

Technical appendix to the Managed Applications Service Description - Managed RDS

Table des matières

1	DEFINITIONS	2
2	OBJECT	2
3	SERVICE PRESENTATION	2
4	FONCTIONNALITES	2
4.1	RDS COLLECTION	3
4.2	REMOTE DESKTOP SESSION HOST (RDSH).....	3
4.3	REMOTE DESKTOP CONNECTION BROKER (RDCB).....	4
4.4	REMOTE DESKTOP WEB ACCESS (RDWEB)	4
4.5	REMOTE DESKTOP LICENCE SERVER (RDLIC)	4
4.6	REMOTE DESKTOP GATEWAY (RDGTW).....	4
4.7	CERTIFICATS SSL	4
5	INFRASTRUCTURE	4
6	OPTIONAL SERVICES	6
6.1	USER PROFILE DISK (UPD).....	6
7	PRICING CONDITIONS	6
7.1	PRICING.....	6
8	SERVICE ACCESS	7
8.1	PREREQUISITE	7
8.2	COMMISSIONING	7
8.3	MAINTAINING OPERATIONAL CONDITIONS	8
8.3.1	<i>Monitoring</i>	8
8.3.2	<i>Backup</i>	8
8.3.3	<i>Management</i>	8
9	SUPPORT	9
9.1	CHANGE MANAGEMENT.....	9
9.1.1	<i>In catalog changes</i>	9
9.1.2	<i>Specific (out of catalog) changes</i>	9
10	ANNEXE1	9

1 Definitions

In addition to the definitions in the General Terms and Conditions and the Specific Terms and Conditions for Integration, Maintenance and Related Services, the following specific definitions apply to this Service Description.

AD: Active Directory (AD) is Microsoft's LDAP directory, role based, which provides a single, consistent access point for users, applications and devices. All data is hierarchical, replicated and extensible.

2 Object

The purpose of this Service Annexe is to define the conditions under which Orange Business provides the "Managed RDS" service (hereinafter the "Service") to the Customer.

It is attached to the "Managed Applications - Service Description" document.

3 Service presentation

As part of this service, the Service Provider manages the Customer RDS hosted on a Public Cloud IaaS infrastructure from the list below..

- Orange Business
 - Cloud Avenue
 - Flexible Engine

- Partnership
 - AWS (in roadmap)
 - Microsoft Azure (in roadmap)
 - Google Cloud (in roadmap)

Managed RDS is based on complementary services:

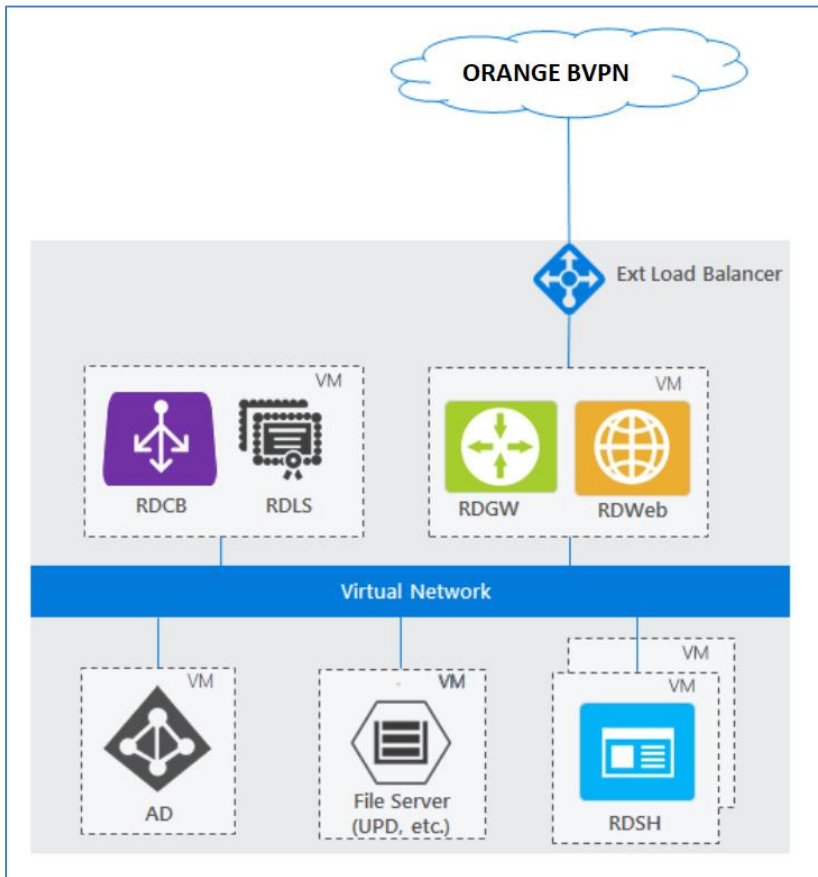
- One Managed AD
- SSL certificates, self-signed or issued by a recognized certification authority

