

# Social Data Collection Transformation Project: Transforming CATI data collection and data processing for the Labour Force Survey

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## 1 Overview

The Labour Force Survey (LFS) is one of ONS's most important household surveys. It is a survey focused on collecting data on the employment circumstances of the UK population. It is the largest household survey in the UK and provides the official measures of employment and unemployment. The survey provides information needed to help the Government decide its economic, especially labour market, policy. Key external users of the data include the Department for Work and Pensions (DWP), the Department for Business, Innovation and Skills (BIS), the Department for Children, Schools and Families (DCSF), the Welsh Government, the Scottish Government, the Bank of England and HM Treasury.

The Social Data Collection Transformation (SDCT) project aims to deliver new data collection systems for the LFS which future projects can use as templates for other major household surveys. The project has 2 tranches, which will be developed concurrently:

- Tranche 1 aims to redevelop the “core” data collection systems for the LFS - associated with a) case creation (and delivery to the existing communications infrastructure), b) operational case management within the HQ systems, and c) passing data through to the statistical operation.
- Tranche 2 aims to redevelop the LFS Telephone Operations Call Scheduler (TOCS)

For both tranches, the project will aim to deliver the operational management information (MI) required to manage the data collection process. The project will deliver the data outputs fed into the current strategic management information systems to allow these to continue to function.

Operational and strategic MI are defined as follows:

Operational	<p>The information required during data collection to:</p> <ul style="list-style-type: none"><li>• monitor the collection process</li><li>• decide on reallocations during collection</li><li>• decide on reissues into a following collection period</li><li>• change the data collection strategy for the current or following field period</li></ul> <p>Current operational MI for the LFS is heavily focused on monitoring progress in terms of the cases that have been started and completed (and the response rate) within the field period, and managing reallocation and reissues. Operational MI is required for running the telephone operation (TO).</p>
Strategic	<p>This covers the information required to monitor the overall performance of the social survey data collection operation, with the aim of identifying opportunities to improve the efficiency and quality of the operation and/or identify change initiatives (e.g. recruiting additional interviewers, altering the relative priorities of surveys, changing the call pattern strategy). It also covers Reports used by managers to monitor the performance of individual interviewers or the wider field force/TO e.g. for performance management.</p>

The data collected is currently processed from the proprietary Blaise database into the Dbase management system and the underlying .dbf file formats for operational (data collection) purposes, and (currently via SPSS) into the new Oracle repository for statistical processing. The operational applications used in the current LFS data collection systems (e.g. for case creation, case management, telephone call scheduling, the rotation of case and survey data, etc) are mainly written in the CA-Clipper™ language, which runs on the Microsoft® DOS operating system on personal computers .

## 2 Scope

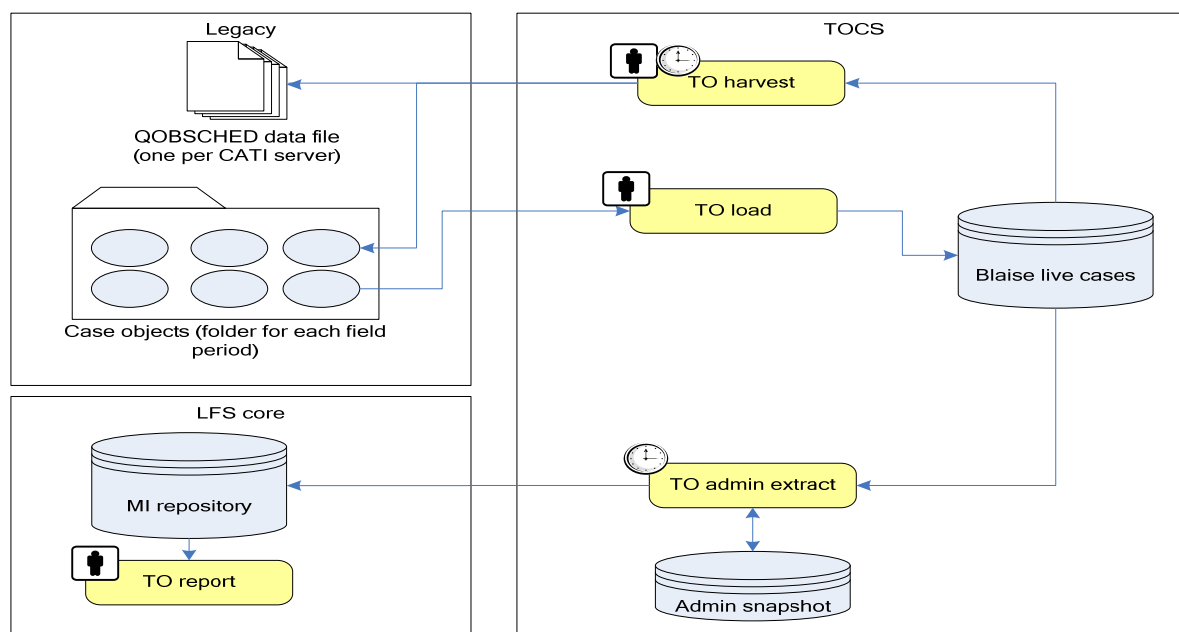
The project defined the following as within scope:

