

PUBLICATION 1 SERVICE DESCRIPTION FOR FLEXIBLE ENGINE SERVICES

1.1 Definitions

As used in this Service Description, the following capitalized terms will have the meanings given to such terms in this Clause 1.1. In the event of any conflict between the definitions provided in this Service Description and those provided elsewhere in the Agreement, the definitions in this Service Description will prevail to the extent of any such conflict. All capitalized terms used and not otherwise defined herein will have the meaning ascribed to them elsewhere in the Agreement (in particular, in the Specific Conditions for Orange Cloud Services).

"API" means an application programming interface which is a set of functions and procedures that allow the creation of computer applications which access the features or data of an operating system, application, or other service.

"Flexible Engine Console" means the web interface allowing the Customer to administrate the Flexible Engine Services.

"IPSec" or "IPsec" means Internet Protocol security.

"Tenant" means a virtual private pool of resources on the Flexible Engine infrastructure which is only accessible to Users that are authenticated by a login and password.

"VPN" means a virtual private network.

1.2 Service Description

1.2.1 Overall Description. The Flexible Engine Service is a Cloud Service, subject to the Specific Conditions for Cloud Services. The Flexible Engine Services are based on pre-built IT infrastructure hosted in regional datacenters. It allows Users to provision and use IT resources (e.g. servers, storage, network) on a self-service and on-demand basis, through a web based management console and through APIs.

The Flexible Engine Services comprises different service features which are described in Clause 1.2.3 below. Further details of such features (including restrictions of use and compatibility requirements) are available upon request.

1.2.2 Web Portals

1.2.2.1 Flexible Engine Console. Orange will provide Customer with access to the Flexible Engine Console, which is the main web portal, to manage Flexible Engine Services. Access to the Flexible Engine Console will be by private access obtained by the submission of User specific credentials. The Flexible Engine Console allows the User to create, configure, monitor, and delete Flexible Engine Services on-line.

The Flexible Engine Console connects to all international regions of the Flexible Engine Services.

1.2.2.2 Cloud Store Customer Portal. Orange will provide Customer with access to the 'Cloud Store', which is a website where all features of the Flexible Engine Services are offered, though the following address: <http://cloud.orange-business.com>. Access to the 'Cloud Store' will be public access without the need for any credentials.

Orange will also provide Customer with access to the 'Customer Portal' which is a secured environment for Customer to manage its Flexible Engine Services account, within the 'Cloud Store'. Access to the 'Customer Portal' will be private access through specific credentials of a User.

1.2.3 Service Features of the Flexible Engine Services

1.2.3.1 Elastic Cloud Server ("ECS"). The ECS service feature enables the User to create and manage the lifecycle of Virtual Machines via the Flexible Engine Console or via APIs. The User can use different VM templates based on the number of virtual processors (vCPUs), allocated memory (RAM) and technical specifications.

The User can create the VM using the operating system (OS) provided by the IMS feature (as described below) and then log onto the VM to install the User's application. The application installation can be triggered automatically by the script defined during the VM creation request.

1.2.3.2 Reserved Instances. The Reserved Instances feature allows the User to subscribe to improved tariff plans for the ECS service depending on a duration commitment of use of 1 year, 2 years, or 3 years and subject to a one-time Charge. With a Reserved Instances plan, the Charge for the ECS service becomes a monthly recurring Charge for the duration of the plan and no longer a charge based on usage. The User can mix subscription plans for Reserve Instances for a part of the User's ECS service, with on-demand usage of the ECS service for others.

1.2.3.3 Auto Scaling ("AS"). With the AS service feature, Users define rules based on performance indicators that regulate when to commission or decommission new virtual machines. This allows for applications to be adapted according to the intensity of use. Elastic Cloud Servers can be scaled vertically (more vCPU, RAM, storage) as well as horizontally (further VMs of the same class).

1.2.3.4 VM Auto-recovery. In the event of a server failure, the Virtual Machines which have been configured with the VM auto-recovery feature by the User, will be automatically migrated to another computing server host. The new VM will be a clone of the failed VM.

