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IBM Mainframe Services Overview

The IBM Mainframe Services are Fujitsu’s implementation of a Cloud service to deliver an IBM z/OS Platform as a Service (PaaS). The Standard Service consists of a single LPAR and associated storage on IBM z Systems hardware with IBM's z/OS operating system including maintenance and technical support.

The Standard Service is a basic service to which Elective Services or Supplementary Services can be added so as to meet the Customer’s requirements. The IBM Mainframe Services is available from Fujitsu’s UK based secure Data Centres but could be established in the Customer’s Data Centres or a combination of Data Centres if required.
Scope

Deliverables

Standard Service

The Standard Service is a basic service supplied as a single z/OS LPAR hosted on an IBM z Systems Mainframe in a United Kingdom based Fujitsu Data Centre, with an initial allocation of 200 MIPS and 2 GB memory; this is the minimum and cannot be reduced below this allocation.

The z/OS LPAR will have an operating system installed on 54 GB of unencrypted RAID 5 disk storage and backed up to 110 GB of unencrypted tape backup storage. Network connectivity will be provided by a single OSA Express port. The operating system will be IBM’s z/OS v2 consisting of all base elements and the optional features listed below:

<table>
<thead>
<tr>
<th>z/OS Base and Optional Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>z/OS Base</td>
</tr>
<tr>
<td>z/OS Communications Server (VTAM)</td>
</tr>
<tr>
<td>z/OS DFSMSdfp</td>
</tr>
<tr>
<td>z/OS DFSMSdss</td>
</tr>
<tr>
<td>z/OS DFSMSshsm</td>
</tr>
<tr>
<td>z/OS DFSMSrmm</td>
</tr>
<tr>
<td>z/OS DFSORT</td>
</tr>
<tr>
<td>z/OS HLASM</td>
</tr>
<tr>
<td>z/OS ICKDSF</td>
</tr>
<tr>
<td>z/OS Integrated Security Services</td>
</tr>
<tr>
<td>z/OS ISPF</td>
</tr>
</tbody>
</table>

To maintain the software at an IBM supported level, Fujitsu reserves the right to upgrade the version and or release of the software listed above.

If the Customer does not allow the software to be upgraded there will be additional charges.

Support & Management

The Fujitsu mainframe support team will manage the Standard Service z/OS LPAR as follows:

- System Management
  - Backup and recovery of Operating System DASD.
- Storage Management
  - DASD and backup storage.
- Software Management
  - Provide operating system defect support.
  - Maintain the operating system at a supported level.
- Service Management
  - Service reporting but not a service desk.
Service Availability
- Basic monitoring of the IBM Mainframe Services

Customer Network Connectivity
Fujitsu will provide a Network Point of Presence within their Data Centres to which the Customer’s network may be connected. The Customer will be responsible for all connections from their network to the Fujitsu point of Presence, with the method of connectivity to be agreed and documented in the Order.

Elective Services
A range of Elective Services is available from Fujitsu as enhancements to the Standard Service.

These Elective Services will be provided at an additional charge to the Standard Service and can either be included in the original order or added as a variation.

MIPS
Fujitsu can provide the Customer with MIPS in addition to those included with the Standard Service. The extra capacity will be provided in increments of 8 MIPS; a further 64MB of memory will be included with each increment.

LPARs
Fujitsu can provide the Customer with LPARs in addition to the one included as part of the Standard Service. With each extra LPAR purchased, 2GB of memory, 9GB of useable DASD and 18GB of backup (tape) storage will also be included.

IBM z Systems Integrated Information Processor (zIIP)
Fujitsu can provide the Customer with an IBM z Systems Integrated Information Processor (zIIP), available for use by any eligible elements of the Customer's z/OS workload.

Enhanced Availability
Fujitsu can provide the Customer with a system upgraded to provide enhanced availability through the use of a Parallel Sysplex, and or a Geographically Dispersed Parallel Sysplex (GDPS). A Parallel Sysplex or GDPS requires the purchase of two Standard Services as a minimum.

IBM z Systems Integrated Coupling Facility (ICF)
A minimum of two ICFs are required to support a Parallel Sysplex, which will include the amount of memory and MIPS required to support the customer's requirements.

DASD Storage
Fujitsu can provide the Customer with DASD storage in addition to that included with the Standard Service, The extra capacity will be provided in increments of 2 TB of formatted space.

Backup Storage
Fujitsu can provide the Customer with backup storage in addition to that included with the Standard Service, This extra capacity will be provided in increments of 10 TB.
Network Connectivity
Fujitsu can provide the Customer with network connectivity in addition to that included with the Standard Service. The extra connectivity will be provided in increments of a single OSA port.