- Telephone Operations LFS Call Scheduler (TOCS).
- Core LFS Systems. This will deliver the following
  - A respondent data store which stores identifying and survey data securely,
  - Integration with new case management applications (Case creation and delivery to the existing communications infrastructure for field and CATI servers for TO; processing completed cases from both modes of collection; rotation of case and survey data into the next wave of interviewing)
  - Data cleaning in the form of validation and editing and produces defined outputs (e.g. passing data to the statistical processing repository, output of operational management information reports, data outputs for existing strategic management information systems, storage of management information data, etc).
- A platform to support the implementation of other major household surveys.

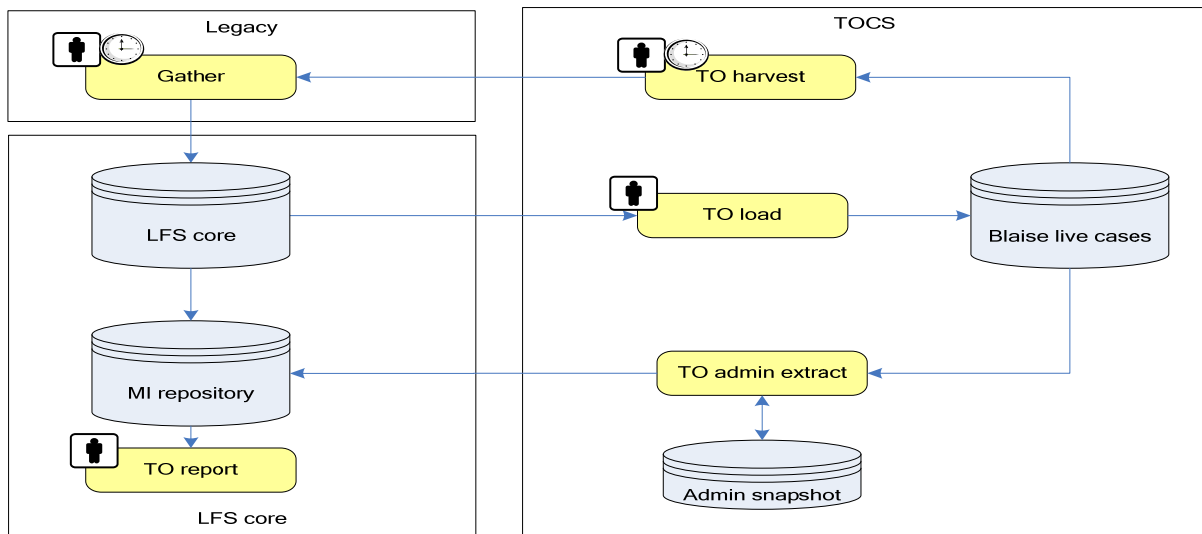
The following diagrams give a high level indication of:

- The proposed parallel development tranches
- The scope of each tranche
- Some of the key interfaces to legacy systems (sampling, allocation, existing communications and case management systems for the field force, etc)
- Some of the outputs, e.g. management information

### Tranche 1 Integration



## Tranche 2 Integration



## 3 Business Objectives

ONS Social Survey aims to deliver the following high level objectives:

Enhance the effectiveness of our surveys through better organisation and stronger programme and project management, through smarter design and a better understanding of users needs;

Identify, test and implement further options for increasing the efficiency of survey operations.

