

Schedule 8.2 – Asset Management & Maintenance

TfL RESTRICTED

Restricted to: TfL Group, Contractor Group and Consultants with NDA

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1 Introduction

1.1 Scope and Purpose

1.1.1 This Schedule 8.2 (Asset Management & Maintenance) sets out:

- (a) the requirements for the Contractor to:
 - (i) develop a plan to manage the Assets under this Contract (the "**Asset Management Plan**");
 - (ii) maintain a register of the Assets comprising the System (the "**Asset Register**"); and
 - (iii) develop a rolling plan for reporting on the status and the maintenance and refresh of the Assets comprising the System (the "**Asset Plan**"), and
- (b) the process for managing the monies retained for a planned asset replacement programme to ensure continued Service performance.

1.1.2 The Parties acknowledge that the objectives of this Schedule, which shall be deemed TTL Objectives for purposes of Clause 3 (TTL Objectives), are to ensure that:

- (a) TTL is Assured that the Contractor is fulfilling its obligations pursuant to this Contract with respect to the management of the Assets;
- (b) the Devices and Components are maintained to ensure that TTL discharges its statutory safety obligations; and
- (c) the monies being paid to the Contractor for the maintenance and refresh of the Assets are being properly managed and expended.

1.1.3 The Contractor shall ensure that the Documents prepared by the Contractor in accordance with this Schedule shall provide:

- (a) detailed asset and system reports to TTL of the status, reliability and capacity of the Devices and Components and the overall System and parts thereof, in Microsoft Excel format unless otherwise agreed by TTL;
- (b) visibility to TTL that the Devices and Components are maintained to ensure that TTL discharges its statutory safety obligations; and
- (c) visibility of the Contractor's planned and completed maintenance and asset refresh activities from the Service Commencement Date to the Expiry Date for the life cycle of all Devices, systems and other System elements and a forecast of future utilisation versus capacities for the following thirteen (13) Periods with supporting Data, including growth assumptions to Assure TTL that the System and the IRC System is able to continue to deliver the Services.

1.2 Documents to be Submitted by the Contractor

1.2.1 The Contractor shall prepare, submit and maintain the following Documents in accordance with the provisions of this Schedule:

- (a) to be submitted to TTL no later than the anniversary of the Service Commencement Date each year in accordance with the Submissions Procedure:
 - (i) the Asset Management Plan; and
 - (ii) the Preventative Maintenance Plan; and
- (b) to be submitted to TTL with the Service Performance Report each Period in accordance with the Submissions Procedure:
 - (i) the Asset Register;
 - (ii) the Asset Plan;
 - (iii) Device templates; and
 - (iv) Period Asset Report.

1.3 Payment Card Industry Data Security Standards (PCI-DSS)

- 1.3.1 Some Assets will handle payment card data and consequently fall within the scope of the PCI-DSS, including but not limited to, the Card Readers and the Payment Card Services Modules.
- 1.3.2 The Contractor shall manage such Assets in a manner which is compliant with PCI-DSS including, but not limited to, tracking relevant individual Assets by unique Asset ID, time/date, location and custodian.

2 Asset Management

2.1 Assets and Spares

2.1.1 The Contractor shall:

- (a) provide sufficient number of Spares as detailed in the Asset Plan, Asset Register and/or Asset Management Plan;
- (b) ensure that Spares are fit for the purpose for which they are provided and for their use as part of the System and/or Services (or any replacement system and/or services in respect of which TTL has informed the Contractor from time to time that those Spares are to be used);
- (c) maintain records of:
 - (i) the quantity of each type of Spares utilised in each Period (together with records of the relevant type of Asset and Service to which those Spares relate or, in relation to Parts, the Spares part numbers applicable to each type of Asset or Service); and
 - (ii) a rolling average of such quantities utilised in each Period in the previous twelve (12) months (the "**Rolling Average**"); and
- (d) at each relevant End Date in relation to a Service, provide to TTL or any person directed by TTL:
 - (i) in respect of Spares which are Obsolete or Contractor Developed, a quantity of each type of those Spares equal to the higher of (a) twenty-six (26) times the Rolling Average for the type of Spares which are applicable to that Service and (b) the amount in the Asset Register; and
 - (ii) in respect of any other Spares, a quantity of each type of Spares equal to at least six (6) times the Rolling Average for the type of Spares which are applicable to that Service.