Legacy Networks
Fujitsu can provide the Customer with a Legacy Network service to support IBM’s SNA architecture, using IBM 37x5 hardware or IBM’s Communications Controller for Linux (CCL), and SNA over TCP/IP.

IBM Software
Fujitsu can provide the Customer with IBM mainframe software in addition to that included with the Standard Service.

The Customer can also elect to include any or all of the following services:
- Software Installation
- Software Management
- Software Support.

Software licenses will be held by Fujitsu.

ISV Software
Fujitsu can provide the Customer with ISV mainframe software in addition to the IBM Software included with the Standard Service.

The Customer can also elect to include any or all of the following services:
- Software Installation
- Software Management
- Software Support.

Software licenses will be held by the Customer.

Backup and Recovery
Fujitsu can provide the Customer with a backup and recovery service, in addition to that provided as part of the Standard Service.

Capacity Management
Fujitsu can provide the Customer with a capacity management and reporting service, monitoring the utilisation and performance of their mainframe system.

Database Management
Fujitsu can provide the Customer with a database management service to support IBM and ISV databases, including, but not limited to, DB2, IMS/DB, Adabas and M204.

OLTP Management
Fujitsu can provide the Customer with an OLTP management services to support IBM and ISV Online Transaction Processors, including, but not limited to, TSO, CICS/TS, IMS/TM and M204.

Security Management
Fujitsu can provide the Customer with a Security management service to support IBM and ISV security software, including, but not limited to, IBM Security Server (RACF), CA-ACF2 and CA-Top Secret.

Workload Scheduling
Fujitsu can provide the Customer with a workload scheduling (JCL & Batch Operations) service to support IBM and ISV scheduling software, including, but not limited to, Tivoli Workload Scheduler and CA-1/11.

System Automation
Fujitsu can provide the Customer with a System Automation service to support IBM and ISV scheduling software, including, but not limited to, Tivoli System Automation for z/OS and CA-OPSMVS.

Enhanced Monitoring
Fujitsu can provide the Customer with an Enhanced Monitoring service for 24/7 monitoring of the z/OS LPARs and infrastructure, including standby and call-out for technical support.

Service Management
Fujitsu can provide the Customer with a service management service including a service desk.

Disaster Recovery and Service Continuity
Fujitsu can provide the Customer with a disaster recovery service for their z/OS LPARs at the Fujitsu secondary Data Centre. This service can be invoked should the service at the primary site become unavailable following a site or hardware failure. One annual test is included with this service.

Supplementary Services
Fujitsu can provide the Customer with Supplementary Services not available as part of the Standard Service or Elective Services. The Customer will agree the terms and conditions and charges for these services with Fujitsu.
Service Delivery

Service Management
The Customer must report all Incidents and Service Requests.

Fujitsu supports the IBM Mainframe Services purchased by the Customer under an Order and accepts no responsibility for any issues outside of this scope.

Service Exclusions
The following elements are not included or applicable as part of the offered Service and are therefore not included within this Service Definition:

Training
Other than the details provided in the On-boarding Information, Fujitsu does not provide training as part of the Services. Should the Customer require training, this can be provided as a Supplementary Service.

Details of Any Trial Service Available
There is no formal trial service available.

Information Assurance

<table>
<thead>
<tr>
<th>Accreditation/Certification</th>
<th>Primary Data Centre</th>
<th>Secondary Data Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier</td>
<td>Tier III</td>
<td>Tier III</td>
</tr>
<tr>
<td>ISO 270001</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>ISO 4001</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>EU Code of Conduct for Data Centres</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Impact Level</td>
<td>IL3</td>
<td>IL3</td>
</tr>
<tr>
<td>This is for historical reference purposes this service was previously suitable for customers requiring protection for data at:</td>
<td>IL3</td>
<td>IL3</td>
</tr>
<tr>
<td>List X</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>GSC Level</td>
<td>Official</td>
<td>Official</td>
</tr>
</tbody>
</table>

Level of Backup/Restore and Disaster Recovery
The Customer is responsible for the Backup/Restore of any Customer Data on the IBM Mainframe Services. Where the Customer requires support with data Backup/Restore, Fujitsu can provide this as a Supplementary Service.