Prerequisites :

- Subscribe to an IaaS infrastructure offer to host the RDS service according to Orange Business recommendations.
- Subscribe to the Managed OS offer for the VMs where the components are hosted.
- Subscribe to Managed AD for the AD required to deliver the RDS service.

4 Fonctionnalités

The following diagram illustrates the functions that make up the service.



- RDS Collection
- Remote Desktop Session Host
- Remote Desktop Connection Broker
- Remote Desktop Gateway
- Remote Desktop Web Access
- Remote Desktop License server

4.1 RDS Collection

An RDS Collection groups Remote Desktop Session Host (RDSH) servers into separate farms (RDS Farm). An RDSH server cannot belong to 2 Collections at the same time.

The Session Collection is only supported with 2 types, depending on the resources published in it:

Remote Desktop :

- RemoteApp

These 2 resource types cannot be mixed in the same collection. An RDSH server assigned to a Collection hosts either RemoteApps or Remote Desktops, but not both.

For a collection of sessions, we designate:

- Users or groups of users with access to the collection.
- Optional shared storage space for user profiles

4.2 Remote Desktop Session Host (RDSH)

RDSHs are deployed on servers and have the role of running all session-based applications and providing published desktops to users. Users access applications or published desktops by launching client software (mstsc) available on Windows, MacOS, iOS or Android. Access can also be gained via a supported browser using the web client.

4.3 Remote Desktop Connection Broker (RDCB)

The RDCB has several roles. It balances the load between the various services published on RDSH servers. It manages user reconnections to retrieve their work sessions following a network outage, for example. It also keeps track of each user session connected to the RDS farm in a database. The information stored includes a session ID for each user, the user's name and the name of the server to which the user is connected. When reconnecting to a session, the RD Connection Broker redirects the user to his or her previous session.

4.4 Remote Desktop Web Access (RDWEB)

RDWEB enables users to access their remote offices and "Remote Apps" via a web portal. When an application is published and a user has been authorized to use it, it appears on the home page of the website after authentication. This component is based on the Internet Information Services (IIS) component.

The HTTPS protocol is used between customers and RDWEB, providing an encrypted communication channel. SSL certificates issued by a certification authority and recognized by client workstations must be installed on both server and client workstations. For development and testing purposes, this can be a self-generated, self-signed certificate. The certificate name must match the fully qualified domain name (FQDN) used to access RDWEB Access. Possible FQDNs include the external DNS name for the public IP address and the DNS CNAME record pointing to the public IP address.

Additional RDWEB virtual machines can be added to an RD Web Access farm to increase service availability and accommodate a larger number of users. An RDWEB Access farm with several virtual machines is configured with an external load balancer.

4.5 Remote Desktop Licence Server (RDLIC)

RDLIC enables users to connect to RD Session Host servers, which host desktops and published applications. Once activated, the RDLIC license server requires the installation of either "User" Client Access Licenses or "Device" Client Access Licenses. Whichever type of CAL you require, you need to install as many CALs as you have unique users or unique devices. The number of users connected at the same time is not the basis for counting the number of CALs required

4.6 Remote Desktop Gateway (RDGTW)

RDGTW provides a secure connection to Windows servers using the RDP protocol, plus a connection to the gateway using the TLS protocol.