2.2 Asset Management Plan

- 2.2.1 The Contractor shall prepare, submit, Assure and maintain the Asset Management Plan which shall set out the framework within which the Contractor shall manage the existing Assets comprising the System and new Assets that are provided under the Contract. The Asset Management Plan shall be reviewed, updated and provided to TTL no later than the anniversary of the Service Commencement Date each year and in the event that the Contractor fails to do so it shall prepare and issue a Corrective Action Plan in accordance with Schedule 12.4 (Contract Management).
- 2.2.2 The Contractor shall ensure that the Asset Management Plan includes processes for recording, reviewing, verifying, maintaining, renewing and disposing of Assets.
- 2.2.3 The Contractor shall develop and maintain a process for classifying Assets that is hierarchical, consistent with the Module Breakdown Structure and with Appendix 1 and shall include details of its classification proposals within the Asset Management Plan.

2.2.4 The Contractor shall ensure that the Asset Management Plan enables TTL to monitor the management of existing Assets as well as new Assets from the Service Commencement Date to the Expiry Date. The Contractor shall ensure that the Asset Management Plan also assists the Parties in the efficient handback of part or all of the Assets in accordance with Schedule 19 (Handback of Services). The Contractor shall ensure that the Asset Management Plan provides an accurate record of all the Assets and details of their current condition, clearly identifying any interdependencies between parts of the System and/or the IRC System.

2.2.5 The Contractor shall ensure that the Asset Management Plan shall, as a minimum:

- (a) set out the arrangements for managing the Assets;
- (b) describe the process for logging Asset details in the Asset Register;
- (c) detail the Contractor's Preventative Maintenance regime for the Services;
- (d) where appropriate, set out processes for monitoring the performance of the Assets, for rectifying deficiencies and for improving performance targets, with supporting data;
- (e) describe the processes for monitoring the condition of the Assets and the criteria for developing and implementing component renewal programmes. These criteria may include costs, benefits and related risk profiles;
- (f) describe the processes for Asset disposal and refunding disposal proceeds to TTL;
- (g) describe the process for monitoring Asset movement and in life Hardware and Software versions and configuration using the Configuration Management Database provided by the Contractor as a part of the Operational Support System (OSS) pursuant to Schedule 6.6 (Operational Support System); and
- (h) describe the process for ensuring all Assets that are recorded in the Asset Register as being in storage are maintained in a manner which will enable them to deliver their full functionality as set out in the relevant part of Schedule 5 (Front Office Specifications) and/or Schedule 6 (Back Office Specifications) when connected to the System.

2.2.6 The Contractor shall notify TTL of any proposal to dispose of any Devices or Components in accordance with Clause 14 (The System and Maintenance) and shall make available at no charge such Devices or Components that the London Transport Museum may require.

2.3 Preventative Maintenance Plan

2.3.1 The Contractor shall prepare, maintain, Assure and submit to TTL with the Asset Management Plan each year a detailed programme of all Preventative Maintenance activities (the "**Preventative Maintenance Plan**") and in the event that the Contractor fails to do so it shall prepare and issue a Corrective Action Plan in accordance with Schedule 12.4 (Contract Management). The Preventative Maintenance Plan shall assist TTL in understanding the Contractor's access requirements and shall provide

visibility to TTL of the amount and timing of maintenance being planned and executed.

