SCHEDULE 2

Core It Services SOR

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2   INTRODUCTION TO THE STATEMENT OF REQUIREMENTS

2.1   Introduction

2.1.1   This document, along with its appendices, is part of schedule 2 (Statement of Requirements) of the London Road User Charging Agreement. Schedule 2 provides the requirements for the Business Operations, Enforcement Operations and Core IT Service Elements.

2.1.2   This document should be read in conjunction with other component documents of the Agreement.

2.1.3   Definitions of terms used in this document are contained in schedule 1 (Definitions).

2.1.4   The Common Statement of Requirements is a component document of schedule 2 which contains requirements common to the Business Operations, Enforcement Operations and the Core IT Service Elements.

2.1.5   The structure and layout of this document is ordered into sections. Each section has a heading with an introductory statement. This is followed by sub headings containing requirements. Each requirement has two rows above containing the following information (see example of layout of Statement of Requirements):

- Requirement number;
- R1, R2 or Additional Services;
- Mandatory or For Your Information; and
- MIS.

Example of layout of Statement of Requirements

E1.1.1	R1	Mandatory
MIS		
Individual requirements are located from here onwards.		

2.1.6 The requirement number indicates the number of the individual requirement. The requirement number is made up of one (1) letter and three (3) numbers. The letter indicates the Statement of Requirements to which this requirement relates to (e.g. E = Enforcement Operations). The first number relates to the section number, the second number relates to the sub section and the third number relates to the requirement number within that sub section.

2.1.7 **R1** means Release 1 which is made up of those services which are required to support the Schemes available to the public at the Operational Commencement Date.

2.1.8 **R2** means Release 2 which is made up of Services that are planned to be introduced subject to feasibility and public consultation once Release 1 has been operational for twelve (12) months following Operational Commencement Date. The implementation of Release 2 is intended to be a "switching on" of the services involved. Thus the functionality and processes involved in Release 2 must be designed, implemented and tested at the same time as Release 1.

2.1.9 **R1/R2** relates to those activities that must be performed to support both Release 1 and Release 2.

2.1.10 Additional Services are the services that may or may not be required during this contract.

2.1.11 Mandatory or FYI (For your Information) dictates the type of requirement. A mandatory requirement must be met by the Service Provider's solution. FYI is information either provided by TfL or shall be provided by TfL in due course to the Service Provider.

2.1.12 The next field indicates whether the requirement generates Data that needs an Interface into the MIS System for the purposes of reporting.

2.2   TfL Design Overview

2.2.1   The Service Provider shall design the Service Systems to comply with the TfL Design.

2.2.2   This section provides the Service Provider with an overview of the TfL Design technical documentation set.

2.2.3   The TfL Design consists of three (3) technical documents:

- Appendix 40: Solution Architecture;

- Appendix 41: Interface Specification; and

- Appendix 38: TfL High Level Design.

2.2.4   The Solution Architecture forms the top level technical document and sets out TfL's design principles for the LRUC including the division of responsibilities between Service Elements.

2.2.5   The allocation of responsibilities as described in the Solution Architecture is embodied within the Statement of Requirements for each of the Service Elements.

2.2.6   The Interface Specification specifies the Interfaces between the Service Elements and does not include interfaces to other Third Parties.

2.2.7 The TfL High Level Design specifies the high level design for the Core IT Service Element and does not include design specifications for the other Service Elements.

3   INTRODUCTION TO THE CORE IT

3.1.1   The Core IT Service Element will include the design, construction, configuration, integration and Testing of a scalable Core IT Systems, including without limitation in accordance with the Detailed Design, all custom and Commercial Off The Shelf (COTS) Software and provision of physical infrastructure. This Service also includes continuous and ongoing operation and support of the Core IT Systems including any maintenance required to ensure ongoing compliance with the Agreement (including without limitation the Service Levels) and/or implementing any Change requested by TfL. Data Quality Analysis, Data Migration, Systems Integration Testing and Proving are also required and will entail working in conjunction with Other Service Providers.

3.1.2   The TfL High Level Design and architecture of the Core IT will be provided and owned by TfL. The Core IT Systems envisaged will initially include implementing a Charging Rules Engine to govern the application of Scheme policy to determine charges due and the identification of Contravention Candidates. The Service Provider will also be required to implement Evidential Stores for Images, document repositories and authoritative copies of key Data items, integration capability and a data warehouse with Management Information and reporting tools.

