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Introduction

What does the Funding Information System (FIS) do?
The Funding Information System (FIS) is the Desktop Service application element of the Education and Skills Funding Agency’s (ESFA) DCSS data collections system. It is not mandatory that FIS is used to prepare data files prior to submission to The Hub (Data Returns).

FIS can be used by data providers to do the following:

- validate Individualised Learner Record (ILR) data
- calculate funding and derived variables
- create a range of reports based on a set of ILR data.

How does FIS work?
FIS consists of a Framework application within which various component sets and resource data can be imported and then selected to give FIS its functionality for a specific funding year. The update process runs via an online update service and the selection of which Funding Year elements to use is driven by the user.

Data imported and validated through the Funding Information System is stored in the database on the user’s machine. The user is responsible for the security of all data stored within their database.

The component sets contain application elements specific to a particular Funding Year such as procedures and reports. These appear under ‘Procedures to Execute’ in the FIS front-end screen.

The reference data resource files are lookup data sets for Learning Aims data, Provider data, postcode lookups and other data. These can be chosen through a dedicated selection screen - further details regarding this are available in the ‘Selecting Collection year, Component Set and Reference Data’ section of this document.

FIS also requires a SQL Express database to be installed, which it uses as a data store and transformation application. Note that this is installed as part of the FIS installation process.
Functionality unique to FIS
Whilst the majority of the FIS functionality is available through The Hub (Data Returns), a small number of activities can only be carried out using FIS. These are:

- amalgamation of datasets
- export ILR data to Access database, Access database (flattened), or Comma Separated Value (CSV)

Accessing FIS
Please note that users do not need to install a new version of FIS for every academic year or re-register for FIS through the Hub. The existing installation will still work and present the user with available updates.

Users are required to accept a set of Terms and Conditions of use of the FIS, before navigating to the FIS download and installation link. This page appears on the Hub and then runs the installation via an internet connection. After installation, the management of FIS and its resource files is controlled by the user via the application’s ‘Check for Updates’ functionality.

For full information on installing the FIS, please refer to the FIS Installation Guide which can be found on:

FIS Operating System compatibility
FIS is only intended to be installed on the following operating system environments:

- Microsoft Vista
- Microsoft Windows 7
- Microsoft Windows 8
- Microsoft Windows 10

FIS is a 32 bit application but it will operate in either a 32 bit or 64 bit environment.
Prerequisite software
If not installed already, the following software is automatically invoked by the standard FIS installation process:

- SQL Express version 2008 r2,
- SQL Express version 2012
  FIS will work with either 32 bit or 64 bit versions
- .NET Framework 4.5

This software is mandatory in order for FIS to work correctly.
How to use FIS

To operate FIS, follow the steps below –

1. **Open FIS** –
   Once installed it will be available on your Start menu, users can manually add a shortcut link or pin to their taskbar.

2. **Select Data Provider** (the user’s organisation) –
   This may have been selected during installation of FIS but if the Data Provider needs to be changed, select the required Data Provider by opening:
   - Tools & then Preferences
   - Under Data Provider – Select
• If the Provider is listed here then select, else press Search to select a new Provider

• Enter all or part of the Provider details press Search – a list of search results will be displayed, select the appropriate Provider
• Save selection

![Select Data Provider](image)

• Save Preferences and Workplace Location

![Preferences](image)
3. **Run Check for Updates**

‘Check for Updates’ will run automatically when FIS is opened and it can be invoked by the user at any time to ensure that the correct Component Sets and Data Sets are downloaded. To invoke this, select ‘Check for Updates’ from the Tools menu.

The following progress and information box will appear:

![FIS Update Checks](image)

The update checks looks for changes to the application (framework), component sets and reference data sets. If updates are available, the user will be notified. As a general rule the latest versions should be used.

4. **Update Component Sets**

During ‘Check for Updates’ a range of available component sets will be displayed. Component Sets are normally updated on a monthly basis.

These will be split by Funding Year. To update at this stage, tick one or more of the relevant selection boxes and click ‘Update Selected’, otherwise click ‘Skip’.
5. Update Data Sets

Next, new Data Set updates are checked for. These will be grouped by Data Set Type.

If the latest version of each Data Set is not already downloaded, select the latest versions and click ‘Update Selected’.

If the latest versions are already downloaded, click ‘Skip’. Unless there is a known issue with the latest data set, there is no need to download previous versions).
Select Collection year, Component Set and Reference Data required

Under Tools there is a drop down menu called ‘Data Set and Reference’.

