



Education & Skills  
Funding Agency

# Funding Information System (FIS) Amalgamation Guidance

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## Introduction

### Background

The Amalgamation procedure is a data processing function within the Funding Information System (FIS) that merges two or more ILR files together.

To amalgamate two or more files together, the 'Amalgamate' procedure is available under 'Procedure(s) to Execute' on the main FIS page.

It is designed to create a single ILR file after joining data sourced from multiple ILR data files, and will ensure that the new file only contains one learner record for each Learner Reference Number.

If records with the same Learner Reference Number exist in more than one of the input files then the amalgamation process will attempt to merge the records together into a new single learner record. It does this by comparing the learner data and ensuring that it is consistent. If there are any data conflicts, which cannot be resolved within the learner data, then an amalgamated (merged) learner record for this learner cannot be created and the learner's data will not be included in the amalgamated ILR file and these will be displayed on the FIS Amalgamation Summary Report.

After the amalgamation process is complete, the FIS will create an ILR data file, which is compatible with The Hub's single ILR file format.

### Purpose of Document

This document provides a summary of the amalgamation process that is performed within FIS. The document is designed to help FIS users understand how amalgamation works, including which procedures to run and which reports to check prior to submitting the exported ILR file to The Hub.

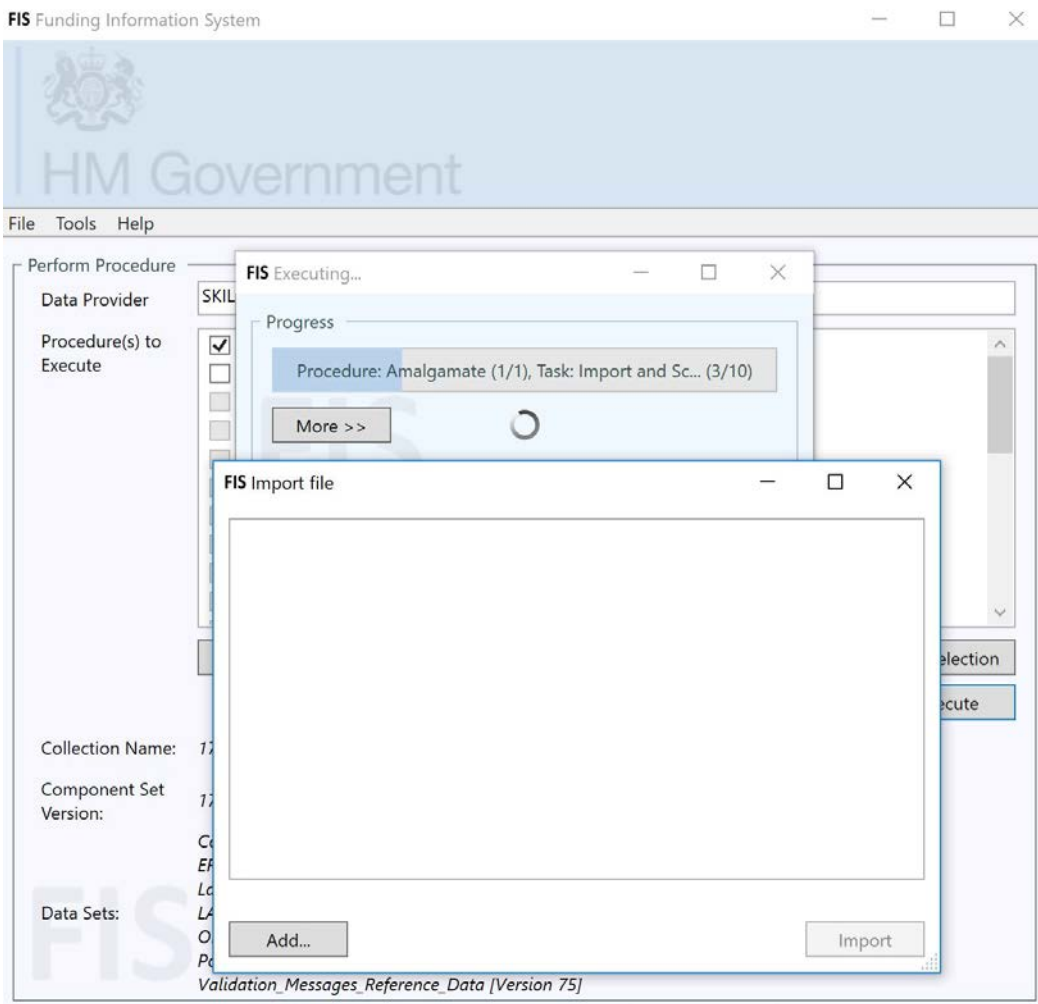
Readers of this document should have a reasonable level of understanding of FIS and its functions. More details on the functions within FIS are detailed in the Funding Information System (FIS) User Guide, which can be found on [GOV.UK](https://www.gov.uk/government/publications/individualised-learner-record-ilr-check-that-data-is-accurate) (URL: <https://www.gov.uk/government/publications/individualised-learner-record-ilr-check-that-data-is-accurate>).