2.3.2 The Contractor shall ensure that the Preventative Maintenance Plan:

- (a) is consistent with the Programme Portfolio Plan set out in Schedule 10.2 (Programme and Project Lifecycle), complies with the general requirements applicable to all Project or Programme Plans as set out in Schedule 10.2 (Programme and Project Lifecycle) and runs from the Service Commencement Date until the Expiry Date;
- (b) is presented by Modules and Sites. Where reasonably requested by TTL, the Contractor shall provide a more detailed description of the regular activities to be carried out within such timeframe as requested by TTL;
- (c) is kept up to date and includes any periods of major maintenance that will impact on the Services;
- (d) includes activities for the review of performance data and for the Contractor's reviews and audits; and
- (e) covers a period of no less than the thirteen (13) Periods prior to and the thirteen (13) Periods after the submission of the individual plan.

2.3.3 The Contractor shall ensure that the Preventative Maintenance Plan clearly explains the activities undertaken by the Contractor in relation to Preventative Maintenance in the preceding thirteen (13) Periods.

2.3.4 The Contractor shall ensure that the Preventative Maintenance Plan clearly explains how the Contractor intends to maintain the System and Assets to ensure that TTL discharges its statutory safety obligations and that the Assets and the System continue to meet the requirements of the Contract. The Preventative Maintenance Plan shall specify:

- (a) when all Devices and Components are planned to be serviced in the next thirteen (13) Periods;
- (b) any Asset refresh works planned to occur in the next thirteen (13) Periods;
- (c) a report each Period detailing planned works completed against plan and an updated schedule should Asset servicing/refresh not have occurred as planned;
- (d) an annual report demonstrating that all Devices have been serviced in accordance with statutory regulations/standards; and
- (e) the regular delivery of a Contractor's certificate confirming that the System and its Devices and Components have been correctly maintained.

2.3.5 In the event that TTL requests the Contractor to carry out additional Preventative Maintenance over and above that required and planned by the Contractor, TTL shall give the Contractor a minimum of ten (10) Business Days' notice of such requirements and the Contractor shall include such requirements in the Preventative Maintenance Plan as set out in paragraph 2.3. Where the Contractor can

demonstrate that such requirements would materially increase the cost of such Preventative Maintenance this shall be addressed through a Variation.

- 2.3.6 Where there is a material change in the Contractor programme of Preventative Maintenance, including as a result of any Variation, the Contractor shall notify TTL, update the Preventative Maintenance Plan accordingly and submit the updated plan to TTL as soon as reasonably practicable.

2.4 Asset Register

- 2.4.1 The Contractor shall prepare, maintain, Assure and submit with the Service Performance Report each Period an Asset Register and in the event that the Contractor fails to do so it shall prepare and issue a Corrective Action Plan in accordance with Schedule 12.4 (Contract Management).

- 2.4.2 The Contractor shall ensure that, as a minimum, the Asset Register contains the following information:

- (a) each Asset name;
- (b) each Asset description;
- (c) the Asset Category to which each Asset belongs;
- (d) the location of each Device;
- (e) the operational status of each Device (e.g. in service, in storage);
- (f) the quantity of Components to support Devices and their operational status (e.g. awaiting repair, available spare);
- (g) the legal owner of each Asset;
- (h) the basis of ownership;
- (i) unique references for each Device or Component including the bar code if applicable, serial number if applicable, Asset Category and sub-category;
- (j) the unique identifier of any Third Party, Related Contractor or Interfacing Party device interfaced with the Device (e.g. bus host to Card Reader); and
- (k) the date:
 - (i) the Device was brought into service;
 - (ii) the Device was removed from service;
 - (iii) the Device or Component was disposed of, with the TTL reference; and
 - (iv) the Asset was handed back to TTL.

- 2.4.3 The Contractor shall ensure that the Assets are categorised in accordance with the process developed in accordance with paragraph 2.2.3.

