



Moving Your Infrastructure to the Cloud

White Paper | Parallels Remote Application Server

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Moving Your Infrastructure to the Cloud

Over the last few years, more and more companies have decided to move some or all of their IT infrastructure to a cloud-based solution. This white paper explains the main benefits of taking this step and how Parallels® Remote Application Server (RAS) eases this migration, helping your business reduce costs due to its complete integration with cloud and hybrid environments.

Why Move to the Cloud

There is a plethora of reasons why every business should move to the cloud. The below highlights some of the benefits your business would enjoy.

No hardware upgrades—always up to date

Cloud solutions are available in three different solutions: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). Since it's all hosted, IT administrators don't have to worry about the lifecycles of their servers' hardware or any device firmware update procedure. The provider guarantees that all systems are up to date, which also ensures the availability of your systems.

Reduced costs and overheads, and no upfront costs

Saving on costs is always a main objective of any business. Working on a system hosted in the cloud will substantially reduce business expenses, as it's not necessary to make any initial investment in hardware. Cloud providers offer flexible solutions, and you only pay for what you use. Transferring all your hardware to a cloud system will entail additional savings, such as energy expenditure and hardware or software maintenance costs.

Business continuity guaranteed, with automatic failover

Guaranteeing the availability of an IT infrastructure is not easy with a small budget. A service interruption may incur significant revenue losses—and even damage to the company's reputation. Cloud solutions offer business continuity based on service-level agreements supplied by the provider. Additionally, everything related to backups and infrastructure components will be taken care of by the cloud service, further ensuring business continuity and optimal performance.

In a hybrid scenario, an automatic failover between cloud and on-premise infrastructures can be configured in such a way that users are not affected by the unavailability of any of them.

Easy growth that's geographically independent

Many companies distribute their IT solutions in several geographically separate datacenters, either to keep their data as close as possible to the end user or to provide disaster-recovery solutions. Most cloud providers have different locations and can easily move data between them with a click of a button. Therefore, it is not necessary to worry about using a datacenter that has multiple locations, since cloud solutions offer the possibility of growing quickly, everywhere you need.

How Parallels RAS Makes the Move to the Cloud Easier

Parallels RAS is a complete virtual desktops and applications delivery solution that can be run on-premise, or as a hybrid or cloud solution. Its configuration and adaptability for different scenarios ease the process of migrating resources to the cloud.

Parallels RAS is easy to deploy

A fully functional Parallels RAS setup can be deployed in Microsoft Azure, Amazon Web Services™ (AWS), and Alibaba Cloud within minutes. With predefined machine templates, cloning capabilities, and a very simple configuration wizard, a complete Parallels RAS environment can be easily built to allow users to connect to your company's applications—from any device and anywhere. Version 17 will include the ability to create VDI templates on Azure, optimizing desktop pool management and its creation time.

Parallels RAS is also compatible with Azure Windows Virtual Desktop, an interesting solution for businesses planning the migration of their users' desktops to Windows 10. In addition, the RemotePC solution will be interesting in certain scenarios where existing virtual or physical machines have to be added to the VDI solution.

On-premise, hybrid, and cloud models

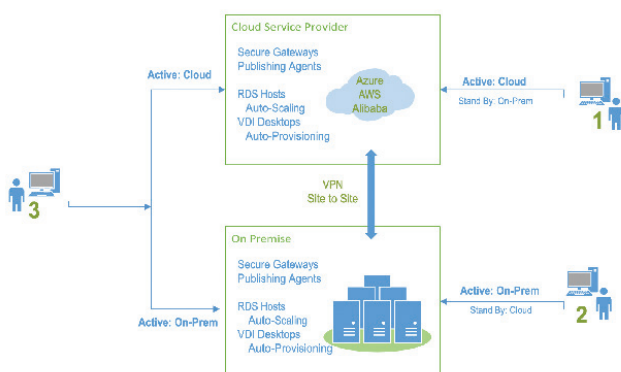
When Parallels RAS is deployed on a cloud service provider (CSP), it provides businesses with secure and complete access to their resources. There are three possible deployment models:

- On-premise: All Parallels RAS components are hosted in the business's datacenter and private cloud.
- Hybrid: Parallels RAS components are hosted both in the cloud and in the business's datacenter. All communication between the different components is encrypted with TLS, making it easy to load balance users between the two setups and share data.
- Cloud: All Parallels RAS components are hosted by the CSP. Even in this setup, the data never leaves the cloud provider, because users connect to virtual desktops and applications which access and host the data on the cloud.

In addition to the infrastructure security provided by your CSP, Parallels RAS provides a complete set of tools that enable businesses to fully control access to their data. Businesses can allow or restrict access to the data by user, hardware, IP address, gateway connection, and other criteria. The granular policies in Parallels RAS ensure you have total control of your data and who can access it.

Hybrid models: VPNs, active/active, and disaster recovery

The following diagram shows the three different ways users can connect to a Parallels RAS hybrid solution (cloud and on-premise).



These three scenarios are based on:

- A private connection between the CSP and on-premise installation of Parallels RAS. Microsoft Azure, AWS, and Alibaba Cloud allow you to use this setup. In addition to popularly used virtual private network (VPNs), companies can configure the following settings depending on the CSP they work with:
 - Microsoft Azure ExpressRoute: ExpressRoute connections do not pass through the public Internet network, offering more reliability, more speed, lower latency, and better security than normal connections over the Internet.
 - AWS Direct Connect: Direct Connect establishes a dedicated connection from Amazon Virtual Private Cloud (VPC) to an on-premise network. This private connection reduces network costs, increases bandwidth throughput, and provides a more consistent network experience than Internet-based connections.

- Alibaba Cloud Express Connect: Express Connect helps you improve the flexibility of your network topology and the quality of cross-network communications between your private cloud and on-premise network.
- The flexibility of the Parallels RAS Publishing Agent (PA) configuration allows IT administrations to redirect users either to the cloud or to the on-premise installations based on the best criteria at any given moment.

Auto-provisioning and auto-scaling

CSPs usually have a pay-as-you-go billing method. This charges based on usage—therefore, an optimal resource allocation implies an optimal money investment. Parallels RAS offers an auto-scaling service that automatically adjusts resources based on the volume of users and requests. This feature is already offered for Parallels RAS on-premise deployments and will be available for Azure in the next version (17). Meanwhile, PowerShell scripts can be created to perform this task (or any complex configuration or repetitive task) due to the Parallels RAS enhanced PowerShell API.

When there is an increase in requests, new resources such as RDS hosts and VDI desktops are automatically added. The infrastructure can cater to the additional incoming connections with high-quality service and the required end-user experience. Alternatively, in case of decrement, unnecessary resources will be removed automatically, thus using the least possible resources to run.

The process of increasing and decreasing resources happens automatically within minutes and without disruptions. This is thanks to compatibility with machine-cloning technologies and its own personalization tool (RASPrep).

In addition, version 17 of Parallels RAS will include a VDI auto-provisioning feature, enhancing the user experience and your business operational efficiency.

Step Forward Toward Cloud Solutions

Although it does not seem like an easy task to tackle, a growing number of businesses are taking the step forward toward cloud solutions. The short- and medium-term cost savings—and the guarantee of businesses continuity—are the main reasons to migrate.

The compatibility of Parallels RAS with different CSPs (and its flexibility and ease of configuration) make this migration process much easier and cost effective. We recommend you begin with a hybrid scenario and gradually migrate resources and users to the cloud.