When this is selected, the following box will appear. Selecting the collection year under ‘Data Collection’ will present Component Sets and Reference Data for that funding year.

When these have been selected, the versions will be displayed on the front screen of FIS.
Functionality

Running Procedures
Once FIS has been installed and the Data Provider, Data Collection, Component Set and Reference Data are selected, the next step is to choose from ‘Procedure(s) to Execute’, procedure(s) to run.

Selected procedures will run in sequence as shown from the top down. There are restrictions over which procedures can be run depending on their antecedent procedures.
The procedures currently available in FIS for 2018 to 2019 are as follows:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amalgamate</td>
<td>Function to convert multiple data files into one. This phase precedes Import and Validate because the later phases operate as if one data set has been imported.</td>
</tr>
<tr>
<td>Import and validate an ILR submission</td>
<td>Import single or multiple ILR data file(s).</td>
</tr>
<tr>
<td>Perform Funding calculations</td>
<td>Funding Calculations are invoked, applicable calculations are invoked automatically.</td>
</tr>
<tr>
<td>Rule Violation Summary Report as PDF</td>
<td>Report shows a summary of errors, the number of occurrences of each error and warnings for data which has conflicted with ILR validation rules. This will request filter criteria</td>
</tr>
<tr>
<td>Rule Violations Report as CSV</td>
<td>Report shows each error at learner level.</td>
</tr>
<tr>
<td>Export ILR data to an Access database</td>
<td>Exports imported ILR data and calculation results to an Access database MDB file. These are not an exact replica of the FIS SQL Express data tables</td>
</tr>
<tr>
<td>Export ILR data to an Access database (Flattened)</td>
<td>Exports imported ILR data and calculation results to a flattened Access database MDB file. These are not an exact replica of the FIS SQL Express data tables</td>
</tr>
<tr>
<td>Export ILR data to CSV</td>
<td>Exports ILR data tables which appear in the Access MDB file as individual CSV files to the 'Workspace' folder.</td>
</tr>
</tbody>
</table>
Funding and Monitoring Reports currently available in 2018 to 2019

The formats of these reports are specified in the table for selection. Options vary between reports but may be:

**CSV**: exports an CSV format report to the user assigned ‘Workplace’ folder location

**Excel**: exports an Excel format report to the user assigned ‘Workplace’ folder location

**PDF**: exports a PDF file which can be viewed on screen or saved to the users assigned ‘Workplace’ folder location.

The following reports show the funding and monitoring results of the ILR file:

<table>
<thead>
<tr>
<th>Name</th>
<th>Format(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding Summary Report</td>
<td>Excel</td>
</tr>
<tr>
<td>Main Occupancy Report</td>
<td>CSV</td>
</tr>
<tr>
<td>ALLB Occupancy Report</td>
<td>CSV</td>
</tr>
<tr>
<td>Career Learning Pilot Occupancy Report</td>
<td>CSV</td>
</tr>
<tr>
<td>Trailblazer Apprenticeships Occupancy Report</td>
<td>CSV</td>
</tr>
<tr>
<td>Trailblazer Apprenticeships Employer Incentives Report</td>
<td>CSV</td>
</tr>
<tr>
<td>Adult Funding Claim Report</td>
<td>Excel</td>
</tr>
<tr>
<td>Summary of Funding Model 35 Funding Report</td>
<td>PDF or CSV</td>
</tr>
<tr>
<td>Maths and English Report</td>
<td>CSV</td>
</tr>
<tr>
<td>High Needs Students Summary Report</td>
<td>PDF</td>
</tr>
<tr>
<td>High Needs Students Detail Report</td>
<td>CSV</td>
</tr>
<tr>
<td>16-19 Funding Claim Report</td>
<td>PDF</td>
</tr>
<tr>
<td>16-19 Summary of Funding by Student Report</td>
<td>CSV</td>
</tr>
<tr>
<td>CL Summary of Learners by Non-Single Budget Category Report</td>
<td>PDF</td>
</tr>
<tr>
<td>Apprenticeship Indicative Earnings Report</td>
<td>CSV</td>
</tr>
</tbody>
</table>
How to run import and export procedures

Importing and validating an ILR submission
Click the following procedures on the home screen – ‘Import and validate an ILR submission’ and ‘Perform Funding Calculations’ – in this example, ‘Rule Violation Report as CSV’ has also been selected for reporting.