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- 2.4.4 The Contractor shall provide the Asset Register to TTL every Period electronically in a format acceptable to TTL (Microsoft Excel as at the Date of Contract). The Asset Register will record all Assets that are in operation, storage, system test, the workshop or in use for the Services on TTL, Contractor or Sub-Contractor premises.
- 2.4.5 The Contractor shall provide to TTL with the Service Performance Report every Period an exceptions report which sets out all discrepancies between Assets recorded on the Asset Register and Assets recorded within Base Data and/or CMDB for the purpose of performance monitoring in accordance with Schedule 4.1 (Service Delivery).
- 2.4.6 The Contractor shall provide to TTL an automated daily exceptions report for Assets relating to the ST Services which sets out all discrepancies between Assets recorded in the Asset Register and Assets recorded within Base Data and/or CMDB for the purpose of performance monitoring in accordance with Schedules 4.1 (Service Delivery) and 4.2 (Surface Transport Services).
- 2.4.7 The Contractor shall maintain a Device numbering schema which allows each Device used in the Front Office Modules to be allocated a unique identifying number which uses consistent number groups by Device type for ease of identification by Operator Personnel. Any new Devices installed at a TTL Site shall be numbered in accordance with such schema unless agreed otherwise in advance by TTL.

2.5 Asset Plan

- 2.5.1 The Contractor shall prepare, submit, Assure and maintain the Asset Plan in accordance with this paragraph 2.5 and in the event that the Contractor fails to do so it shall prepare and issue a Corrective Action Plan in accordance with Schedule 12.4 (Contract Management).
- 2.5.2 Each Period the Contractor shall deliver to TTL the Asset Plan for the remainder of the expected Contract Term with the Service Performance Report. The Asset Plan (which shall not be taken as committing the Contractor to act in accordance with its terms) shall contain the following information in relation to each class of Asset:
- (a) details of each Asset comprised in the class;
 - (b) the number of Assets comprised in the class;
 - (c) the estimated remaining useful life of each such Asset;
 - (d) the Contractor's plans for Performance Assurance and Preventative Maintenance, including renewal and maintenance of individual Components of the Assets, during the Period including phasing of renewals;
 - (e) the estimated remaining useful life of each such Asset assuming that the plans described in paragraph 2.5.2(d) are implemented;
 - (f) in the case of each Asset Plan other than the first Asset Plan a reasonable level of information regarding the extent to which the Contractor has (and has not) complied with the proposals in the previous Asset Plans;
 - (g) details of performance or otherwise in the previous twelve (12) months against the Contractor's plans for Asset renewal and maintenance, including

renewal and maintenance of individual Components and including information and figures relating to defects and liabilities; and

- (h) details of steps which the Contractor proposes to take in relation to any material non-performance against the Contractor's plans for Asset renewal and maintenance in the previous twelve (12) months.

The Asset Plan shall also contain such further supporting incidental or similar information as TTL may reasonable request, not less than eight (8) weeks prior to the submission date for such Asset Plan.

- 2.5.3 The Contractor shall provide all necessary training and information in accordance with Schedule 8.6 (Training) where Assets are replaced with updated Assets or parts of Assets.

2.6 Device template

- 2.6.1 The Contractor shall provide to TTL a completed template for each Device comprising the System as at the Service Commencement Date. An example template is set out in Appendix 2.

- 2.6.2 In respect of any new Device, the Contractor shall create, complete and Assure a template prior to installation or otherwise pursuant to the relevant Variation which shall (as applicable):

- (a) record each Component and the maximum capacity, current capacity and forecast capacity of each Component;
- (b) record any situations in which there would be obsolescence in relation to each Component;
- (c) record the Residual Life and Residual Life rationale of each Component;
- (d) record any planned works for each Component;
- (e) record the quantity of any Spares of Components;
- (f) record the security features of each Component;
- (g) record the change from original specification in technology used in each Component;
- (h) record the original equipment manufacturer of each Component; and
- (i) include any other information required under Appendix 2 and/or as required from time to time by TTL,

and (without limiting the foregoing) the Contractor shall follow any approach which may be reasonably required by TTL from time to time for ensuring the development of the templates and shall ensure each such template remains up to date and Assured at all times.

- 2.6.3 The Contractor shall set out in the Period Asset Report any change to a Device and any Card Readers in the TOC Gates and TOC retail devices in respect of the information provided in the respective Device templates and set out the corrective action for those changes.