4   OVERVIEW OF SERVICES REQUIRED

Introduction		
This section covers those requirements relating to the overview of Services to which the Service Provider shall adhere in providing the Core IT Services.		
4.1 General		
C4.1.1	R1/R2	Mandatory
The Service Provider shall provide Core IT Services for the Scheme(s).		
C4.1.2	R1	Mandatory
The Service Provider shall design the Core IT Systems to comply with the requirements and principles contained within: • Appendix 40: Solution Architecture; • Appendix 38: TfL High Level Design; and • Appendix 41: Interface Specification.		
C4.1.3	R1	Mandatory
The Service Provider shall build the Core IT Systems in accordance with schedule 3: Milestones and Deliverables and schedule 28: Service Provider's Solution.		
C4.1.4	R1	Mandatory
The Service Provider High Level Design shall not preclude the functions and features, as described in appendix 38: TfL High Level Design, needed to support Additional Services.		
C4.1.5	R1	Mandatory
The Service Provider shall test the Core IT Services in accordance with schedule 4: Testing Regime.		
C4.1.6	R1	Mandatory

The Service Provider shall monitor and operate the Core IT Services and resources, Core IT System performance, device utilisation, Error rates and System logs in accordance with schedule 5: Service Level Agreement, schedule 10: Contract Management and Reporting, schedule 14: Security Policy and schedule 34: TfL Policies and all other terms of this Agreement.		
C4.1.7	R1	Mandatory
The Service Provider shall build and implement the Core IT Systems, and all constituent parts of it, to be able to meet 150% of the R1 and R2 'scenario 1' steady state operational volumes as set out in appendix 39: Core IT Volumes with sufficient capacity to support the scenario 1 'bow wave' volumes.		
C4.1.8	R1	Mandatory
The Service Provider shall design the Core IT Systems, and all constituent parts of it, to be capable of being scaled up to process 30 times the R1 and R2 'scenario 1' steady state operational volumes as set out in appendix 39: Core IT Volumes without Changes to the overall Core IT Systems design or the design of any constituent parts of the System (Hardware or Software) except for increasing the Capacity of the Hardware and appropriate Software configuration.		
C4.1.10	R1	Mandatory
The Service Provider shall implement a MIS to support a number of functions, including but not limited to:		

The Service Provider shall implement a MIS to support a number of functions, including but not limited to:

- independent monitoring of the performance of the Service Provider(s) against schedule 5: Service Level Agreement;

- monitoring of the impact of the Scheme(s);

- monitoring of the performance of the Scheme(s);

- searching, collating and reporting on Information in a timely fashion to enable TfL to discharge its obligations under the FOI Laws;

- conducting campaign management; and

- providing Data to answer questions raised by TfL, the media, the public,

(including without limitation under any FOI request) or the Mayor of London. For further information refer to appendix 42: MIS Requirements.

C4.1.11	R1	Mandatory

The Service Provider shall provide reporting facilities and reports which permit TfL to monitor the performance of the Core IT Services in accordance with schedule 10: Contract Management and Reporting.

C4.1.12	R1	Mandatory

The Service Provider shall implement a DVLA Interface which will comply with the functional requirements contained within appendix 44: Responses to Driver and Vehicle Licensing Agency (DVLA) Enquiries (Core).

C4.1.13	R1	Mandatory

The Service Provider shall provide Certification Authority services in respect of all Service Elements, including the ability to issue, verify and revoke Digital Certificates.

C4.1.14	R1	Mandatory

In its role as the Certification Authority for the Solution, on request from TfL the Service Provider shall issue Digital Certificates to Core IT and Third Parties. For the avoidance of doubt the certificate root server shall be part of the Solution identified in schedule 28: Service Provider's Solution.

C4.1.15	R1	Mandatory

The Service Provider shall provide a Batch Scheduling System.

C4.1.16	R1	Mandatory

The Batch Scheduling System shall, as a minimum, be capable of running in a co-ordinated manner across a collection of servers, with centralised management, reporting and alerting.

C4.1.17	R1	Mandatory

The Batch Scheduling System shall have the ability to specify that one job can run only on completion of another job or group of jobs, in addition to specifying an earliest and latest possible run time and frequency of execution.		
C4.1.18	R1	Mandatory
The Service Provider shall provide an operational testing harness for use on the live Service Systems to test Detection Event and charging rules and filters with real time Data.		
C4.1.19	R1	Mandatory
The Service Provider shall provide a GPS receiver and synchronise their NTP Time Server with the GPS time signal.		
C4.1.20	R1	Mandatory
The Service Provider shall provide a UTC NTP time signal that other Solution Elements can synchronise their own Solution Element NTP Server with.		
C4.1.21	R1	Mandatory
The Service Provider shall provide Support Services to Other Service Providers by collaborating with regards to maintenance, issue management, and issue resolution activities.		

5   STANDARDS, WORKING PRACTICES AND PRINCIPLES

Introduction
This section covers those requirements relating to the standards, working practices and principles of the organisations listed, to which the Service Provider shall adhere in providing the Core IT Services.