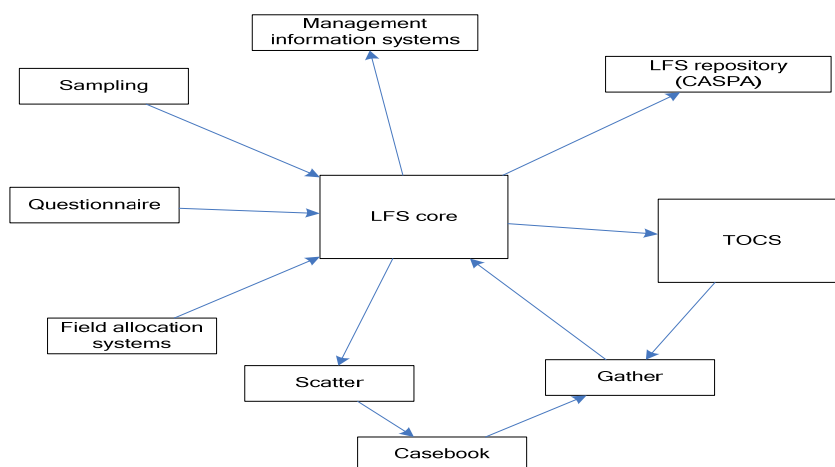
The project has two main aims:

Aim 1: To eradicate Clipper from the LFS core systems and LFS Call Scheduler.

Aim 2: To modernise and standardise systems, deliver a template for standard Social Survey Data Collection.

## 4 Interfaces

The following diagram is a representation of the interfaces from a business perspective for the project



## **5 Business Change Implications**

### **5.1 Overview**

The project will provide solutions implying a number of changes to the business. The key elements are:

1. An off-the-shelf call scheduling product that will require changes to the business process (e.g. less intervention in the default scheduling, a different way of managing appointments with LFS respondents, etc)
2. A reduction in overall staffing levels supporting the LFS operation on both the business and Information Management (IM) application support sides.
3. A reduced need for IM application support to be involved in running the business process.

As the project involves two parallel development tranches or streams, this section aims to identify where changes are implied by a particular tranche/stream.

### **5.2 Changes to job specifications**

The LFS core systems development implies some changes to details of job specifications for Field Office and Survey research team staff, due to the objective of reducing the need for IM application support involvement in the business process (particularly in the preparation for the quarter).

### **5.3 Training and Communication**

TOCS: While there is generally a desire for change, the nature of the TO organisation can make some parts of the change more difficult and so it will need careful planning to work with the interviewers. To mitigate this risk:

- A communication strategy has been developed, which includes information on a range of methods that will be used to communicate with staff;
- There will be a training work package within the project - to ensure business users receive adequate training before customer acceptance testing and implementation