1.2.3.5 Dedicated Cloud ("DeC"). The DeC service feature assigns a specific host server exclusively to a single Tenant. Within a DeC, physical network and server resources are not shared with other Tenants. On those physical resources dedicated to a Tenant, the Tenant User can create and monitor VMs through the Flexible Engine Console. To obtain a DeC, the Tenant shall issue a specific Order for such service feature.

1.2.3.6 Virtual Private Cloud ("VPC"). The VPC service feature delivers an isolated, configurable, and manageable virtual network environment within a Tenant. It seeks to improve the security of resources in a public cloud and simplify

network deployment. In the VPC, a User can connect Elastic Cloud Servers (ECSs) to the Internet by assigning Elastic IP addresses to them.

Users can build several VPCs and allocate their virtual machines and storage media within such VPCs. Subnets and security groups can be added to VPCs to allow further security functionality and access privileges.

VPCs can be configured for connection to other networks via (i) the Internet, (ii) VPC peering or (iii) Direct Connect.

VPCs can also be configured by the User to enable secured IPsec VPN tunnels over (i) the Internet and (ii) network connections.

- 1.2.3.7 **Elastic Load Balancer ("ELB").** ELB is a service feature that automatically distributes access traffic to multiple ECSs across Availability Zones. Configured by the User, ELB seeks to eliminate single points of failure (SPOFs).

ELB can be combined with the Auto-Scaling service.

ELB is usable for public network traffic load balancing as well as private network traffic load balancing.

- 1.2.3.8 **Elastic IP ("EIP").** With the EIP service feature, Users can set up a public IP address for the VPC, making services within the VPC available via the Internet.

- 1.2.3.9 **Elastic Volume Service ("EVS").** The EVS feature provides block storage designed for faster access to data. Block storage must always be associated with a Virtual Machine. EVS provides the flexibility to the User for sizing its desired storage size to its need.

- 1.2.3.10 **Object Storage Service ("OBS").** The OBS feature provides on-line storage for a small and large dataset. It is an Internet-oriented service providing web service interfaces (WSIs) over hypertext transfer protocol (HTTP) and hypertext transfer protocol service (HTTPS).

Data in OBS can be uploaded and downloaded independently from the Virtual Machine directly from the Internet or within the VPC.

The User does not need to reserve the volume capacity and is only charged for the size of files hosted in the OBS on a 'pay per use' basis.

- 1.2.3.11 **Image Management Service ("IMS").** An image consists of a common operating system (OS), preinstalled public applications, and the User's private applications. When creating an ECS, the User will select an image to be installed on the ECS.

IMS allows the User to use public images pre-provisioned by Orange with mainstream operating systems installed or to use its own private images. These private images come from duplicated images of an existing ECS or from external sources with certain operating system compatibility.

Some operating systems are free of charge and some shall be additionally chargeable.

- 1.2.3.12 **Cloud Eye Service ("CES").** The CES feature collects and displays usage statistics from the different services of Flexible Engine (ECS, EVS, ELB, VPC, AS, and RDS). The User can also create and manage alarm rules, and set up a real-time notification based on the metrics monitored.

- 1.2.3.13 **Volume Backup Service ("VBS").** The VBS feature allows the User to perform a snapshot-based backup of the EVS disks. VBS web interface allows later restoration of EVS disks, such as system and data disks of ECSs from the VBS backups. Users can leverage VBS to recover VM system and data disks in case of a failure of such disks.

- 1.2.3.14 **Anti-distributed denial of Service ("Anti-DDoS").** The Anti-DDoS feature provides a tool against distributed denial attacks for Tenants by encapsulating anti-DDoS device functions. Tenants can configure anti-DDoS thresholds on the Elastic IP based on leased bandwidth and traffic models. The Anti-DDoS promptly notifies the Tenant of the defense status of websites after detecting attacks. It also provides weekly security reports.

