Private Cloud Hosted and Everywhere Service Schedule
Part B – Service Description

Section A – The Service

1. STANDARD COMPONENTS OF THE SERVICE

BT will provide the Customer with the following standard service components in accordance with the details as set out in any applicable Order:

1.1 **a private cloud infrastructure platform** that will allow the Customer to build Virtual Machines and amend, add or remove various computing elements. The Customer may create a Virtual Machine by selecting on the Order the required computing elements for its Virtual Machine.

1.2 **access to a Portal** that allows the Customer to view the Catalogue of computing elements.

1.3 **a minimum set of computing elements** to create a Virtual Machine. The computing elements may have various options as further described in Paragraph 2, however, will include as standard:

    1.3.1 An Operating System - for the Virtual Machine being created to build the Service;

    1.3.2 A Hypervisor - being a hardware virtualization technique that allows multiple guest Operating Systems to run on a single host system at the same time. The guest Operating System shares the hardware of the host computer such that each Operating System appears to have its own processor, memory and other hardware resource. The Service can support different Hypervisors as set out in the Catalogue;

    1.3.3 Other compute components - vCPUs, vRAM and C drive / root storage;

    1.3.4 Storage - The Virtual Machine will include storage allocation, a C:/ root drive where the Operating System will reside. A build consists of; processors, RAM and C: drive/root storage;

    1.3.5 Affinity rules - between the Virtual Machine and the host; and

    1.3.6 Licenses - for using the Virtual Machine.

1.4 **a hosting capability** based on one of two options:

    1.4.1 **Private Cloud Hosted** - hosting will be provided in a BT or BT's Supplier data centre. BT will install and configure the BT equipment at BT's or BT's Supplier datacentre; or

    1.4.2 **Private Cloud Everywhere** - hosting will be provided in a Customer Data Centre provided such Customer Data Centre meets the environment conditions as provided by BT to host the Service. BT will install and configure the BT equipment at the Customer's chosen Customer Data Center as set out on the Order.

1.5 **Managed Services** for the monitoring and management of the Service, up to the point of the Service Management Boundary, to ensure it is operating as efficiently as possible.

2. SERVICE OPTIONS

The Customer may select the following Services as set out in the Order:

2.1 **Virtual Machine:**

    2.1.1 The Service enables the Customer to self-provision the virtual infrastructure through the use of the CMS Portal or an API. Using the CMS Portal, the Customer selects the Service Options required in

order to provision the Virtual Machine. The Service Option Catalogue specifies the Service Options that are available to create the Virtual Machine.

2.1.2 Virtual Machine – Post-creation service options: The following service options are only available after the Virtual Machine has been ordered and created:

(a) Virtual Machine Type

(i) The Customer may select a Virtual Machine from the Virtual Machine attributes displayed within the Service Option Catalogue.

(ii) The Customer may, in order to increase or decrease the size of the Virtual Machine (in terms of CPU and RAM), either build a new Virtual Machine or modify the current Virtual Machine, via a separate online Order. The Customer may copy the existing Virtual Machine as a Template or reinstall it on to a larger (or smaller) Virtual Machine as required.

(b) Storage (C:/root)

(i) The Virtual Machine will include storage allocation, a C:/ root drive where the Operating System will reside.

(ii) Additional Storage may be added in the form of additional drives. A number of different size drives are made available with an option for a Customer defined disk. Additional disks can be added and are subject to a separate online Order and additional Charges.

(c) Operating System

(i) The Customer will select the Operating System for the Virtual Machine being created in order to build the Service. The Operating Systems are presented to the Customer as Templates. The options available are dependent upon the Service Option Catalogue and are defined as "ISOs" (ISO Images).

(d) Network connectivity

(i) The Customer may order different Network offerings to provide connectivity between Virtual Machines and to and from the Internet;

(ii) The Network connectivity may include a firewall function set out in paragraph 2.1.2(f) below and/or Load Balancing set out in paragraph 2.1.2(g) below.

(iii) The additional BT (or other licensed operators) Network services are not part of the Service and the Customer will order them separately and separate conditions and additional Charges will apply.

(e) Templates

(i) Templates are used to create a Virtual Machine with a specific Operating System build.

(f) Firewall

(i) The Customer may make changes to the firewall by adding, deleting and/or changing access control lists.

(g) Load Balancing

(i) The Service supports the creation of a load balanced group of Virtual Machines.

(h) ISO Images

(i) Where the Customer requires a particular Operating System that is not shown within the Templates, the Customer can create one from an ISO Image.

(i) **Managed OS**.

       (i)   When a Virtual machine is enrolled in OS Administration, BT creates a configuration management database (CMDB) record of the Virtual Machine, and securely stores Customer- provided OS login credentials so that our OS system administrators can log in to the OS and perform the desired OS Services upon request.

       (ii)   This service enables a customer to initiate a request that would trigger an administrator to log in to the guest OS of a virtual machine in the private cloud. Supplier's engineers will utilize secure, time-limited, and audited access to the environment to provide troubleshooting services for supported systems.

(j) Managed OS Patching.