5.1   General

C5.1.1	R1	Mandatory
The Service Provider shall design, implement and maintain the Core IT Systems in conformance with formal structured System Design, implementation and test techniques and processes. Such techniques, processes and procedures shall be carried out in accordance with Good Industry Practice and well supported within the systems/software industry.		
C5.1.2	R1	RFI
[This requirement has been removed because it was an RFI]		
C5.1.3	R1	Mandatory
The Service Provider shall define the processes and procedures referred to in C5.1.2 and provide supporting Documentation.		
C5.1.4	R1	Mandatory
The Service Provider shall not customise any COTS products or use unsupported features that are not publicly documented hence rendering the product unsupportable under the vendor's standard support package.		
C5.1.5	R1	Mandatory
The Service Provider shall state and gain written approval from TfL via schedule 9: Change Control Request Procedure, for any part of the Core IT Service Element		

which deviates from the principles in the Solution Architecture and the standards listed in this document.

6 CHANGE MANAGEMENT

Introduction
This section covers those requirements relating to Change Management including the IT Change Process which shall be used to manage configuration changes relating to the Core IT and Interfaces.

6.1 General		
C6.1.2	R1	Mandatory
The Service Provider shall operate and apply an IT Change Process, in accordance with the Change Management discipline detailed in ITIL and illustrated, for information only, in annex H of schedule 9. For the avoidance of doubt, the IT Change Process does not replace the Change Control Request Procedure but is a process for managing IT service and system change. The IT Change Process cannot be used to authorise payment of costs.		
C6.1.3	R1	RFI
[This requirement has been removed because it was an RFI]		
C6.1.4	R1/R2	Mandatory
The Service Provider shall implement IT Changes to the Core IT Systems and Interfaces as required by TfL in accordance with the IT Change Process.		
C6.1.5	R1/R2	Mandatory
The Service Provider shall manage all IT Changes to the Core IT Systems and Interfaces under the IT Change Process.		
C6.1.6	R1/R2	Mandatory
The Service Provider shall consult the owners and Users of any Connected Systems before making any IT Changes that could potentially impact the Connected Systems.		

C6.1.7	R1/R2	Mandatory
The Service Provider shall agree and gain approval of all IT Changes with the IT Change Manager via the IT Change Process.		
C6.1.8	R1/R2	Mandatory
The Service Provider shall plan for, and continue to meet, the Service Levels on and after each upgrade, Change or Software Release used within the Core IT Systems.		

7 PERMANENT EVIDENCE STORE

Introduction
Evidence required to enforce a PCN depends upon the type of Contravention and the Scheme. The Service Provider shall ensure that the Core IT Systems can determine and retrieve the required Evidential Record from the Detection and Enforcement Infrastructure Service Provider's Intermediate Evidence Store and securely store it in the Permanent Evidence Store.

7.1 General		
C7.1.1	R1	Mandatory
The Service Provider shall provide a Data Store known as the Permanent Evidence Store, which shall hold the Evidential Records.		
C7.1.2	R1	Mandatory
The Service Provider shall ensure that the Permanent Evidence Store complies with the London Congestion Charging Evidential Handbook.		
C7.1.3	R1	Mandatory
The Service Provider shall ensure that the Permanent Evidence Store is held on WORM (Write Once, Read Many) media. For the avoidance of doubt, Software/Hardware based WORM solutions using standard read/write hard drive solutions may be proposed if approved for use in the finance industry as a robust virtual WORM solution.		
C7.1.4	R1	Mandatory
The Service Provider shall ensure that Hardware and Software used to implement the Permanent Evidence Store is such that it is possible to remove and transport the media holding any Evidential Record, and to read it with a portable device.		
7.2 Availability and Access		
C7.2.1	R1	Mandatory

The Service Provider shall ensure that the Permanent Evidence Store complies with TfL's security requirements as specified in schedule 14: Security Policy. In particular access to the Permanent Evidence Store shall be secure and only authorised Users shall be able to gain access.		
C7.2.2	R1	Mandatory
The Service Provider shall ensure that all events on the Permanent Evidence Store are logged in line with the requirements on audit trails contained in the Common Statement of Requirements and Good Industry Practice.		

8   DATA MIGRATION AND CUTOVER

Introduction		
This section covers those requirements relating to Data Migration and Cutover.		
8.1 General		
C8.1.1	R1	Mandatory
The Service Provider shall migrate Data from the Incumbent Service Provider's Systems into the Core IT Systems, in accordance with schedule 3: Milestones and Deliverables, schedule 4: Testing Regime, and the Migration Documents.		
C8.1.2	R1	Mandatory
The Service Provider shall coordinate, design, build, test, cleanse and execute migration of Data to Business Operations and Enforcement Operations Service Elements.		
C8.1.3	R1	Mandatory
The Service Provider shall provide TfL with the proposed Data Migration Strategy and Level 1 Data Migration Plan in accordance with schedule 3: Milestones and Deliverables.		
C8.1.4	R1	Mandatory
The Service Provider shall identify, verify and transfer all Data provided to or to be provided to the Service Provider by or on behalf of TfL or an Other Service Provider in connection with the Services.		
C8.1.5	R1	Mandatory
The Service Provider shall migrate all live Customer Data in file formats to be specified and agreed with TfL.		
C8.1.6	R1	Mandatory