- 2.6.4 The Contractor shall review, update and submit to TTL with the Service Performance Report any Device template for which the information required under paragraph 2.6.2 has changed in that Period.
- 2.6.5 Where the Contractor fails to update or create, complete, as applicable, and Assure a template in respect of each Device and any Card Readers in TOC Gates or TOC retail devices pursuant to paragraphs 2.6.2 2.6.3 and/or 2.6.4, the Contractor shall prepare and submit a Corrective Action Plan as set out in Schedule 12.4 (Contract Management).
- 2.6.6 TTL shall comply with its obligations under Schedule 11.1 (Document Management) in respect of the review of each template envisaged under paragraphs 2.6.2 to 2.6.5.

2.7 Period Asset Report

- 2.7.1 The Contractor shall prepare and submit to TTL with the Service Performance Report each Period a report providing key Asset information and progress relating to the Asset Plan and the programme of Performance Assurance (the "**Period Asset Report**") and in the event that the Contractor fails to do so it shall prepare and issue a Corrective Action Plan in accordance with Schedule 12.4 (Contract Management).
- 2.7.2 The Contractor shall ensure that the Period Asset Report includes, as a minimum:
- (a) a summary of Devices used in the Front Office Modules status including:
 - (i) the total number of Devices, by Device type and transport operator, that are in operation for all LU Services, ST Services, Rail Services, Retail Network Services and Support Services for the current and previous Period;
 - (ii) where that total for each Device type has changed, the report shall highlight the change from the previous report and provide details of the reason for that change; and
 - (iii) the total number of Devices that are in the Contractor's storage areas;
 - (b) a summary of Back Office Module status including:
 - (i) the total number of Back Office Modules that are in service for all the Prestige Back Office, TTL ITSO HOPS and FTP Back Office Modules for each Data Centre;
 - (ii) at which Data Centre each Back Office Module is in operation; and
 - (iii) where that total for each Back Office Module has changed the report shall highlight the change from the previous report and provide details of the reason for that change;
 - (c) details of the delivery of Preventative Maintenance and Performance Assurance under the Asset Plan including:
 - (i) progress against each Performance Assurance Submission and/or Preventative Maintenance Plan;
 - (ii) cost expended to date from the Performance Assurance Fund; and
 - (iii) cost expended to date from the TTL Investment Fund;

- (d) details of Asset performance presented as over a rolling thirteen (13) Periods including:
 - (i) overall performance by Device type, highlighting the worst performing Device types;
 - (ii) the mean cycles between failures for each Device type;
 - (iii) the number of Service Affecting Faults by type, by Device type and in total;
 - (iv) the average System Fault and Service Affecting Fault clearance time;
 - (v) the number and type of Devices returned to the Contractor's workshop for repair; and
 - (vi) a summary of System Fault and Service Affecting Fault occurrence rates; and
- (e) details of progress on the programme of electrical safety testing.

2.8 Electrical Safety Testing

- 2.8.1 The System includes the power supply infrastructure and cabling from the relevant point of demarcation (as set out in Appendix 4) to each Asset supplied.
- 2.8.2 The Contractor shall perform all necessary testing to comply with all relevant applicable Law associated with the power supply infrastructure and safe operation of the Devices including, but not limited to:
 - (a) regular inspection and testing of the fixed power cabling; and
 - (b) annual electrical safety testing of each Device.

2.9 Meetings

- 2.9.1 The Contractor shall attend such meetings as are deemed necessary by TTL to discuss and confirm the details of the Contractor's Asset Plan and to review any TTL comments on the Contractor's proposals.

3 Performance Assurance

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4 Capacity Management

4.1 System Design Capacity

- 4.1.1 The Modules listed in Appendix 3 (Capacity Thresholds) are designed to deliver the capacity set out in that Appendix.
- 4.1.2 The Contractor shall monitor and report, in the Asset Plan, the actual utilisation of all Modules and forecast the future utilisation using, amongst other things, any projected Passenger journey growth information which may be provided by TTL. The Contractor shall clearly state the assumptions made in generating such a forecast.
- 4.1.3 The Contractor shall identify when each Module will reach its capacity and highlight any Module where this is projected to occur during the following thirteen (13) Periods ("**Capacity Risk Modules**").
- 4.1.4 The Contractor shall prepare and submit to TTL proposals to ensure that additional capacity is added to the System in respect of Capacity Risk Modules.
- 4.1.5 Where any Capacity Risk Modules are Modules contained within Appendix 3 then the Contractor shall request TTL to issue a Variation in respect of such Modules.