## Process Overview

Amalgamation is invoked by using the “Amalgamate” procedure in FIS. Upon executing the procedure, the FIS user must choose a file to import and then click “Add” again to choose an additional file, repeating this process until all files to be amalgamated have been selected. The user must click Import to continue.

The following table summarises the processes that FIS performs next, followed by procedures that can be run by the user to complete the Amalgamation process:





<u>Processes</u>	<u>Sub-Processes</u>
<b>Initial Checks</b>	All files to be amalgamated must have a unique and valid file name
	All files to be amalgamated must be schema valid
	All files to be amalgamated are checked for the presence of duplicate Learner Reference numbers within a single file
	All files to be amalgamated must have the same provider UKPRN
<b>Perform Amalgamation</b>	<p>If an errors are generated as part of the initial checks, the amalgamation process is aborted and any errors are detailed within the Rule Violation report.</p> <p>The amalgamation rules are applied across all learner data that appears in more than one file (see Amalgamation Section and Appendix A).</p>
<b>Amalgamation Summary Report</b>	<p>If any errors are generated as part of the initial checks, the amalgamation process is aborted and any errors are detailed within the Rule Violations Report. The amalgamation rules are applied across all learner data that appears in more than one file and merged learner records are created for data that has passed the amalgamation rules.</p> <p>All Learning Delivery records may be given a new aim sequence number for learners that appear in more than one file and have passed the amalgamation rules.</p>
<b>Generate ILR file</b>	<p>The ILR file produced from amalgamated data contains all data for valid learners. The single amalgamated file is generated automatically and exported to the FIS Workspace folder.</p> <p>Note that all conflicting learner records identified in the Amalgamation Summary Report are not included in the ILR file.</p>



## Amalgamation

For each set of learner data (for matching case sensitive Learner Reference Numbers) the Amalgamation Rules will be applied. These rules are applied across each ILR field covered in the Amalgamation Rules Specification.

Note irrespective of whether any data conflicts are encountered, the processing will continue until all the amalgamation rules have been applied.

The Amalgamation Rules can be found in Appendix A



## Amalgamation Summary Report

The Amalgamation Summary report provides detail on record numbers in all files, as well as a breakdown of the individual errors/warnings generated by the amalgamation process. This report is generated automatically when the 'Amalgamation' procedure is run.

### Summary Page

FIS — □ ×

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### Amalgamation Summary Report

Provider :  
UKPRN : Year : 2017/18  
Security classification : OFFICIAL-SENSITIVE

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**Summary**

Files (in order of loading)	Learner Records
ILR-10019565-1718-20171005-155111-01.xml	177
ILR-10019565-1718-20180206-144657-01.xml	331
<b>Total Number of Learner Records</b>	<b>508</b>

	Count
Learners in all files	344
Rejected Learners	10
Learners in the Amalgamated File	334
Amalgamation Errors	12
Amalgamation Warnings	7

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Component Set Version: 019	LARS Data: Version 6.0.0 : 19 Jul 2018 15:26:17:227	Organisation Data: Version 3.0.0 : 23 Jul 2018 09:56:37:027
Application Version: 1.6.49.23985	Postcode Data: Version 2017.1.1 : 06 Mar 2018 11:53:11:710	Large Employer Data: Version 01.01.01 18 Oct 2016 00:00:00.000
File Preparation Date: 05/10/2017		
Report Generated at: 10:40:05 on 31/07/2018	Page: 1 of 3	



## Error/Warning Page(s)

Any conflicting values in the data will need to be amended to match in both files in order to process successfully.