- 1.2.3.15 **Identity and Access Management ("IAM").** The IAM service feature centrally controls Users' security certificates and Users' access policies (which include an access control list). All APIs used for Flexible Engine Services (as well as access to the Flexible Engine Console) are protected by authentication and authorization controls by the IAM service feature.

- 1.2.3.16 **Cloud Container Engine ("CCE").** The CCE service feature enables the User to deploy the User's micro-service applications within Docker™ containers into Kubernetes™ orchestrated clusters. A graphical application orchestration tool is provided for Users to create and deploy applications.

CCE enables the management of private images, clusters application templates, component templates, and applications' CPU and memory usage with a graphical display.

CCE also enables Users to update an existing application to new version. It also provides Users with an application elastic scaling that allows the scaling of CCE resources (based on load conditions of applications) to flexibly respond to Internet traffic changes.

The CCE service feature is compatible with the following other features of the Flexible Engine Services: Elastic Cloud Server (ECS), Virtual Private Cloud (VPC), Object Storage Service (OBS), Identity and Access Management (IAM), Elastic Load Balance (ELB), and Elastic Volume Service (EVS).

- 1.2.3.17 **Relational Database Service ("RDS").** RDS is a cloud-based online relational database feature that provides standalone and primary-standby deployment modes (based on the database (DB) engines). The database installation and deployment are performed automatically by RDS. RDS also provides some tools for database operation and maintenance (O&M), including backup and point-in-time restoration, monitoring, and migration.

- 1.2.3.18 Map Reduce Service ("MRS").** With the MRS, Users can use Hadoop, Spark, HBase, and Hive services (as described or defined below) to create clusters and provide storage and computing capabilities for large data analysis or real-time processing.
- Hadoop is a distributed system infrastructure that provides parallel computing for large data sets.
- Spark is a distributed batch processing framework. It provides analysis, mining and iterative memory computing capabilities, and supports application development in multiple programming languages. Additionally, it provides Spark SQL, which enables data to be queried and analyzed using structured query language statements.
- Hadoop Database ("**HBase**") is a column-based distributed storage system that seeks to provide high reliability, performance, and scalability. HBase is designed to supplement relational databases in processing large data.
- Hadoop Distributed File System ("**HDFS**") features high fault tolerance and provides high-throughput data access, applicable to the processing of large data sets. After being processed and analyzed, data is encrypted by using Secure Sockets Layer (SSL) and transmitted to the OBS service feature or HDFS.
- Hive is a data warehouse framework built on Hadoop. It stores structured data using the Hive query language ("**HQL**"), a language similar to the SQL. Hive converts HQL statements to MRS or HDFS tasks for querying and analyzing large data stored in Hadoop clusters.
- 1.2.3.19 Resource Template Service ("RTS").** The RTS feature is not yet released for operational use but is available in beta (development) mode.
- The RTS feature is used to automate the deployment of Flexible Engine Services. Instead of activating and configuring the service features one by one (e.g. VPC, then ECS, then EVS, etc.), the User can describe each step of the full stack of service features activation and parameters into a RTS template file. The User can then launch the activation of the RTS template file using the RTS API.
- The benefit of RTS is that the User is able to reuse the RTS template file multiple times. The User can share the file with other Users. RTS makes architecture deployment replicable, eases troubleshooting, and saves time by reusing RTS templates.
- As RTS keeps track of the architecture and resources deployment in a so-called "stack", the User can request the status of a stack, and the deletion a stack. In the case of a deletion request, RTS will handle the deletion of all the resources pertaining to such stack.
- 1.2.3.20 Baremetal Server.** The Baremetal Server is a physical server intended for use by individual Tenants, which can be used with other features of the Flexible Engine Services (such as VPC).
- In requesting a Baremetal Server, a User will indicate the type of server, the image (as defined in Clause 1.2.3.11) and the network configuration.
- The subscription and invoicing for Baremetal Service are based on a monthly basis. The first month's Charge shall be calculated on a pro rata basis until the end of such month and all subsequent months (including the last month) shall be charged in full for each month.
- 1.2.3.21 VPNaaS.** The VPNNetwork-as-a-Service feature is a function of the VPC which allows the creation of a secured IPSec tunnel from the VPC to another IPSec endpoint (such as another VPC within the Flexible Engine Services) or over the Internet to external infrastructure. This feature is charged on a usage basis.
- 1.2.3.22 Security Group.** The Security Group feature acts as a virtual firewall for an ECS to control inbound and outbound traffic. Security Groups act at the instance (VM) level. The User can create and edit rules for this feature by specifying the source and destination IP addresses, port numbers and protocols. The Security Group feature is not chargeable.
- 1.2.3.23 Internet Access.** The Flexible Engine Services are available over the Internet as a default access (via an authenticated login and password). The User can configure VPC, EIP, and Security Groups such that ECS can access to the Internet. Outbound traffic to public addresses is charged on a volume (of traffic) basis.
- 1.2.3.24 Direct Connect.** The Direct Connect feature is a service for directly connecting a customer network to VPC without using the Internet. This direct connection may be through a cross connect called 'FE Dedicated Port' (1 or 10Gbps ports) or through a network provider (supported networks are Orange's 'Business VPN Galerie' and Equinix's 'Cloud Exchange'). The monthly Charge is based on the subscribed bandwidth and does not include (i) transport charges for the network provider and (ii) any other charges to deploy and connect customer routers to this Direct Connect feature.
- 1.2.3.25 Workspace.** Workspace is a Desktop-as-a-Service (DaaS) feature that allows the Customer to provide Users' virtual and cloud-based Microsoft Windows' desktops, from certain supported devices. The Workspace feature can be subscribed on (i) a fixed monthly Charge basis for unlimited usage or (ii) a monthly Charge on a usage (hourly) basis.
- 1.2.3.26 Open APIs.** The APIs that are available within the Flexible Engine Service are 'RESTful' APIs (based on OpenStack).