Disaster Recovery is not part of the Standard Service, but is available as an Elective Service.
Data Restoration / Service Migration

The Customer is responsible for the restoration of any Customer Data onto the IBM Mainframe Services. Where the Customer either wishes to transfer large amounts of data or requires support with other aspects of service migration, Fujitsu can provide assistance as a Supplementary Service.
On-boarding and Off-Boarding Processes

**On-boarding**

**Provisioning the Services**
Fujitsu will provision the IBM Mainframe Services as Ordered by the Customer to a timescale agreed with Fujitsu (a minimum of 60 Days) and provide the Customer with details of how to connect to the IBM Mainframe Services.

**Network Connectivity**
The Customer is responsible for provisioning network connections to the Fujitsu network Point of Presence. No access to the IBM Mainframe Services will be available until the network connection has been established.

**Handling of Customer Data in the On-boarding process**
Restoration of data onto the IBM Mainframe Services is the responsibility of the Customer.

If the Customer requires assistance restoring the data, Fujitsu can provide support as a Supplementary Service.

**Off-boarding**

In the event of Termination of either Elective or Supplementary Services or Termination of the Order, Fujitsu will off board the Customer as follows:

**Termination of Elective or Supplementary Services**
When Elective or Supplementary Services are terminated, Fujitsu will de-provision the relevant Elective Services and or Supplementary Services.

**Order Termination**
When the Order is terminated, Fujitsu will de-provision all z/OS LPARs, Elective Services, Supplementary services and remove the Customer’s Network Connectivity.

**Handling of Customer Data in the Off-boarding process**
The Customer is responsible for ensuring removal and or back-up of any data they wish to retain prior to Termination of either Elective or Supplementary Services or termination of the Order.

Fujitsu will delete the Customer’s Data from the relevant z/OS LPAR storage and is not responsible for any loss of data not removed by the Customer before Termination of either Elective or Supplementary Services or Termination of the contract.

If the Customer requires data destruction methods other than deletion, this can be purchased as a Supplementary Service.
If the Customer requires assistance from Fujitsu to remove their data, this can be purchased as a Supplementary Service.
Service Levels

The availability of the IBM Mainframe Services, including z/OS LPARs, storage and network within Fujitsu’s Data Centre up to the Fujitsu Point of Presence, will be measured daily and reported on a monthly basis against the service level shown in the table below:

<table>
<thead>
<tr>
<th>Lot 1 - IBM Mainframe Service</th>
<th>Target Availability %</th>
<th>Measurement Period</th>
<th>Permitted Unavailability</th>
</tr>
</thead>
<tbody>
<tr>
<td>99.50%</td>
<td>Monthly</td>
<td>3.65 hours</td>
<td></td>
</tr>
<tr>
<td>99.90%</td>
<td>Monthly</td>
<td>0.73 hours</td>
<td></td>
</tr>
</tbody>
</table>

If the Customer is unable to access an activated z/OS LPAR or associated storage as a result of the unavailability of the IBM Mainframe Services, the service will be considered unavailable.

If a service interruption occurs due to any of the following, the IBM Mainframe Services will not be considered unavailable:

- Routine maintenance.
- Elective Service maintenance
- Extraordinary maintenance provided the Customer has been given 7 days’ notice.
- Any issues caused by the Customer on the z/OS LPAR.
- Events outside of Fujitsu’s reasonable control.

Maintenance
Fujitsu will carry out maintenance activities as required and will use reasonable endeavours to avoid adverse impact to the Customer’s Service.

Routine Maintenance (Standard Service)
Routine Maintenance is required and will be performed on a monthly basis on the second Sunday of each month, between the hours of 01:00 and 05:00 UK time or at a time mutually agreed with the Customer. The Services may not be available during these times and is excluded from the target availability.

Routine Maintenance (Enhanced Availability - Elective Service)
Routine Maintenance may be required and will be performed at a date and time mutually agreed with the Customer. The Services may be available but degraded during these times and is excluded from the target availability.

Elective Service Maintenance
To support some Elective Services, Fujitsu may need to extend the Scheduled Maintenance period. This will be agreed with the Customer as part of those Elective Services.
Emergency Maintenance

Unplanned maintenance may be necessary, on occasions, to resolve major issues effecting service availability.