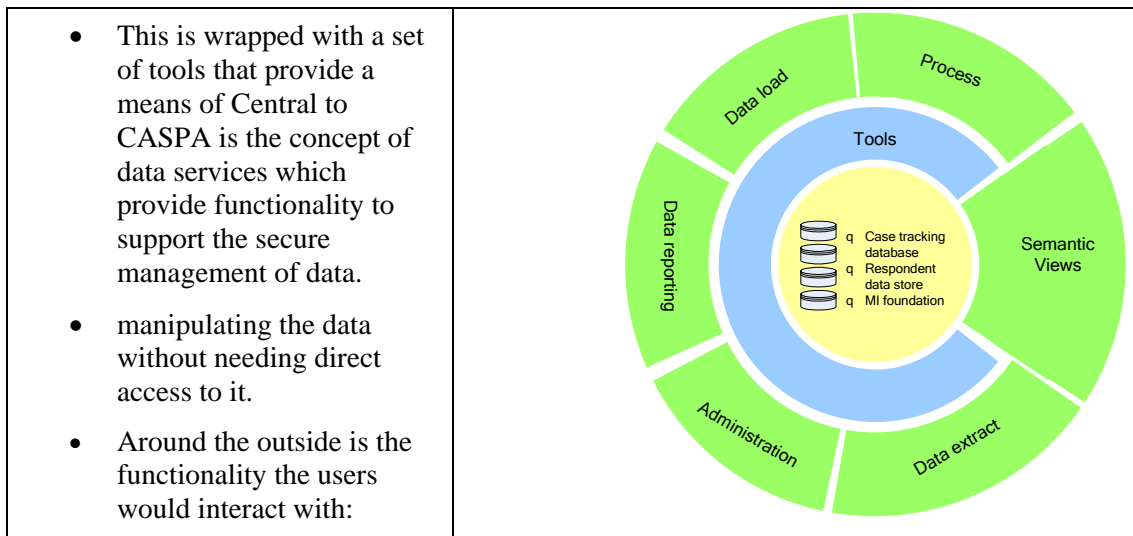
### ***Business Process Change***

Changes to business process will not be fully determined until the business has had some exposure to the solution, but there is an expectation and acceptance that there will be a need to change business processes to meet the constraints of the solutions being delivered. The business also intends to use the opportunity to address the need for some of the current business processes that have 'evolved' over time.

The TOCS development in particular implies a number of areas where the business process will change, as the intention is to implement a commercial off-the-shelf (Blaise CATI) solution to replace a bespoke solution. Processes expected to change in the telephone operation include evaluation of the flow of work through the telephone operation and the interviewing process itself. The LFS questionnaire will also need to change to accommodate the proposed solution which will have a small impact on processes associated with questionnaire design, testing and implementation into live production.

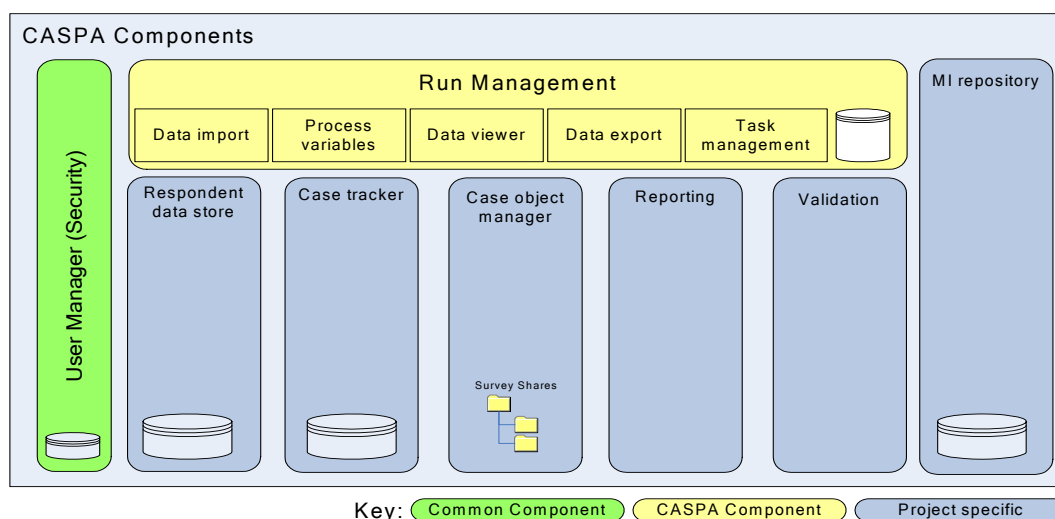
## **6 LFS Core Solution**

The LFS core part of the solution is responsible for coordinating the work done during the social data collection process. The project is intending to deliver this functionality as a CASPA application. CASPA is a standard application architecture used within ONS to deliver various statistical processing applications. The following diagram provides a logical view of CASPA:



## 6.1 Component Model

The following diagram shows the proposed component model for the LFS core application.