The Service Provider shall ensure that the proposed Data Migration Strategy allows for continuity of business as usual on the Go-Live Date of the Core IT Services.		
C8.1.7	R1	Mandatory
The Service Provider shall perform Data Quality Analysis of the Legacy Data and provide to TfL a Data Quality Analysis Report in accordance with schedule 3: Milestones and Deliverables.		
C8.1.8	R1	Mandatory
The Service Provider shall provide TfL with the Level 2 Build and Test Data Migration Plan in accordance with schedule 3: Milestones and Deliverables.		
C8.1.9	R1	Mandatory
The Service Provider shall provide TfL with the Level 2 Detailed Plan for Data Migration Execution in accordance with schedule 3: Milestones and Deliverables.		
C8.1.10	R1	Mandatory
The Service Provider shall provide TfL with the Data Migration Report in accordance with schedule 3: Milestones and Deliverables.		
C8.1.11	R1	Mandatory
The Service Provider shall specify, coordinate and execute Data cleansing activities as part of the Data Migration process.		
C8.1.12	R1	Mandatory
If the Service Provider fails to migrate any Data to the Core IT Systems using automated migration, the Service Provider must provide details of alternative means of Data Migration for that Data and agree this with TfL via the Change Control Request Procedure.		
C8.1.13	R1	Mandatory
The Service Provider shall map and migrate all available Data from the Incumbent		

Service Provider, including but not limited to:

- all entities defined in the Logical Data Model in appendix 40: Solution Architecture;

- User Accounts including passwords;

- historic MIS Data; and

- contents of the Document Management System.

C8.1.14	R1	Mandatory

The Service Provider shall track the source and any correction made to migrated Data.

C8.1.15	R1	Mandatory

The Service Provider shall provide assistance when required to Third Parties as instructed by TfL for the migration of Data from the Core IT Systems to Systems, Hardware and/or Software used in providing other Service Elements.

9   BUSINESS CONTINUITY

Introduction
This section covers those requirements relating to Business Continuity. This section should be read in conjunction with schedule 25: Business Continuity.

9.1   General

C9.1.1	R1	Mandatory
The Service Provider shall provide and maintain Systems for the Core IT Services to ensure that the Service Levels for the availability of Systems can be achieved at all times.		

C9.1.2	R1	Mandatory
The Service Provider shall provide Business Continuity Infrastructure and Support Services at the Business Continuity Premises to be provided by TfL.		

C9.1.3	R1	FYI
[This requirement has been removed because it was an FYI]		

C9.1.4	R1	Mandatory
The Service Provider shall prepare, implement and maintain a Business Continuity Plan and provide Business Continuity Infrastructure to support the Business Continuity Plan stated in schedule 25: Business Continuity.		

C9.1.5	R1	Mandatory
The Service Provider shall continue to meet the Service Levels in the event of a Disaster Recovery Event. This shall include but not be limited to:		

- System Data loss or corruption;
- System Failure;
- loss of power;
- failure of any of the Interfaces;

- failure of the communication links between the Core IT Service Element and any Connected Party; and

- loss of Premises or access to them.

C9.1.6	R1	Mandatory
The Service Provider shall work with Other Service Providers to ensure that the Business Continuity Plan takes account of Other Service Providers' business continuity provisions such that the Scheme(s) continue(s) to operate in the event of a Disaster Recovery Event affecting any of the Other Service Providers.		
C9.1.7	R1	Mandatory
The Service Provider shall ensure that Evidential Integrity is maintained by the Business Continuity Services.		
C9.1.8	R1	Mandatory
The Service Provider shall be able to switch to and from Business Continuity Services without loss of any Data.		
C9.1.9	R1	Mandatory
The Service Provider shall carry out full Testing of Business Continuity in accordance with the Business Continuity Plan and Business Continuity Test Schedule.		
C9.1.10	R1	Mandatory
The Service Provider shall allow TfL, at its discretion, to witness the Testing of Business Continuity.		
C9.1.11	R1	Mandatory
The Service Provider shall nominate a Business Continuity Manager to be approved by TfL.		