4.7 Certificats SSL

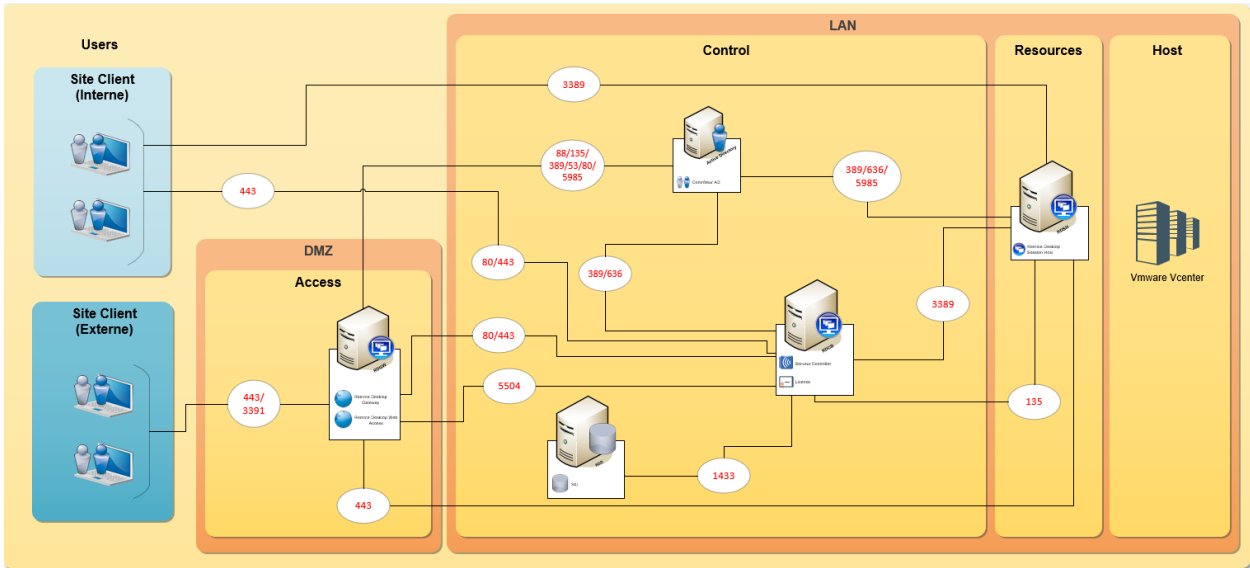
Each server used in the RDS solution has a digital certificate which is used to implement the SSL (Secure Sockets Layer) protocol and prove its identity to clients. Default certificates are self-signed and are not recognized by clients. It is therefore necessary to install certificates issued by a recognized certification authority.

4 certificats are used for RDS:

- RD Connection Broker – Publication
- RD Connection Broker – activate unique identification
- RD web access
- RD Gateway

5 Infrastructure

The following diagram illustrates the standard architecture recommended for rendering the RDS service.



The choice of infrastructure to subscribe on Cloud Avenue in order to offer the service depends on the number of users, anticipated usage and the level of support required, standard or premium. As presented in the service quality appendix, the premium support level ensures high availability and faster service recovery in the event of an incident. Cloud Avenue Tenant includes network access to the Internet only, with a minimum capacity of 10Mbits. Depending on customer usage, bandwidth adjustments may be subject to re-evaluation of quotas and billing. The customer's network connection needs to Cloud Avenue may require additional subscription to a high-performance/security link, which may be included in the offer.