The Customer will be given as much notice as reasonably possible by Fujitsu, advising them of any likely impact to the availability of the Services.
### Pricing

#### z/OS LPAR and Storage

**Standard Service Price**

<table>
<thead>
<tr>
<th>Product</th>
<th>Unit</th>
<th>Unit Price (Rate Per Unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Service - Single z/OS LPAR with: 200 MIPS, 2 GB Memory, 54 GB DASD, 110 GB Backup Storage</td>
<td>Per Month</td>
<td>£42,040</td>
</tr>
</tbody>
</table>

#### Elective Services

<table>
<thead>
<tr>
<th>Product</th>
<th>Unit</th>
<th>Unit Price (Rate Per Unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIPS in 8 MIPS increments (includes 64 MB of memory per 8 MIPS)</td>
<td>Per MIPS per Month</td>
<td>£201</td>
</tr>
<tr>
<td>DASD storage in useable 1 TB increments</td>
<td>Per 1 TB Per Month</td>
<td>£1,520</td>
</tr>
<tr>
<td>Backup storage in 10 TB increments</td>
<td>Per 10 TB Per Month</td>
<td>£1,250</td>
</tr>
</tbody>
</table>

1. MIPS increments pricing is **NOT** linear and this price is only valid for the first 25 increments, subsequent increments may be at a lower price.
2. Disaster Recovery replicated DASD/Backup storage will be charged as “Elective Services” using rates above.

Prices for other Elective Services will be priced at the time of the Order.

#### Supplementary Services

Supplementary Staff Services will be priced using the rates shown in the SFIA Rates Table.

The requirements for any Supplementary Services will be discussed with the Customer during an order process. Once agreed, the Supplementary Services, terms and conditions for those Supplementary Services, charging basis (time and materials or fixed price) and charges will be documented in the Order. A fixed price premium may be added to any Supplementary Services charged on a fixed price basis.

#### Charges for Standard Service and Elective Services

The Standard Service and any Elective Services will be charged using the monthly rate as detailed in the Order and or Variation.

All Standard Services and or Elective Services are charged in minimum increments of one month even if Services are terminated part way through a month.
Fujitsu reserves the right to amend the Standard Service and any Elective Services charge from time to time upon thirty days’ written notice to the Customer.

**GCloud10 Rate Card – UK Onshore**

Please see Fujitsu’s separately published rate card

The rates are exclusive of VAT at the prevailing rate.

Standards for Consultancy Day Rate Cards:

- Consultant’s Working Day – 8 hours exclusive of travel and lunch
- Working Week – Monday to Friday excluding national holidays
- Office Hours – 09:00 - 17:00 Monday to Friday
- Travel and Subsistence – Included in day rate within M25. Payable at department’s standard T&S rates outside M25.
- Mileage – As above
- Professional Indemnity Insurance – included in day rate.
GCloud10 Rate Card – Offshore

Please see Fujitsu’s separately published rate card
The rates are exclusive of VAT or applicable local taxes at the prevailing rate.

Standards For Consultancy Day Rate Cards:
- Consultant’s Working Day – 8 hours exclusive of travel and lunch
- Working Week – Monday to Friday excluding national holidays
- Office Hours – 09:00 - 17:00 Monday to Friday (local time)
- Travel and Subsistence – Not applicable
- Mileage – Not applicable as not on site resources
- Professional Indemnity Insurance – included in day rate.

Ordering and Invoicing Process

Ordering
The Customer may order services described in this Service Definition in accordance with the procedure provided within the Framework Agreement for G-Cloud Services.

Where this Service Definition provides for agreement between the parties on any matter, the precise details of and price for the relevant part of the Service will be agreed at the time of ordering.

Invoicing
Fujitsu will issue an invoice, covering all z/OS LPARs, connectivity costs, Elective Services and Supplementary Services, used by the Customer.

Fujitsu will raise invoices at the end of each calendar month, reflecting Services delivered during that month.

Charges and Payment
The Customer shall pay the Charges to Fujitsu in accordance with the detail set out in the relevant Service Specification (Call-off Form). All payments shall be made in pounds sterling (TBP).

Unless expressly stated otherwise, all Charges are exclusive of VAT and the Customer must pay Fujitsu an additional amount equal to such tax.

With respect to the calculations for the Charges for the Service(s) and the VAT amounts, any fractional amounts less than one penny shall be rounded down.

Fujitsu will invoice the Customer for the Charges as stated in the Service Specification (Call-off Form) and Customer must pay all invoices within thirty (30) days of the date of the invoice.

If the payment date falls on a non-business day for financial institutions, the payment date shall be moved forward to the preceding business day.
If the Customer neglects to discharge financial liabilities arising from the Agreement (including payment of the Charges and any debts due and payable), the Customer shall pay Fujitsu interest on any amount due from the due date of payment until the date of actual payment at the rate of 4% per annum above Barclays Bank plc sterling base rate. Interest is to be calculated on a daily basis.

Fujitsu may vary the Charges in the manner provided for in the Service Specification (Call-off Form).
Commercial

Minimum and Maximum Terms
Any agreement will last either until the date specified in the call off agreement or for 24 months after the effective date, whichever is earlier, unless terminated pursuant to the relevant termination rules.

