHS	National Health Service
NSD	National Service Desk
ODS	Organisation Data Services

Data Landing Portal

The Data Landing Portal (DLP) seeks to replace current local email data transfers between providers (Data Senders) and commissioners (Data Recipients) and support standardisation by using a secure, centrally managed system. DLP enables Data Recipients to set up Data Specifications, against which incoming data from providers is validated.

Downloading data transfers using DLP

Data Recipients can download data transfers using the download functionality within DLP or by setting up automated transfers. For automated transfers NHS Digital supports Messaging Exchange for Social Care and Health (MESH).

MESH

MESH is the main messaging service used across health and social care. It is the replacement for the preceding Data Transfer Service (DTS) and works on the Spine infrastructure. MESH is used to transfer electronic messages directly from one application to another, enabling different organisations to communicate securely.

MESH can be accessed using the MESH client, or through systems that have been integrated using the Application Programming Interface (API). Further information regarding implementing MESH using an API is available on the [MESH API webpages](#). In most cases systems suppliers or IT administrators will handle the set-up of MESH for each organisation, and users should contact their IT department with any further questions.

How to set up MESH client to receive data transfers

Step 1 – Request a MESH Mailbox

The first step in setting up the MESH client is to request a MESH mailbox. This is done by downloading and completing the [MESH application form](#). If your organisation already has a MESH mailbox set up, please proceed to Step 2.

To ensure smooth completion of the application, the required responses to certain questions are provided below. The following screenshots identify these questions and the required NHS Digital response or advice is highlighted in [blue](#).

The screenshot shows three sections of the MESH application form with callouts:

- Mailbox required ***: A dropdown menu with "Please select" as the current selection. A callout box contains:
 - Q: Mailbox required
 - A: **Live**
- Your data usage**: A text input field with the question "What type of data will you be sending/receiving via MESH? *". A callout box contains:
 - Q: What type of data will you be sending/receiving via MESH?
 - A: **DSP_EXTRACT**
- Approximate anticipated file size ***: A dropdown menu with "Please select" as the current selection. A callout box contains:
 - Q: Approximate anticipated file size
 - A: **Select the expected largest file size that will be submitted to DLP. You will not be restricted to this size.**

If you do not know the workflow ID required for your mailbox, or you believe a new workflow ID is required please detail this information in the above field. It is insufficient to write "Transfer of research data from our organisation to research projects" or "letters detailing patient's progress through the services we deliver". You must describe the business flow for the files/messages, such as (i) file transfer FROM your organisation TO another organisation, (ii) RECEIPT of a file sent from a different organisation, or (iii) RECEIPT of a file from another organisation and ability to RETURN this (updated) file to the originator.

Once you have submitted the MESH application form please proceed to step 2 if you are implementing the MESH client, if you are using an API please proceed to Step 3.

Step 2 – Install MESH client

To install the MESH client, download the MESH installation pack and the MESH client installation guidance from the [MESH and MOLES technical documentation and file downloads webpage](#). The MESH client installation guidance outlines the process for installation, including pre-requisite checks, and guidance for different operating systems (Windows and Linux). Please refer to the MESH webpage for more information or contact the [National Service Desk](#) if you experience any issues with MESH installation.

Step 3 – Client Certificate

Importantly, within the MESH client installation guide you will find information on applying for the Client (Keystore) Certificate. The certificate is needed for authentication purposes and is essential for you to successfully complete your installation. Due to security reasons, we cannot apply for one on your behalf. The guide called [How to use the MESH certificate enrolment tool](#) will take you through the process to be followed.

Step 4 – Send Confirmation

Having successfully set up a MESH mailbox with MESH Client or set up an API, please send confirmation, including the Organisation Data Service (ODS) code and MESH mailbox ID for your organisation, to the Service Management team via the [National Service Desk e-mail address](#), specifying that you want to set up MESH to receive DLP submissions. The DLP team will then complete the configuration changes to enable you to receive automated DLP data transfers via MESH.

Files received via MESH

Downloads via MESH come through as a pair of files and some work is needed before you can access submitted data. These two files are:

- A .dat file, which is the payload/data being transferred;
- A .ctl file, which is the accompanying control file that tells you what the .dat file contains.

See Appendix A for an example of the .ctl file's contents.

To access the contents of the .dat file, the extension needs to be renamed to .tar.gz as the data is transferred in a Gzip archive file. Within this archive file you will find the following files depending on the nature of the submission:

	Submitted file	Validation Report	Submission.json*
Successful submission with no validation report	Yes	No	Yes
Successful submission with a validation report	Yes	Yes	Yes
Unsuccessful submission with a validation report	No	Yes	Yes

*A JSON file containing metadata is included within each archive file (see Appendix B for examples)

Note that where there is an unsuccessful submission without a validation report, nothing will be received via MESH.