Click ‘Execute’ – please bear in mind that selecting all options on the list of procedures will significantly slow the process.
You will then be required to add the file – click on Add and browse for the ILR file.

Once the file has been added and ‘Import’ is selected, the validation will run. The ‘Perform Funding Calculations’ procedure applies Funding Calculation rules and Derived Variable Calculation rules to the imported data. The results generated by this procedure will be stored within FIS.

In the example a rule violation report in **CSV format** will also be processed.

**Amalgamation of ILR files**

Amalgamation allows users to combine valid data from two or more imported ILR data files in to one ILR data file. This allows users to combine data from different MIS systems.

Click Amalgamate on the main Home screen

Click ‘Add’ to select a file to import. If an ILR file from the previous Funding Year is selected, the Funding Information System will perform a conversion process to update it to the current year. If you wish to amalgamate several files, click ‘Add’ again and select the next file (repeat for all files to be amalgamated).

Once the file list is complete, click on ‘Import’ to continue processing.

Please note: If the ‘amalgamation’ function is selected but only one file has been imported, you will not be able to proceed as the ‘Import’ button will be disabled.
The Funding Information System displays a progress window with a progress bar that provides information on what tasks are completed. To see the task currently being executed click the 'More' button.

Further information regarding amalgamation is available in the Funding Information System Amalgamation Guidance document which can be found under:
Using the procedures ‘Export ILR Data to an Access Database’
This procedure will export tables and fields from the FIS internal database to an MS Access .mdb format file. This file can be created to support the use of third party software such as PDSAT. It will not be in a read only or access protected state. The data tables that it will be populated with will also enable the recreation of any validation, calculation and reporting process; this includes invalid data. The resulting file will be delivered to the folder selected under ‘Workspace’ on the FIS main screen.

Housekeeping
To ensure efficient operation of FIS there are some actions users may take. Below are some suggestions.

Managing the FIS data footprint size
Users are advised that over an extended period, FIS can accrue large amounts of reference and component set data. Some users may find this amount of data to be inconvenient and wish to remove it, at least partially.

There are three types of data file used within FIS that can be removed, these are:

- component sets
- component set databases which hold the calculation results and other data generated by the 'Rulebases’ when ILR data files are processed
- Reference data databases which are the lookup data sets consumed by FIS such as Postcode data and Learning Aims data.

To reduce the amount of data stored by FIS the following activities can be performed:

1. Set the number of component sets and component and reference data databases that are retained by FIS.
   The fields into which the number of component and reference data sets can be entered are in the FIS application framework under ‘Tools\Preferences\Stored Versions”. FIS will retain only as many Component Sets, Component Reference Databases and Reference Data Databases as set under ‘Component Set Version Limit’ and/or ‘Reference Data Version Limit’ fields. The most recent are kept according to the version number in their file names. The default amount kept in both categories is 50 but can be set by the user to any number from 1 to 100. It will not remove ILR data files or any other data stored in the host environment. Please note that:
• this will just clear all data to the limit;
• the number will need to be changed to accommodate further component sets and reference data sets;
• if certain historic component and reference data sets and results are still required then users can download those component and reference data sets and re-run their ILR data through FIS.

2. Delete Component Sets from FIS resource folders.
This is a manual deletion process performed using Windows Explorer. The Component Set files are found in “C:\Sandbox”. For each component set, there is a database which contains calculation results for data run using each one. Deleting them will not automatically remove their accompanying Component Set databases from SQL Express resource folders; these will have to be removed separately and users are advised to follow the guidance covered below in point 3.

Guidance on how to do this can be found in the FIS Uninstallation Guidance document available from the following link:

Reference data database naming convention begins “FIS_DATA…” and contains the version number and the date when it was downloaded. The resource files will also need to be removed from the SQL Express storage folders. Please make sure the right resource files are removed at this point.

4. Please note that just uninstalling FIS will not remove its resources; it will only remove the Framework application.

• Option 1 will block delete all data to a chosen level
• Options 2 and 3 enable users to remove selected component sets and reference data.