### Amalgamation Summary Report

Provider :

UKPRN :

Security classification : OFFICIAL-SENSITIVE

Year : 2017/18

#### Field Value Conflict Errors

Learner	Entity	Key	Conflicting Attribute	File	Value
	Learner		DateOfBirth	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	Conflicting values (which should be identical across all files)
	Learner		PostcodePrior	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		GivenNames	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		LLDDHealthProb	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		Ethnicity	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
			GivenNames	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
			LLDDHealthProb	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		FamilyName	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		Sex	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		LLDDHealthProb	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		LLDDHealthProb	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	
	Learner		LLDDHealthProb	ILR-1718-20171005-155111-01.xml ILR-1718-20180206-144657-01.xml	

#### Field Value Conflict Warnings

Learner	Entity	Key	Conflicting Attribute	File	Value
299972	Learner		AddLine1	ILR-10019565-1718-20171005-155111-01.xml ILR-10019565-1718-20180206-144657-01.xml	
			AddLine3	ILR-10019565-1718-20171005-155111-01.xml	

Component Set Version: 019      LARS Data: Version 6.0.0 : 19 Jul 2018 15:26:17:227      Organisation Data: Version 3.0.0 : 23 Jul 2018 09:56:37:027  
 Application Version: 1.6.49.23985      Postcode Data: Version 2017.1.1 : 06 Mar 2018 11:53:11:710      Large Employer Data: Version 01.01.01 18 Oct 2016 00.00.00.000

File Preparation Date: 05/10/2017

Report Generated at: 10:50:57 on 31/07/2018

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## APPENDIX A – ILR Amalgamation Rules 2018 to 2019

In order for multiple learner records to be successfully amalgamated into one learner record, FIS carries out a comparison of the learner level (& associated entities) data using the following rules.

### Standard Rule

- All string comparisons should ignore case.
- Blank values should be overwritten by non-blank values (*Blank in this context is defined as NULL, missing or a series of space characters*)
- If all of the non-blank data is identical across all files for a given field, then store the non-blank values from the first record (file 1).
- If any of the non-blank data is not identical across all files then report an error and do not amalgamate records for this learner.

### Non Standard Rule

- For some learner fields the data does not need to be identical in order to be amalgamated
- All amalgamation errors and warnings are recorded in the Amalgamation Summary Report.
- In this appendix - Non Standard rules are shaded grey and generate a warning



## Learner Entity

Compare field values of the fields below for records with same primary key of LearnRefNumber

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Learner reference number	LearnRefNumber	n/a			
Learner reference number in previous year	PrevLearnRefNumber	Standard rule	Field value conflict	Error	
UKPRN in previous year	PrevUKPRN	Standard rule	Field value conflict	Error	
Pre-merger UKPRN	PMUKPRN	Standard rule	Field value conflict	Error	
Campus Identifier	CampId	Standard rule	Field value conflict	Error	New field for 1819
Unique learner number	ULN	Exclude 9s from comparison. Order of precedence for resulting data: A positive integer <> 9999999999 takes precedence over 9s.	Field value conflict	Error	If one file has 9s and the other has a positive integer <> 9s then this is not classed as a conflict and does not generate an error. The order of precedence applies to determine which value to use in the amalgamated file
Family name	FamilyName	Standard rule	Field value conflict	Error	
Given names	GivenNames	Standard rule	Field value conflict	Error	



## Learner Entity

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Date of birth	DateOfBirth	Standard rule	Field value conflict	Error	
Ethnicity	Ethnicity	Standard rule	Field value conflict	Error	
Sex	Sex	Standard rule	Field value conflict	Error	
LLDD and health problem	LLDDHealthProb	Standard rule	Field value conflict	Error	
National insurance number	NINumber	Standard rule	Field value conflict	Error	
Prior attainment	PriorAttain	Standard rule	Field value conflict	Error	
Accommodation	Accom	Standard rule	Field value conflict	Error	
Learning support cost	ALSCost	Exclude zero from comparison. Order of precedence for resulting data: A positive integer <> 0 takes precedence over 0, which in turn would take precedence over null or missing data	Field value conflict	Error	