10 SYSTEM BACKUP

Introduction		
This section covers those requirements relating to Core IT Systems back up.		
10.1 General		
C10.1.1	R1/R2	Mandatory
The Service Provider shall ensure the Core IT Services are backed up to ensure recovery of the Core Data Stores from loss or corruption to any point in time.		
C10.1.2	R1	Mandatory
The Service Provider shall ensure that an off Premise copy of the Core Data Store is kept up to date on a daily basis.		
C10.1.3	R1	FYI
Requirement C10.1.2 may be met by replicating such Data to the Business Continuity Premises.		
C10.1.4	R1	RFI
[This requirement has been removed because it was an RFI]		
C10.1.5	R1	Mandatory
The backup and recovery strategy shall ensure consistency across the contingent parts of the Core IT Systems in the event that recovery of the Core IT Systems is necessary.		
C10.1.6	R1	Mandatory
The Service Provider shall be able to perform a full restoration of Operational Core IT Services and Core Data Stores to the point of failure within twenty four (24) hours.		
C10.1.7	R1	Mandatory

The Service Provider shall ensure the back up regime is documented and includes regular, auditable recovery exercises.		
C10.1.8	R1	Mandatory
The Service Provider shall provide processes, procedures and schedules of back ups, including media rotation, maintenance of back up Core IT Systems and regular recovery exercises to be agreed with TfL.		

11 Performance and Service Levels

Introduction		
This section covers those requirements relating to Performance and Service Levels including Planned Downtime and Severity Level response times. This should be read in conjunction with schedule 5: Service Level Agreement.		
11.1 General		
C11.1.1	R1	Mandatory
The Service Provider shall implement the Core IT Services to meet the Service Levels for the Performance Indicators in relation to the Core IT Services as specified in schedule 5: Service Level Agreement.		
C11.1.2	R1	RFI
[This requirement has been removed because it was an RFI]		
C11.1.3	R1	Mandatory
The Service Provider shall accurately document all processes for the identification of performance against the Performance Indicators in accordance with schedule 10: Contract Management and Reporting.		
C11.1.4	R1/R2	Mandatory
The Service Provider shall measure and provide such Data as is reasonably required by TfL for the purposes of monitoring the performance of the Service Provider in meeting the Service Levels and Performance Indicators.		

C11.1.5	R1/R2	Mandatory
The Service Provider shall be responsible for ensuring that all Data required to accurately produce Performance Indicator Reports is provided.		
11.2 Availability		
C11.2.1	R1	Mandatory
The Service Provider shall ensure that the Core IT Systems shall have a minimum availability of ninety nine point five per cent (99.5%) per day.		

12 REPORTING

Introduction		
This section covers those requirements relating to reporting. This section should be read in conjunction with schedule 10: Contract Management and Reporting.		
12.1 Service Level Reporting		
C12.1.1	R1	Mandatory
The Service Provider shall define, construct and execute Service Level reports for each Core IT Service Level and agree their content, derivation and required frequency with TfL.		
C12.1.2	R1	Mandatory
The Service Provider shall ensure that any items reported via the Service Level reports must be derived via an auditable process with an audit trail retained in accordance with appendix 14: Data Retention, unless otherwise agreed with TfL.		
12.2 Operational Reporting		
C12.2.1	R1	Mandatory
The Service Provider shall define, construct and execute Operational Reports on the activity of each of the components of the Core IT as well as the processing state and ages of Data items being processed.		
C12.2.2	R1	Mandatory
The Service Provider shall provide TfL with electronic access to Operational Reports.		
C12.2.3	R1	Mandatory
The Operational Reports shall include but not be limited to: • the number and details of VoSI alerts; • performance;		

- diagnostics;

- Errors; and

- System wide alerts.

These shall be produced for each System component as well as for all Core IT Services.

C12.2.4	R1	RFI

[This requirement has been removed because it was an RFI]

12.3 Reconciliation Reporting

C12.3.1	R1	Mandatory

The Service Provider shall provide reconciliation reports that:

- track the number of Detection Events which have passed through each state in the life cycle of a Detection Event;

- record the details of any other Third Party requests including its state;

- reconcile Data between Core, Business Operations and Enforcement Operations and report any Anomalies; and

- provide processing reconciliation statistics on Messages sent over each Interface.

12.4 Other Reporting Requirements

C12.4.1	R1	Mandatory

The Service Provider shall provide Asset management reports in accordance with schedule 10: Contract Management and Reporting.

13 DATA INTEGRITY AND MAINTENANCE

Introduction
This section covers those requirements relating to Data integrity and maintenance including ensuring referential integrity and maintenance of Reference Data.

13.1 Data Integrity		
C13.1.1	R1	RFI
[This requirement has been removed because it was an RFI]		
C13.1.2	R1/R2	Mandatory
If the reconciliation of Data fails, the Service Provider shall raise the Incident as a Severity 1 until the underlying cause is understood and a lower Severity Level is agreed with TfL.		
C13.1.3	R1	Mandatory
The Service Provider shall provide transactional integrity of the Core IT Systems such that failure during the course of a transaction results in the Core IT Systems being rolled back to the state before the transaction was applied.		
C13.1.4	R1	Mandatory
The Service Provider shall ensure that the Core IT System provides validation of Data at the point of entry wherever possible.		
C13.1.5	R1	Mandatory
The Service Provider shall provide mechanisms or procedures to allow Data to be reconciled between Data Stores, and to correct inconsistent or incomplete Data.		
C13.1.6	R1	Mandatory
The Service Provider shall ensure that all Data Stores comply with appendix 14: Data Retention.		