       (i)   BT provides a managed OS patching service for supported operating systems. The patching schedule is set by the Customer and BT configures the guest OS to use Supplier-provided patching sources so that only approved patches are delivered and installed on customer machines.

(k) Managed OS Monitoring

       (i)   BT installs, configures, and responds to monitoring alerts from an installed OS agent for OS and application alerts and conditions on Virtual Machines. It enables monitoring of guest OS service availability on a network, internal OS system resources, OS services operational status, and error conditions with default thresholds.

(l) Managed OS Antivirus

       (i)   Anti-virus management provides protection against any viruses If this option is selected on the Order;

       (ii)   BT will take all reasonable steps (including testing) to ensure that any Software used in the Virtual Machine shall provide protection against viruses; and

      (iii) the Customer will ensure that necessary resources in the Virtual Machines are provided for the Software performance that is not hindered by application or network policies or equivalents.

(m) Private Cloud BT MPLS Connectivity.

       (i)   Where the Customer requires MPLS connectivity to an existing BT MPLS Cloud, the customer selects the required bandwidth based upon the catalogue.

(n) Additional Storage. Additional storage may be ordered by the Customer in the form of additional drives. A number of different size drives are made available with an option for a Customer defined disk.

(o) Additional Licenses. While licenses for the Virtual Machine are provided by BT as standard component, the Customer may order any additional licenses for the Service from BT as set out in the Order.

(p) Backup

 VM Snapshots provide back up for the Service and enable the Customer to take a point in time "copy" of the Virtual Machine disk volumes. VM Snapshots are defined per Virtual Machine disk volume and the Customer can manually initiate or schedule as required. If this option is selected

on the Order the Customer may define how often and when a VM Snapshot is taken or instantly take a snapshot when required subject to the following rules:

(i) a maximum of three (3) VM Snapshots per Virtual Machine is allowed;

(ii) the Customer will delete a VM Snapshot before a new one is taken, once the maximum number is reached; and

(iii) the Customer will remove a VM Snapshot when it is no longer required in order to minimise its effect on the performance of the Virtual Machine.

(q) Disaster Recovery.

Disaster recovery means equivalent or lesser Virtual Machine with or without Software, Network and licenses to the primary Site. If this option is selected on the Order:

(i) BT will allow Customer to build a Virtual Machine with or without Software, Network and licenses that will be used in case of any disaster to the Virtual Machine at the primary Site; and

(ii) the Customer will need to have processes and procedures to invoke disaster recovery in an event of any disaster.

(r) vRealize Operations ("vROPS")

vROPs provides full-stack visibility, proactive planning, continuous performance optimization, efficient capacity, and cost management.

(s) vRealize Log Insight

Intelligent log management for infrastructure and applications.

(t) vRealize Network Insight

Intelligent operations for software defined networking and security.

(u) NSX-T

Agile software-defined networking with security, automation, and operational simplicity

3. SERVICE MANAGEMENT BOUNDARY

3.1 BT will provide and manage the Service in-life in accordance with this Schedule and as set out in any applicable Order up to the Hypervisor layer including the management stack ("**Service Management Boundary**").

3.2 Customers will be responsible for managing their Operating Systems and application environments and BT will have no responsibility for the Service outside the Service Management Boundary.

3.3 BT does not make any representations, whether express or implied, about whether the Service will operate in combination with any Customer equipment or other equipment and software.

3.4 With the exception of items described above in Paragraphs 1 and 2, BT accepts no responsibility for any virtual or physical infrastructure or Enabling Services (with the exception of Enabling Services provided by BT which will be provided in accordance with their separate terms).

4. ENABLING SERVICES

4.1 The Customer will have the following services in place that are necessary for the Service to function:

4.1.1 remote access capability

(each an **"Enabling Service"**)

4.2 Before the Operational Service Date, BT will:

4.2.1 configure the Service;

4.2.2 conduct a series of standard tests on the Service to ensure that it is configured correctly;

4.2.3 connect the Service to each Enabling Service; and

4.2.4 on the date that BT has completed the activities in this Paragraph 4.2, confirm to the Customer that the Service is available for performance of any Acceptance Tests.

5. ACCEPTANCE TESTS

5.1 The Customer will carry out the Acceptance Tests for the Service within five (5) Business Days after receiving notice from BT ("**Acceptance Test Period**").

5.2 The Service is accepted by the Customer if the Customer confirms acceptance in writing during the Acceptance Test Period or is treated as being accepted by the Customer if the Customer does not provide BT with notice to the contrary by the end of the Acceptance Test Period.

5.3 Subject to Paragraph 5.4 the Operational Service Date will be the earlier of the following:

5.3.1 the date that the Customer confirms, or BT deems acceptance of the Service in writing in accordance with Paragraph 5.2; or

5.3.2 the date of the first day following the Acceptance Test Period.

5.4 If, during the Acceptance Test Period, the Customer provides BT notice that the Acceptance Tests have not been passed, BT will remedy the non-conformance without undue delay and provide the Customer notice that BT has remedied the non-conformance and inform the Customer of the Operational Service Date.

Section B – Service Management

6. SERVICE MANAGEMENT

6.1 The Service Management Schedule as referred to in the Order will apply to this Service.