As an example, here are 2 simulations with 2 levels of support:

1- Maximum 100 users

VM	Feature	Specifications				Quantity		Comments
		CPU	Ram (Go)	Disk1 (Go)	Disk2 (Go)	Standard	Premium	
Broker	RD Broker, Licence	4	8	100	20	1	2	
RD	RD Gateway, RD Web Access	4	4	100	NA	1	2	
RDSH		4	20	100	20	N + 1 (for test)	N + 1 (for test)	12 users per RDSH server, to be adjusted according to usage.
FS	File Server	4	8	100	(standard user size (500 Mo) X number of hosted users) x 1.2	1	2	
BDD	SQL Database	4	16	100	C:\OS 100Go D:\SOURCES 30Go	1	1	Express, standard or enterprise

VM	Feature	Specifications				Quantity		Comments
		CPU	Ram (Go)	Disk1 (Go)	Disk2 (Go)	Standard	Premium	
AD	Active Directory	2	8	150 (50 for local backup)	30	1	1	

2- Maximum between 100 and 300 users

VM	Feature	Specifications				Quantity		Comments
		CPU	Ram (Go)	Disk1 (Go)	VM	Feature	CPU	
Broker	RD Broker, Licence	4	8	100	20	1	2	
RD	RD Gateway, RD Web Access	4	4	100	NA	1	2	
RDSH		4	20	100	20	N + 1 For test	N + 1 for test	12 users per RDSH server, to be adjusted according to usage.
FS	File Server	4	8	100	(standard user size (500 Mo) X number of hosted users) x 1.2	1	2	
BDD	SQL Database	4	16	100	C:\OS 100Go D:\SOURCES 30Go	1	1	Express, standard ou enterprise
AD	Active Directory	2	8	150 (50 for local backup)	30	1	1	

6 Optional Services

6.1 User Profile Disk (UPD)

The User Profile Disk (UPD) stores the profile of each Remote Desktop user (%USERPROFILE%) in a separate VHDX (virtual disk) file. Such a profile disk is connected when the user logs on to Windows and will be disconnected when the user logs off (with changes to the profile being saved)

7 Pricing conditions

7.1 Pricing

The Service's pricing structure comprises :

- An access fee for the "Managed RDS" service, including all tasks mentioned in the implementation RACI, indexed to the number of servers and features to be configured.
- A monthly recurring fee to cover activities linked to maintaining the Managed RDS service in operational condition, indexed to the number of features and servers (minimum 2).

Service fees do not include :

- The price of the infrastructure that the Customer must also subscribe to with the IaaS provider according to the rates in force.
- Change requests.

8 Service Access

8.1 Prerequisite

The Managed RDS service is based on an IaaS service, to which the customer must also subscribe in accordance with the Service Provider's recommendations, and entrust it with the inherent Managed OS service.

It should be noted that the IaaS service corresponding to the AD will be invoiced as soon as it is put into service, without waiting for the Managed RDS service to be accepted.

8.2 Commissioning

The Service Provider uses an SRF (Service Request Form) document that you must complete before commissioning.

The purpose of this document is to present the standard settings we apply, and to collect your requirements (variable elements) in order to finalize the architecture to be deployed.

This document enables us to gather information on two aspects:

1. Physical architecture of the RDS service

- Minimum number of VMs
- VM location
- vCPU, vRAM and disk sizing for each VM
- Addressing plan

2. Logical elements of the service configuration.

- The name of each VM
- The OS required on the servers for the various functions

The table below shows the tasks and responsibilities involved in implementing the services described in §4.

Tasks		Orange Business	Customer
1	Provision of variable configuration elements in the SRF	C	R
2	Construction and presentation of SRF	R	
3	SRF validation		R
Infrastructure			
4	Provide the following FQDNs: RDCB = DNS "round robin name" of the RDCB RDWEB = Load balancer name Describe the functional acceptance tests at the end of BUILD	R	I
5	Deploy RDSH, RDCB, RDWEB and RDCLI roles Configure SSL certificates for an RDS farm Open the necessary flows between VMs, LB and users	R	
6	Deploy high availability for RDCB, RDLIC and RDWEB (for premium level) Configure VIP HTTPS on Load-Balancer and install certificate	R	
7	Configure Collections according to proposal or customer design	R	
8	Installing applications on RDSHs in multi-user mode	I	R
9	Provide RemoteApp Publications configurations (binary path and parameters if applicable) for all collections.	I	R
10	Publish a test application/desktop in RemoteApp in all collections	R	