Customer Termination
Standard Framework terms apply.

Supplier Termination
Standard Framework terms apply.

Customer Responsibilities
- The Customer will be responsible for providing network connectivity at their own locations and between its own locations and the Fujitsu Point of Presence
- The Customer is responsible for providing the details necessary to configure access to the z/OS LPARs
- The Customer is responsible for the migration of any Customer Data onto the IBM Mainframe Services
- The Customer is responsible for the Backup/Restore of any Customer Data on the IBM Mainframe Services
- The Customer is responsible for licensing any ISV Software
- The Customer is responsible for the removal of their data
- The Customer is responsible for Disaster Recovery unless the relevant Elective Service is purchased
- The Customer is responsible for Access controls to their applications and data unless the relevant Elective service is purchased
- The Customer is responsible for the installation, licensing and administration of any software or tools that are not included in the Standard Service, unless the relevant Elective Service is purchased.

Technical Requirements
The Customer acknowledges that the timely and adequate compliance with the obligations above is essential to the performance of the IBM Mainframe Services. Should the Customer request (and Fujitsu agree) that Fujitsu consultants undertake any of the obligations described above Fujitsu reserve the right to amend the Charges.

Service Constraints
Fujitsu will not be liable for the Customer’s take up, non-take up or other discretionary use of the information provided by Fujitsu or of any of the recommendations or options generated from the Service and activities under this Service Definition.
Service Credits

Where a z/OS LPAR is not available to the Customer as a result of the unavailability of the IBM Mainframe Services for a period in excess of the Permitted Unavailability, then Fujitsu will not charge the Customer for that z/OS LPAR and any Elective Services associated with that z/OS LPAR for the period of unavailability in excess of the Permitted Unavailability, to a maximum of 10% of the monthly charge for those services.
Definitions

Any terms used in this Service Definition have the meaning assigned to it by the Fujitsu Cloud Service Agreement Terms and Conditions. Supplementary terms used have the meaning assigned by this paragraph.

In the event of any conflict between the terms of this Service Definition and the other documents that comprise the Agreement, the provisions of this Service Definition will prevail.

<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DASD</td>
<td>Direct Access Storage Device (Disk)</td>
</tr>
<tr>
<td>Elective Services</td>
<td>Services to supplement the Standard Service</td>
</tr>
<tr>
<td>Incident</td>
<td>the loss of function or identification of issue or change to the status of any monitored z/OS LPARs, storage or Elective Services provisioned to the Customer</td>
</tr>
<tr>
<td>ISV</td>
<td>Independent Software Vendor; a supplier of mainframe software independent of IBM</td>
</tr>
<tr>
<td>LPAR</td>
<td>Logical Partition with a set of physical resources hosted on an IBM Mainframe</td>
</tr>
<tr>
<td>MIPS</td>
<td>Million Instructions Per Second, used for sizing the processor capacity of an LPAR</td>
</tr>
<tr>
<td>Network Connectivity</td>
<td>The network connection between Fujitsu and the Customer</td>
</tr>
<tr>
<td>Network Point of Presence</td>
<td>The location in the Fujitsu Data Centre where the Customer’s network is presented</td>
</tr>
<tr>
<td>Operating System</td>
<td>a supported version of the IBM z/OS (z Operating System)</td>
</tr>
<tr>
<td>OSA Port</td>
<td>A port on an Open Systems Adapter card (Network Interface (NIC) card)</td>
</tr>
<tr>
<td>Service Reporting</td>
<td>A monthly report of incidents and availability</td>
</tr>
<tr>
<td>Service Requests</td>
<td>A request from the Customer to Fujitsu to make changes to the supplied service</td>
</tr>
<tr>
<td>Supplementary Service</td>
<td>Service provided by Fujitsu which is not part of the Standard Service or the Elective Services and which can be purchased</td>
</tr>
<tr>
<td>Termination</td>
<td>Ceasing the Services in their entirety through the de-provisioning of all z/OS LPARs, Supplementary storage and or Elective Services and the disconnection of the Customer Network Connectivity</td>
</tr>
<tr>
<td>Variation</td>
<td>A change to the agreed service</td>
</tr>
</tbody>
</table>
About Fujitsu
Fujitsu has been working with the public sector for over 40 years and is a global IT company offering a complete range of products, services and solutions. From looking after applications and protecting data, to managing supercomputers around the world, we’re helping government and business everywhere to become more innovative and efficient. Winners of Business in the Community’s (BITC) Responsible Business of the Year 2015 and with a 5* rating in their Corporate Responsibility Index, we are also proud to work alongside our charity partner Action for Children.