C13.1.7	R1	Mandatory
The Service Provider shall provide a data archiving function and archive Data in line with appendix 14: Data Retention.		
C13.1.8	R1	Mandatory
The Service Provider shall prove referential integrity, consistency and completeness of any replicated Data on request by TfL and at intervals no less than once per week.		
C13.1.9	R1	RFI
[This requirement has been removed because it was an RFI]		
C13.1.10	R1	Mandatory
The Service Provider shall perform reconciliation of specific record types, as specified by TfL from time to time, with a frequency to be determined by TfL from time to time, between the Core IT Service Element and other Solution Elements.		
C13.1.11	R1	RFI
[This requirement has been removed because it was an RFI]		
13.2 Data Maintenance		
C13.2.1	R1/R2	Mandatory
The Service Provider shall maintain and manage all Reference Data unless otherwise agreed in writing with TfL.		
C13.2.2	R1/R2	Mandatory
The Service Provider shall identify and populate all Reference Data required for Testing and at each Go-Live Date.		
C13.2.3	R1/R2	Mandatory
The Service Provider shall agree with TfL the Reference Data specified by TfL.		

C13.2.4	R1	Mandatory
The Service Provider shall ensure that changes to Reference Data will be date and time stamped and will be recorded in a log so that the time at which each item of Reference Data was last changed and the historical log of changes can be inspected.		
C13.2.5	R1	Mandatory
The Service Provider shall ensure that only appropriately Authorised Personnel are permitted to undertake changes to Reference Data.		
C13.2.6	R1	Mandatory
The Service Provider shall ensure that a date-time period is applied to all Reference Data and that any process using the Reference Data correctly selects the value of the appropriate date-time.		
C13.2.7	R1	Mandatory
The Service Provider shall ensure that the Reference Data history table supports versioning of the Reference Data so that amendments against a date-time period can be made.		
C13.2.8	R1	Mandatory
The Service Provider shall request and implement any changes to Reference Data via the IT Change Process unless otherwise agreed with TfL.		

14 ASSET MANAGEMENT AND CAPACITY PLANNING

Introduction		
This section covers those requirements relating to Asset management and Capacity Planning. Additional requirements regarding the Capacity Plan and the Asset Register are contained within schedule 12: Asset Management.		
14.1 Asset Management		
C14.1.1	R1	Mandatory
The Service Provider shall develop and maintain Asset management processes and procedures in accordance with schedule 12: Asset Management.		
C14.1.2	R1	Mandatory
The Asset management System shall provide a flat file output which will allow Data to be exported to a future Asset management System.		
C14.1.3	R1	Mandatory
The Service Provider shall provide training for all Personnel in the Asset management processes and procedures at induction and provide on going training to ensure that all Personnel are fully aware of Asset management requirements and are able to put these into practice.		
C14.1.4	R1	Mandatory
The Service Provider shall ensure that the Asset management procedure manuals are readily available in soft and hard copy to all Personnel.		
C14.1.5	R1	Mandatory
The Service Provider shall ensure that the Asset management procedures include acquisition, sale or transfer of ownership, and destruction of Assets.		

C14.1.6	R1	Mandatory
The Service Provider shall ensure that appropriate Asset audit procedures are in place.		

14.2 Capacity Planning		
C14.2.1	R1	Mandatory
The Service Provider shall provide the Capacity Plan(s) in accordance with schedule 3: Milestones and Deliverables.		
C14.2.2	R1/R2	Mandatory
The Service Provider shall be responsible for Capacity Planning for the Core IT Systems to ensure that the level of Capacity required in accordance with the Agreement is available to meet the Service Levels for the Core IT Systems at times of peak demand on the Core IT Systems.		
C14.2.3	R1/R2	Mandatory
The Service Provider shall maintain Capacity Plan(s) to reflect Core IT Systems performance in relation to volumes, technical or operational changes or future volumes.		
C14.2.4	R1/R2	Mandatory
The Service Provider shall maintain the Capacity Plan(s) at intervals of not more than 6 months, in the event of a Change Control Request or at the request of TfL, to reflect Core IT Systems performance in relation to volume, technical or operational changes and future volume projections.		
C14.2.5	R1/R2	Mandatory
The Service Provider shall provide costed resolution and implementation plans where Capacity is predicted to be insufficient to meet demand.		
C14.2.6	R1	RFI

[This requirement has been removed because it was an RFI]		
C14.2.7	R1/R2	Mandatory
The Service Provider shall track and report actual consumption against projections from prior Capacity Plans.		