Tasks		Orange Business	Customer
11	Installation of Managed OS supervision probes on all RDS servers Installation of probes with life tests on RDS Windows services (excluding applications), accessibility of HTTPS RDWEB service Installation of SQL SE service probes Implementation of "Managed OS" technical indicators for the entire farm	R	
12	Configuration of password backup, supervision and secure storage	R	
Remote App			
13	Installing applications on RDSHs in multi-user mode	I	R
14	Publish customer RemoteApps according to customer settings	R	I
15	Functional acceptance of BUILD input tests	I	R
R : Realize – A : Accountable – C : Consulted – I : Informed – V : Validate			

- Infrastructure commissioning acceptance criteria :
- Publication of the "calculator" in RemoteApp
 - Conclusive tests for control collections.

8.3 Maintaining Operational Conditions

The Service Provider carries out operations to maintain the RDS in operational condition, in addition to the OS required to provide the service.

The measures taken as part of this activity may be preventive or curative in nature.

The table below shows the tasks and responsibilities involved in operating the services described in §4.

Tâches		Orange Business	CLIENT
1	Operational readiness management of RDS service functionalities	R	
2	Backup (described in the following paragraph)	R	
3	Expression of need for all non-catalog requests	C,I	R
4	Evolution of the physical and logical architecture of the RDS service	R	C,I
5	Report any changes in RDS service requirements in order to adjust VM templates	C,I	R
6	Supervision of Windows RDS services (RDWEB, RDCB, SQL, RDLIC) excluding application services (described in the following paragraph)	R	
7	OS patch applications (RDS is included in the OS)	R	
8	Application of patches in RDSH and supervision of these services.		R
9	Requests to upgrade or modify the configuration of RDS architecture elements (outside the catalog)	R	
10	Review and implementation of change management requests	R	
R : Realize – A : Accountable – C : Consulted – I : Informed – V : Validate			

8.3.1 Monitoring

In addition to the monitoring offered as part of the "Managed OS" service subscribed to as a prerequisite, the Service Provider provides the following monitoring for Managed RDS:

- - Analysis of environmental performance data for preventive action.
- - Metrics to trigger alerts in the event of critical problems.
- - Processing of alerts raised by supervision

8.3.2 Backup

A standard backup is provided at the Managed OS level, to guarantee service availability in the event of problems.

8.3.3 Management

On the basis of supervision tools, the Service Provider monitors RDS usage metrics, which make it possible to

- - Monitor service behavior in real time
- - Proactively initiate troubleshooting following the detection of a supervision alert
- - Monitor trends over longer time scales

9 Support

As part of the support, the Service Provider provides :

9.1 Change Management

Change management is part of our common managed services model

9.1.1 In catalog changes

Change requests are presented in the § "Change catalog".

The Service Provider prepares the implementation of a change in consultation with the customer. Once the request has been processed, the customer will be notified to validate and close the request.

9.1.2 Specific (out of catalog) changes

The operational team assesses the feasibility of non-catalog requests in 2 different ways:

1- Easy-to-qualify demand

The operational team provides feedback on the number of Tokens required for implementation and, if applicable, the infrastructure resources required and the resulting recurring service load. Following the customer's agreement, the request will be carried out and the following elements invoiced:

- - the number of Tokens debited from your package if you have subscribed to one, or outside your package,
- - additional infrastructure resources according to your Cloud infrastructure contract,
- - recurring service charge

2- Request for specific qualification

The operations team sends feedback to the customer, telling him to get in touch with his sales contact.

10 Annexe1

N° Tâche	Nom des tâches	Catégorie
RDS01	Removal of a type of virtual office (business groups, etc.)	Simple
RDS02	Create a new user desktop (existing desktop type)	Simple
RDS03	Specific modification of a user desktop (customization)	Simple
RDS04	Remove a specific customization from a user desktop	Simple
RDS05	Removal of a type of virtual office (business groups, etc.)	Simple
RDS06	Create a new user desktop (existing desktop type)	Simple
RDS07	Initial expert analysis to qualify a non-catalog or functional need	Simple