(If it is preferable that only certain component and reference data sets are removed then the methods in options 2 and 3 should be followed).
Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Component Set</strong></td>
<td>A set of resource modules that contain data validation, funding calculation and derived variable calculation business rules. Used by FIS to generate enriched data based on the imported ILR data.</td>
</tr>
<tr>
<td><strong>Reference Data Sets</strong></td>
<td>Tables of referential factors used by the component set business rule modules when generating values. In FIS these are:</td>
</tr>
<tr>
<td></td>
<td><strong>Campus Identifier Reference Data</strong> - Reference table that identifies at campus level data being delivered.</td>
</tr>
<tr>
<td></td>
<td><strong>CoF Removal Reference Data</strong> – Reference table that contains the funding that will be removed from providers in relation to their students who have not met the condition of funding.</td>
</tr>
<tr>
<td></td>
<td><strong>EFA CoF Removal Reference Data</strong> – Reference table that contains the funding that will be removed from providers in relation to their students who have not met the EFA condition of funding.</td>
</tr>
<tr>
<td></td>
<td><strong>Collection Calendar</strong> – Reference table that identifies the collection months</td>
</tr>
<tr>
<td></td>
<td><strong>Large Employers Reference Data</strong> – Reference table that identifies the ‘large employer’ status of organisations used in the ‘Employer_ID’ field of the imported ILR data.</td>
</tr>
<tr>
<td></td>
<td><strong>LARS</strong> – Learning Aims Reference (LARS) data</td>
</tr>
<tr>
<td></td>
<td><strong>Organisation</strong> – Factors assigned to each organisation for the purpose of funding calculation, used by the funding calculation business rules.</td>
</tr>
<tr>
<td></td>
<td><strong>PostcodeFactors Reference Data</strong> – Area-cost and Disadvantage Uplift factors based upon Widening Participation indexes and Disadvantage uplift factors based upon Multiple Deprivation indexes UK geographical wards assigned to relative Post-codes.</td>
</tr>
<tr>
<td></td>
<td><strong>Validation Message Reference Data</strong> – Reference table listing the ILR validation rules.</td>
</tr>
<tr>
<td>Database Instance</td>
<td>A database entity, not the database application itself but a database file which holds all relevant data and structures for a particular model, in this case the FIS and it's Component Sets.</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Default Selection</td>
<td>This functionality records which procedures are selected at the time and recalls those settings when FIS is opened.</td>
</tr>
<tr>
<td>Procedure</td>
<td>A discrete area of functionality selected by the user and called by FIS during an execution cycle. For example “Import, amalgamate and validate an ILR Submission” or “Perform Funding calculations”. These can be run individually or in series, the sequence of procedures shown in the FIS front screen cannot be altered.</td>
</tr>
<tr>
<td>SQL Express</td>
<td>A free to download and distribute Relational Database Management System produced by Microsoft. This provides the back-end database to FIS.</td>
</tr>
<tr>
<td>SQL Express Management Studio</td>
<td>A set of GUI tools that can be installed alongside or with SQL Express to allow management of an SQL instance via script and graphical editors. This allows users to configure, manage and administrate the database.</td>
</tr>
<tr>
<td>Template</td>
<td>A set of activities that FIS will undertake recorded as an XML file and called during the Command Line functionality.</td>
</tr>
<tr>
<td>Workspace</td>
<td>The folder directory to which FIS outputs are sent during execution.</td>
</tr>
</tbody>
</table>
Changes to this Document

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Changes made</th>
</tr>
</thead>
<tbody>
<tr>
<td>V1.0</td>
<td>20/05/2014</td>
<td>Initial version to support FIS for Funding Year 2014 – 2015.</td>
</tr>
<tr>
<td>V1.1</td>
<td>14/08/2014</td>
<td>Procedures available for 2014/15 updated</td>
</tr>
<tr>
<td>V1.2</td>
<td>23/03/2015</td>
<td>Data housekeeping advice and Data Provider selection advice added.</td>
</tr>
<tr>
<td>V1.3</td>
<td>12/04/2018</td>
<td>Windows 10 update and updated screenshots</td>
</tr>
<tr>
<td>V1.4</td>
<td>30/07/2018</td>
<td>Updated to 2018/19 funding year</td>
</tr>
<tr>
<td>V1.5</td>
<td>21/08/2018</td>
<td>Updated the Report listing, screenshots for 2018/19 and Glossary Data Sets</td>
</tr>
<tr>
<td>V1.6</td>
<td>23/08/2018</td>
<td>Updated the procedure description for Rule Violations Report as CSV</td>
</tr>
<tr>
<td>V1.7</td>
<td>28/08/2018</td>
<td>Updated to the Glossary for CoF and EFA CoF Removal Reference Data</td>
</tr>
</tbody>
</table>