Appendix 1 - Asset Categories

Asset Category: LU Services

Validation Devices

- Gates (all types)
- Card Readers
- Validators

Retail Devices

- Multi Fare Machine
- Queue Buster Machine/Quick Ticket Machine
- Advanced Fare Machine
- Retail Terminal

Other Devices

- Ticket Office Machines / Head Office Machines
- Manual Gates (including ABP Manual Gates and MIP Gates_
- Ticket Hall SCU
- Ticket Office SCU
- Station Accounting Facility

Ethernet Local Area Network

- Station Computer
- ELAN switches

Asset Category: Surface Transport Services

Bus Validators

- OPO Bus Readers
- MDE Bus Card Reader;
- Universal Validators

Garage Devices

- Garage Interactive Displays
- Hot Spares Racks

Garage Data Landing

- LTBC - (Bus Control Computer)
- Bus Workstations

Garage Computers

- GPC Printer
- GPC UPS
- GPC Monitor
- Garage Terminal
- GT Power Supply Unit
- GT UPS
- GT Tray

Bus PTID Basestation

- PTID Basestation UPS;
- PTID Basestation Power Supply Unit
- PTID Hub;
- PTID Sign on Cradle;
- PTID Printer & Charging Cradle
- PTID Locker
- PTID Locker Charging Cradle;
- PTID (Personal Ticket Issuing Device) Base Computer

ETM - (Electronic Ticket Machine);

ETM Tray;

Bus Card Reader Trays

- OPO Bus Reader Tray;
- MDE Bus Card Reader Tray;

Drivers Data Modules

- Bus Driver Data Module 512k
- Bus Driver Data Module 2Mb

Bus PTID

River PTID

Asset Category: Rail Services

Validation Devices

- Entry Card Readers
- Exit Card Readers
- Validators

Ethernet Local Area Network

- Small Station Computer
- ELAN switches
- Monitoring Computer

Asset Category: Support Services

Pearl

Pearl Authentication Server

Fulfilment Devices

- Desktop Encoder Unit
- Ticket Office Machines
- Validators
- Station Computer

- Station Accounting Facility
- Card Readers

FasTIS Card Readers

Asset Category: FTP Back Office Services

Core Data Landing

- Rail DGC
- Rail DGC Concentrators
- Rail DGC Web
- RAIL ISA Server
- RAIL ISA Server (DR Site)
- Revenue Inspection Device Server
- Bus DGC
- Bus Concentrators
- Bus Concentrators (Physical)
- TAMP Database
- TAMP Poller 1
- TAMP Poller 2
- Tamp Poller 3
- Tamp Poller 4
- Pearl DGC1
- Pearl DGC2
- xPERT DGC

Payment Card Services

- EMVDP2 Production Environment
- EMVDP2 Test Environment
- CPA Production Environment
- CPA Production Environment (DR site)

PaRE Production Environment (FTP Back Office)

- Blade Enclosure (shared with FTP Back Office)
- HP Proliant DL980 G7 Servers (shared with FAE)
- HP Proliant DL560 Gen8 Server (shared with FAE)
- HP Proliant Gen8 Server Blades (shared with FTP Back Office)
- VMAX 20K (shared with FTP Back Office)
- Data Domain Backup (shared with FTP Back Office)
- Firewall (shared with FTP Back Office)
- Switches (shared with FTP Back Office)
- Router (shared with FTP Back Office)
- Load Balancer (shared with FTP Back Office)

FAE Production Environment (FTP Back Office)

- Blade Enclosure (shared with FTP Back Office)
- HP Proliant DL980 G7 Servers (shared with PaRE)
- HP Proliant DL560 Gen8 Server (shared with PaRE)
- HP Proliant Gen8 Server Blades (shared with FTP Back Office)
- VMAX 20K (shared with FTP Back Office)