15 HARDWARE

Introduction		
This section covers those requirements relating to physical Infrastructure such as production, Business Continuity, test and development Hardware.		
15.1 Physical Infrastructure		
C15.1.1	R1	Mandatory
The Service Provider shall implement a Hardware and Software platform which is Fit for Purpose and minimises technical diversity.		
C15.1.2	R1	RFI
[This requirement has been removed because it was an RFI]		
C15.1.3	R1	Mandatory
The Service Provider shall provide a common standard build for all workstations used in the provision of the Core IT Services. The build shall be agreed with, and details supplied to, TfL.		
C15.1.4	R1	Mandatory
The Service Provider shall ensure that all Software installed on workstations used in the provision of the Core IT Services is for business purposes only.		
C15.1.5	R1	Mandatory
The Service Provider shall procure all Hardware to be used within the Core IT Systems from a reputable manufacturer offering a suitable support capability and shall avail itself of this capability.		
C15.1.6	R1/R2	Mandatory
The Service Provider shall re use Assets where possible and cost effective (subject to schedule 14: Security Policy) in order to minimise the quantity of Hardware and		

Software to be purchased and disposed of.		
C15.1.7	R1/R2	Mandatory
The Service Provider shall agree the fact and nature of all equipment disposal with TfL, and ensure that it meets all pertaining EU Legislation which apply at the time of disposal.		
15.2 Network Provision		
C15.2.1	R1	Mandatory
The Service Provider shall provide a MIS Data link to the Global Switch and Business Continuity facility.		
C15.2.2	R1/R2	Mandatory
The Service Provider shall work with Connected Parties to set up and test interconnects in which it participates.		
C15.2.3	R1	Mandatory
The Service Provider shall provide remote access to Core IT via a Citrix type connection with full audit capabilities.		
C15.2.4	R1	Mandatory
The Service Provider shall provide screen and keyboard playback for access to systems that may affect Evidential Integrity. Such systems include, but are not limited to, those that may affect or provide access to Evidential Records and time sources.		

16 LOCATION AND FACILITIES

Introduction
This section covers those requirements relating to the provision of location and facilities including Premises rules and regulations at the data centre and Business Continuity Premises.

16.1 General

C16.1.1	R1	Mandatory
The Service Provider shall provide the Core IT Systems from TfL provided Premises at Global Switch, London E14.		
C16.1.2	R1	Mandatory
TfL Premises allocated to the Service Provider at Global Switch shall be for the exclusive use of the Core IT Service Element or TfL authorised Services only.		
C16.1.3	R1	Mandatory
The Service Provider shall provide Business Continuity for the Core IT Systems from TfL provided Premises, to enable full operation of the Core IT Systems or parts of the Core IT Systems in the occurrence of a Disaster Recovery Event.		
C16.1.4	R1	FYI
[This requirement has been removed because it was an FYI]		
C16.1.5	R1	RFI
[This requirement has been removed because it was an RFI]		
C16.1.6	R1	Mandatory
The power consumption of the Service Provider's Core IT Systems and the Business Continuity Infrastructure, taken individually, shall not exceed the power provision at Global Switch both in terms of total power provision and its distribution.		

C16.1.7	R1		Mandatory

To avoid the impact (to cost, environment and staff) of regular lengthy travel journeys for TfL and/or Service Provider Personnel, the Service Provider shall provide, within one (1) hour of Central London by public transport excluding aviation, Premises to be used for any part of the Core IT Systems development, operation and support which requires joint working between TfL and the Service Provider including but not limited to:

- Core operations;
- 1st line support;
- requirements analysis;
- design; and
- any test activities requiring TfL witnessing.

C16.1.8	R1		Mandatory

TfL will provide the data centre grade accommodation at the primary and Business Continuity Premises, comprising of a secure air conditioned environment with diverse power and associated distribution plus local support office space including basic office furniture. The Service Provider will be required to provide any other additional fixtures, fittings and Equipment, including without limitation:

- racking and associated internal infrastructure;
- office PCs;
- desktop equipment; and
- printing equipment.

C16.1.9	R1		Mandatory

The Service Provider shall not carry out any alterations to, or create any openings in, the structure of any TfL provided Premises.