Contacts and Useful Links

National Service Desk – Telephone 0300 303 5035 or ssd.nationalservicedesk@nhs.net

NHS Digital [DLP web pages](#) for further information and supporting materials

[MESH and MOLES technical documentation and file downloads](#) - Library of downloadable resources

To be added to the distribution list for regular updates to service suppliers and users, email mesh@nhs.net

Appendix A – the control file

This is an example of what you will see within a .ctl (control) file. Additional notes are provided in the **highlighted text**.

```
<DTSControl>
  <Version>1.0</Version>
  <AddressType>ALL</AddressType>
  <MessageType>Data</MessageType>
  <From_DTS>X26HC010</From_DTS>
  <To_DTS>X26OT002</To_DTS> this will be the recipient's mailbox ID
  <From_ESMTP>x26hc010@dts.nhs.uk</From_ESMTP>
  <To_ESMTP>x26ot002@dts.nhs.uk</To_ESMTP> this will be the recipient's mailbox ID
  <Subject>DLPv3/Subject>
  <LocalId>validation rules - template.tar.gz</LocalId> this is what the .dat file should be renamed to
  <DTSId>20180808160418053343_B8CF9A</DTSId> this is the unique identifier for the submission
  <PartnerId></PartnerId>
  <Compress>N</Compress>
  <Encrypted>N</Encrypted>
  <WorkflowId>DSP_Extract</WorkflowId>
  <ProcessId></ProcessId>
  <DataChecksum></DataChecksum>
  <IsCompressed>N</IsCompressed>
  <StatusRecord>
    <DateTime>20180808170418</DateTime>
    <Event>TRANSFER</Event>
    <Status>SUCCESS</Status> this refers to MESH successfully transferring the .dat file to your MESH mailbox, not whether the user's submission has been successful
    <StatusCode>00</StatusCode>
    <Description>Transferred to recipient mailbox</Description>
  </StatusRecord>
</DTSControl>
```

Appendix B – the JSON file

Below are examples of what you will see within the JSON file. Additional notes are provided in the **highlighted text**.

JSON file for an unsuccessful submission with a validation report

```
{
  "files": [
    {
      "validation_counts": { the values below detail how many of each kind of validation error were triggered
        "no_action": 1,
        "errors": 2,
        "warnings": 1
      },
      "type": "validation report",
      "name": "validation rules -2_validation_report.csv" this is the name of the accompanying validation report
    }
  ],
  "submission": {
    "status": "failed", this tells you the submission was unsuccessful
    "date_time": "2018-08-08 16:26:44.643818+00:00", this is when the submission was made
    "supporting_information": "", any supporting information provided by the sender will appear here
    "sender": {
      "org": "2GETHER NHS FOUNDATION TRUST", sending organisation's name
      "id": "RTQ", sending organisation's ODS code
      "name": "M Bielsa" sender's name
    },
    "specification": {
      "name": "validation rules", name of the specification used
      "id": "6c283ec93af34920ab50033791e703d6" unique specification ID
    },
    "recipient": {
      "org": "DSCRO SOUTH", recipient organisation's name
      "id": "0CW" recipient organisation's ODS code
    },
    "id": "97a35f66d6eb4b9f9f07f67129fc9cd8" transaction ID
  }
}
```

JSON file for a successful submission without a validation report

```
{
  "files": [ validation section is not present here as there is no validation report
    {
      "rows": 3, number of rows in the submitted file
      "type": "submission",
      "name": "4 columns spec with diff cases3 - template.CSV" name of the accompanying submission file
    }
  ],
  "submission": {
    "status": "success", this tells you the submission was successful
    "date_time": "2018-08-08 16:13:50.144030+00:00",
    "supporting_information": "",
    "sender": {
      "org": "2GETHER NHS FOUNDATION TRUST",
      "id": "RTQ",
      "name": "M Bielsa"
    },
    "specification": {
      "name": "4 columns spec with diff cases3",
      "id": "b2ac5871-39c3-4646-bc5c-a6cbfb600cf5"
    },
    "recipient": {
      "org": "DSCRO SOUTH",
      "id": "OCW"
    },
    "id": "10a3f55a8da44b77bfb3f66bfeb5df96"
  }
}
```

JSON file for a successful submission without a validation report

```
{
  "files": [
    { file details in this section
      "rows": 2,
      "type": "submission",
      "name": "validation rules - template.csv"
    },
    { validation details in this section
      "validation_counts": {
        "no_action": 1,
        "errors": 0,
        "warnings": 1
      },
      "type": "validation report",
      "name": "validation rules - template_validation_report.csv"
    }
  ],
  "submission": {
    "status": "success",
    "date_time": "2018-08-08 16:01:42.398362+00:00",
    "supporting_information": "",
    "sender": {
      "org": "2GETHER NHS FOUNDATION TRUST",
      "id": "RTQ",
      "name": "M Bielsa"
    },
    "specification": {
      "name": "validation rules",
      "id": "6c283ec93af34920ab50033791e703d6"
    },
    "recipient": {
      "org": "DSCRO SOUTH",
      "id": "OCW"
    },
    "id": "507c0e4187aa4f9187f8b53b6f784cbc"
  }
}
```