- Data Domain Backup (shared with FTP Back Office)
- Firewall (shared with FTP Back Office)
- Switches (shared with FTP Back Office)
- Router (shared with FTP Back Office)
- Load Balancer (shared with FTP Back Office)

FTP Back Office (Excluding PaRE and FAE)

- Blade Enclosure (shared with PaRE and FAE)
- HP Proliant DL360 G7 Server
- HP Proliant DL360p Gen8 Server
- HP Proliant Gen8 Server Blade (shared with PaRE and FAE)
- VMAX 20K (shared with PaRE and FAE)
- Data Domain Backup (shared with PaRE and FAE)
- Firewall (shared with PaRE and FAE)
- Switches (shared with PaRE and FAE)
- Router (shared with PaRE and FAE)
- Load Balancer (shared with PaRE and FAE)

OSS Production Environment

Replication Engines for the Production Pillar Axiom

Production Pillar Axiom 600 Storage Array

Production Pillar Axiom 600 Storage Array (DR site)

Production Brocade SAN switch

Asset Category: ITSO Services

TTL ITSO HOPS

- HOPS Database Server
- HOPS Database Server (DR Site)
- HOPS Unix Servers
- HOPS Pillar Axiom
- HOPS Pillar Axiom (DRSite)
- HOPS Tape Library

Asset Category: Prestige Back Office Services

Central Systems

- 2x16 Server Console Switch with Virtual Media
- 2x1x16 IP Console Switch with Virtual Media
- Brocade 300 Fibre Channel Switch
- Brocade 5100 FC Switch
- HP DL360
- HP DL360 G6 E5504 Entry US Svr - 2Ghz / 4GB
- HP DL380 G6 E5506 Perf EU Svr
- HP DL380 G6 E5530 Perf EU Svr
- HP DL380 G6 X5560 Perf EU Svr

- HP KVM Tray
- Perle JetStream 8500 terminal server
- Sun 1200 rack
- Sun 15kVA PDU
- Sun 6180 SAN Storage Controller
- Sun 6180 SAN Storage tray
- Sun LTO4 FC drive
- Sun M5000 server
- Sun StorageTek 6780 disk array
- Sun StorageTek 6780 disk array – Prod
- Sun StorageTek 6780 disk array – Rep
- Sun StorageTek CSM 200 16 * 1TB
- Sun StorageTek CSM 200 16 *300GB
- Sun StorageTek CSM 200 16 *450GB
- Sun StorageTek SL500 library
- Sun X4140
- TFT7600 Rackmount Keyboard and Monitor UK
- VMWare
- AcrSight
- AcrSight Appliance
- Actuate
- Backup Servers
- BMC Monitoring
- Certificate Authority
- Citrix Servers
- Data Servers
- Domain Controllers
- Internet Proxy Server
- IP Monitor
- ISA Configuration Server
- IT Management
- Network Monitoring
- Oracle Enterprise Manager
- RADIUS Server
- RADIUS Server
- Secure FTP Gateway
- Solarwinds Orion
- SYSLog Server
- Tripwire
- Unix Management
- Unix Management
- Vmware Site Recovery Managers
- Vmware Vcenter Servers
- WEB ISA Server

Ticket Office Database

Quick Address

Primary BCP

Secondary BCP

Asset Category Retail Management Services
xPERT

Asset Category Sales and Consumables

Bulk Enablement Unit

Manual Card Enablers

Appendix 2 - Sample Device Templates



Schedule 8.2
Appendix 2 - Sample Device Templates

Appendix 3 – Capacity Thresholds

Module	Capacity Threshold
TTL Modules	Ten (10) million transactions per day
FTP Back Office Modules (other than the TTL Modules)	Five (5) million transactions per day
Prestige Back Office Modules	Twenty (20) million transactions per day
TTL ITSO HOPS	Five (5) million transactions per day
Data Landing Systems	Twenty (20) million transactions per day

Appendix 4 – [REDACTED]

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Appendix 5 –

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