### 6.1.1 User Manager

Common component used by multiple applications to provide user management functionality.

### 6.1.2 Run Manager

Existing bespoke CASPA component which is responsible for the orchestration of any processes needed to perform the business process. The run management component currently supports a number of features:

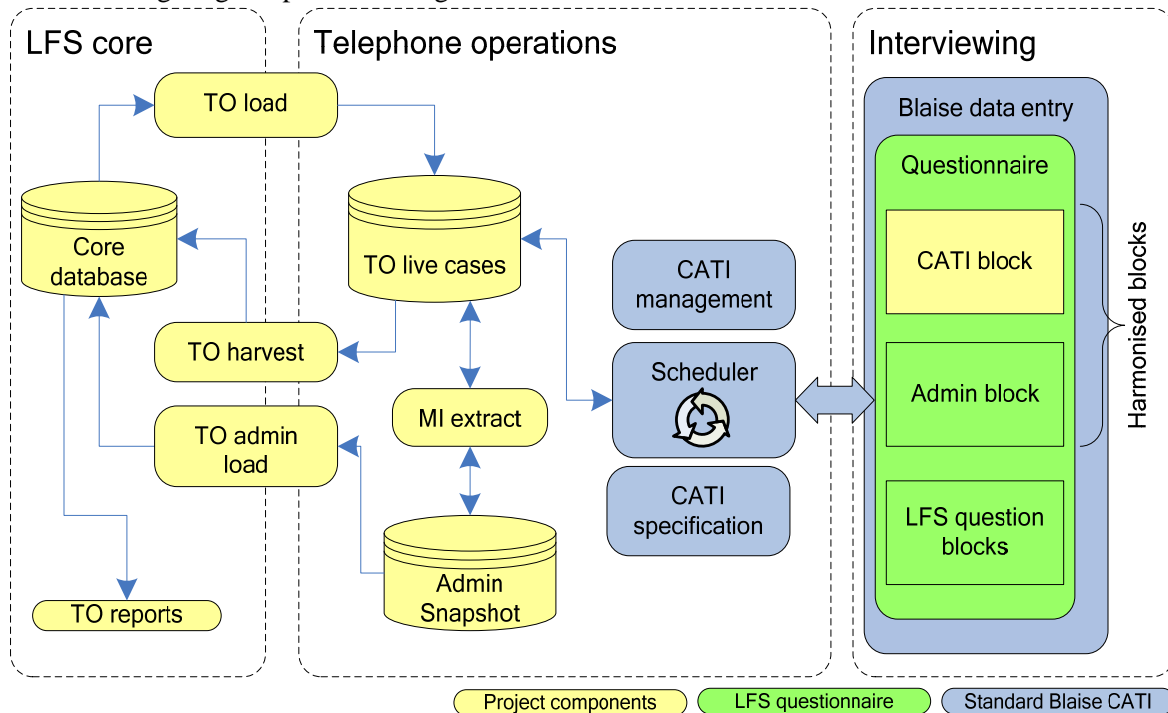
- The ability to sequence individual steps
- The ability of a step to invoke system functions provided by other components. For this project this includes:
  - Constructing the list of cases to be interviewed (including the rotation process).
  - Building case objects for FTF interview
  - Managing the data cleaning process.

- The ability to loop through a series of steps (not expected to be needed for this project)
- The ability to allow a user to enter properties which would be passed as needed to the individual functions.
- The ability to allow the user to start and stop a process.
- The ability to report status of a process.

The essential functionality to be provided by this component is the coordination of data flows between the various components of the solution.

## 7 TOCS Solution

The following diagram provides a logical overview of the TOCS solution:



## 8 Integration to legacy components

The following diagram shows the key systems which need to work together to deliver an end-to-end collection process and also shows the key interfaces between the various systems.