## Learner Entity

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Planned learning hours	PlanLearnHours	Standard rule	Field value conflict	Error	Providers should ensure that the value recorded in each file is the same and is the Total Planned hours for the learner across all provision in all files as detailed in the ILR specification.
Planned employability, enrichment and pastoral hours	PlanEEPHours	Standard rule	Field value conflict	Error	Providers should ensure that the value recorded in each file is the same and is the Total Planned hours for the learner across all provision in all files as detailed in the ILR specification.
GCSE maths qualification grade	MathGrade	Standard rule	Field value conflict	Error	
GCSE English qualification grade	EngGrade	Standard rule	Field value conflict	Error	
Postcode prior to enrolment	PostcodePrior	Ignore spaces, hyphens, apostrophes, commas and full-stops in comparison. Exclude ZZ99 9ZZ from comparison check. Order of precedence is a non ZZ99 postcode takes precedence over ZZ99 9ZZ.	Field value conflict	Error	
Postcode	Postcode		Field value conflict	Error	



## Learner Entity

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Address line 1	AddLine1	<p>The following rule is run on each field in turn: Ignore case, spaces, hyphens, apostrophes, commas and full-stops in comparison. NULL values are included in the comparison. Any conflicts, including a NULL to a non-NULL, should result in a warning.</p> <p>The amalgamated file should be populated with all of these data items from the first file where AddLine1 is populated.</p>	Field value conflict	Warning - a warning should be reported where there is a conflict, including a NULL to a non-NULL value.	
Address line 2	AddLine2		Field value conflict		
Address line 3	AddLine3		Field value conflict		
Address line 4	AddLine4		Field value conflict		
Telephone number	TelNo	Standard rule	Field value conflict	Error	



## FIS Amalgamation Guidance

### Learner Entity

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Email address	Email	Standard rule for field comparison but generate a warning on conflict rather than an error and use data from the first file as amalgamated field value	Field value conflict	Warning	
Off-the-job training hours	OTJHours	Standard rule	Field value conflict	Error	New field for 1819



## FIS Amalgamation Guidance

### Learner Contact Preference Entity

Compare field values of ContPrefCode for records with same primary key of LearnRefNumber & ContPrefType

ContPrefType	ContPref Description	Max occurrence of records	Amalgamation Rule	Report Description	Error/ Warning	Notes
RUI	Restricted use indicator	2	Append unique records of RUI until max occurrence reached unless one record contains RUI3. This takes precedence over all other RUI records. Only one record of RUI3, 4 or 5 should be stored. Other RUI records discarded if RUI3, 4 or 5 is present.	Max occurrence exceeded for this field type	Error	
PMC	Preferred method of contact	3	Append unique records of PMC until max occurrence reached unless RUI3, 4 or 5 is present. This takes precedence and no PMC records should be stored.	Max occurrence exceeded for this field type	Error	



## FIS Amalgamation Guidance

### Learner LLDD and Health problem Entity

Compare field values of fields below for records with same primary key of LearnRefNumber & LLDDCat

ILR Field Name	ILR Short Name	Max occurrence of records	Amalgamation Rule	Report Description	Error/ Warning	Notes
LLDD and health problem category	LLDDCat	21	Standard rule	Field value conflict	Error	
Primary LLDD and health problem	PrimaryLLDD	1	Standard rule	Field value conflict	Error	





## FIS Amalgamation Guidance

### Learner Funding and Monitoring Entity

Compare field values of LearnFAMCode for records with same primary key of LearnRefNumber & LearnFAMType

LearnFAMType	LearnFAMType Description	Max number of records	Amalgamation Rule	Report Description	Error/ Warning	Notes
HNS	High needs students	1	Standard rule	Field value conflict	Error	
EHC	Education Health Care plan	1	Standard rule	Field value conflict	Error	
DLA	Disabled students allowance	1	Standard rule	Field value conflict	Error	
LSR	Learner support reason	4	Append unique records of LSR until max occurrence reached.	Max occurrence exceeded for this field type	Error	
SEN	Special educational needs	1	Standard rule	Field value conflict	Error	
NLM	National learner monitoring	2	Append unique records of NLM until max occurrence reached.	Max occurrence exceeded for this field type	Error	
EDF	Eligibility for 16-19 (excluding Apprenticeships) disadvantage funding	2	Append unique records of EDF until max occurrence reached.	Max occurrence exceeded for this field type	Error	Description updated
MCF	GCSE maths condition of funding	1	Standard rule	Field value conflict	Error	