1.3 Support Plans for Flexible Engine

The Customer must select one of the following four support plans for the Flexible Engine Services.

- **Basic support plan:** provides support documentation and online FAQs, for independent viewing (which is available for all customers of the Flexible Engine Services).
- **Standard support plan:** designed for customers whose use of the Flexible Engine Services is intended for application developments (excluding production applications).
- **Business support plan:** designed for customers whose use of the Flexible Engine Services is intended for production applications.
- **Premium support plan:** designed for customers whose use of the Flexible Engine Services is intended for demanding production applications.

The Standard, Business, and Premium support plans are options with different Charges (whereas the Basic support plan is provided without additional charge).

A support plan is subscribed for a minimum of six months. During such minimum period, the Customer may change the current support plan to a higher support plan and the minimum period shall then be extended for a further six months on the new higher level subscribed.

Any such change to the support plan shall take effect at the beginning of the calendar month immediately following the election of such change.

Further details of the support plans are available upon request.

1.4 Charges for Flexible Engine Services

1.4.1 The Charges for Flexible Engine Services shall be listed or referred to in the Order(s) for Flexible Engine Services.

1.4.2 Customer acknowledges that the Charges for Flexible Engine Services may be updated by Orange from time to time.

1.4.3 In the event that the Charges are increased, the Customer will be made aware of such increase(s) (by publication or otherwise) at least fifteen (15) days before the effective date of the revised Charges.

1.4.4 In the event that the Charges are decreased or there is a temporary promotional offer on a specific service feature of the Flexible Engine Services, the Customer will be made aware of such decreases or promotional offers (by publication or otherwise), on or before the effective date of the revised Charges.

1.4.5 In the event that there are new or updated Charges following the release of (a) a new service feature of Flexible Engine Services or (b) a service feature described above in this Service Description but which had not been available, the Customer will be made aware of such Charges (by publication or otherwise), on or before the release date of such service feature.

END OF SERVICE DESCRIPTION FOR FLEXIBLE ENGINE SERVICES