C16.1.10	R1		Mandatory

The Service Provider shall be responsible for making good any damage caused to

the Premises during the period of the Agreement.		
C16.1.11	R1/R2	Mandatory
The Service Provider, and all Personnel, shall comply with all policies, processes and procedures in force at the Premises.		
C16.1.12	R1/R2	Mandatory
The Service Provider shall be responsible for implementing and enforcing any policies, processes, procedures and measures requested by TfL, from time to time under schedule 9: Change Control Request Procedure in addition to those covered by this document.		
C16.1.13	R1/R2	Mandatory
The Service Provider shall allow TfL Personnel to monitor the Service Provider's compliance and obligations under this Agreement without hindrance. This shall include allowing Authorised TfL Personnel to enter the Premises at any time in order to inspect the operation, maintenance and Equipment used in the provision of the Core IT Services.		
C16.1.14	R1/R2	Mandatory
The Service Provider shall allocate workstations to authorised TfL Personnel with read only access to all Data to which the Service Provider's Personnel have access.		
C16.1.15	R1/R2	Mandatory
The Service Provider shall ensure that all facilities and Equipment used to provide the Core IT Services and all work carried out within the Premises shall be fully compliant with all relevant Health and Safety Legislation and agreed with TfL.		
C16.1.16	R1	Mandatory
The Service Provider shall ensure that all telephone facilities provided by TfL are used within the conditions of fair business use.		

C16.1.17	R1	RFI

[This requirement has been removed because it was an RFI]

16.2 Premises Rules and Regulations		

C16.2.1	R1	Mandatory

The Service Provider shall develop Premises rules and regulations for all Premises and facilities used to provide Operational Services. These shall incorporate rules on:

- planned visit notification;
- use of wireless communication devices including mobile phones;
- presence of cameras and recording devices, portable storage devices including but not limited to USB memory sticks, MP3 or similar devices;
- security;
- smoking, eating and drinking including alcohol;
- vehicle Parking; and
- email and Internet usage.

C16.2.2	R1/R2	Mandatory

The Service Provider shall provide training for all Personnel in the Premises rules and regulations at induction and provide on going training to ensure that all Personnel are fully aware of the Premise rules and regulations and are able to put these into practice.

C16.2.3	R1/R2	Mandatory

The Service Provider shall ensure that the Premises rules and regulations manuals are readily available in soft and hard copy to all Personnel on all Premises.

C16.2.4	R1/R2	Mandatory

The Service Provider shall conduct audits of the Premises rules and regulations quarterly to ensure they are being adhered to.

C16.2.5	R1/R2	Mandatory
The Service Provider shall ensure that adherence to Premise rules and regulations is a requirement for all Personnel and visitors.		

17 TRAINING

Introduction		
This section covers those requirements relating to training in the management and operation of the Core IT Systems and its components including the MIS.		
17.1 General		
C17.1.1	R1/R2	Mandatory
The Service Provider shall provide training for all Personnel required to manage and operate the Core IT Systems.		
C17.1.2	R1/R2	Mandatory
The Service Provider shall provide training for the MIS to authorised TfL Personnel at rates to be agreed with TfL.		
C17.1.3	R1/R2	Mandatory
The Service Provider shall provide training for the MIS to authorised TfL Personnel on TfL Premises.		
C17.1.4	R1/R2	Mandatory
The Service Provider shall provide qualified instructors for each of the training courses to cover all aspects of operating the Core IT Systems. In the case of bespoke systems the trainer should be sufficiently knowledgeable to provide training and answer questions.		
C17.1.5	R1/R2	Mandatory
The Service Provider shall provide training for authorised TfL Personnel or their Representatives to ensure a detailed knowledge of the Core IT Systems use, design and control philosophy to module level. This shall include methods of Incident and alarm diagnosis.		
C17.1.6	R1/R2	Mandatory

The Service Provider shall recruit and train all Personnel for their specific roles.		
C17.1.7	R1/R2	Mandatory
The Service Provider shall ensure that all Service Provider Personnel, whether employees or Sub Contractor's employees, attend a formal induction course provided by the Service Provider.		
C17.1.8	R1/R2	Mandatory
The Service Provider shall develop a formal induction course. The contents of this induction course and the materials to be used shall be approved by TfL prior to delivery.		
C17.1.9	R1/R2	Mandatory
The Service Provider shall ensure the content of the induction course covers, as a minimum: • methods to ensure Personnel have a clear understanding of their duties and hours; • methods to ensure that Personnel have a clear understanding of their obligations with regard to Data Protection, the Freedom of Information Act and the security requirements; and • methods to ensure Personnel are competent to use all necessary Equipment and Core IT Systems in a safe and efficient manner.		
C17.1.10	R1/R2	Mandatory
The Service Provider shall submit to TfL a detailed Training Plan for all Personnel involved in the delivery of the Core IT Services, for approval in accordance with schedule 3: Milestones and Deliverables. The plan shall cover as a minimum, the Service Provider's approach to training and its proposals on induction training, periodic refresher training and Personnel development training. The Training Plan shall include any specific training requirements as specified by TfL.		

C17.1.11	R1/R2	Mandatory
The Service Provider shall submit a detailed Training Plan for TfL's operational Personnel including timescales and course outlines. This shall be produced by the Service Provider and agreed with TfL.		