## FIS Amalgamation Guidance

LearnFAMType	LearnFAMType Description	Max number of records	Amalgamation Rule	Report Description	Error/ Warning	Notes
ECF	GCSE English condition of funding	1	Standard rule	Field value conflict	Error	
FME	Free meals eligibility	1	Standard rule	Field value conflict	Error	
PPE	Pupil premium funding eligibility	2	Append unique records of PPE until max occurrence reached.	Max occurrence exceeded for this field type	Error	

### Learner Provider Specified Monitoring Entity

Compare field value of ProvSpecLearnMon for records with same primary key of LearnRefNumber & ProvSpecLearnMonOccur

e.g.. If there are Provider specified monitoring records where ProvSpecLearnMonOccur=A, then the value of ProvSpecLearnMon must be the same on both records

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Provider specified learner monitoring	ProvSpecLearnMon	Standard rule for field comparison but generate a warning on conflict rather than an error and use data from file 1 as amalgamated field value	Field value conflict	Warning	



## FIS Amalgamation Guidance

### Learner Employment Status Entity

Compare field values of fields below for records with same primary key of LearnRefNumber & DateEmpStatApp

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/Warning	Notes
Employment status	EmpStat	Standard rule	Field value conflict	Error	
Employer id	EmpId	Standard rule	Field value conflict	Error	
Agreement identifier	Agreeld	Standard rule	Field value conflict	Error	New field for 1819



## Learner Employment Status Monitoring Entity

Compare field values of fields below for records with same primary key of LearnRefNumber, DateEmpStatApp & ESMTType

e.g. if there are two employment status monitoring records for a given date with ESMTType=SEI, then the ESMCode must be the same on both records

ESMTType	ESMTType Description	Amalgamation Rule	Report Description	Error/ Warning	Notes
SEI	Self employment indicator	Standard rule	Field value conflict	Error	
EII	Employment intensity indicator	Standard rule	Field value conflict	Error	
LOU	Length of unemployment	Standard rule	Field value conflict	Error	
LOE	Length of employment	Standard rule	Field value conflict	Error	
BSI	Benefit status indicator	Standard rule	Field value conflict	Error	
PEI	Previous education indicator	Standard rule	Field value conflict	Error	
SEM	Small employer	Standard rule	Field value conflict	Error	



## FIS Amalgamation Guidance

### Learner HE Entity

Compare field values of fields below for records with same primary key of LearnRefNumber

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
UCAS personal identifier	UCASPERID	Standard rule	Field value conflict	Error	UCAS personal identifier
Term time accommodation	TTACCOM	Standard rule	Field value conflict	Error	Term time accommodation

### Learner HE Financial Support Entity

Append unique records based on FINTYPE.

For non unique records compare field values of field below for records with same FINTYPE.

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Financial support amount	FINAMOUNT	Standard rule	Field value conflict	Error	



## FIS Amalgamation Guidance

### Learner Destination and Progression

Compare records with same primary key of LearnRefNumber

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Unique learner number	ULN	Exclude 9s from comparison. Order of precedence for resulting data: A positive integer <> 9999999999 takes precedence over 9s.	Field value conflict	Error	If one file has 9s and the other has a positive integer <> 9s then this is not classed as a conflict and does not generate an error. The order of precedence applies to determine which value to use in the amalgamated file

### DPOutcome Entity

Append unique records based on primary key of OutType, OutCode & OutStartDate.

For non unique records, compare field values of fields below for records with same primary key of OutType, OutCode & OutStartDate.

ILR Field name	ILR Short name	Amalgamation Rule	Report Description	Error/ Warning	Notes
Outcome end date	OutEndDate	Standard rule	Field value conflict	Error	
Outcome collection date	OutCollDate	Standard rule	Field value conflict	Error	



**Change to this Document**

Version	Date	Changes made
V1.0	19/12/2013	Initial version.
V1.1	17/09/2014	Updated to include guidance for functionality for Funding Year 2014 to 2015
V1.2	30/07/2018	Updated to include guidance for 2018 to 2019 and new logos, added Appendix A