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How Parallels RAS Enhances Azure Virtual Desktop, Creating a Unified Experience

White Paper | Parallels Remote Application Server

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Introduction

More and more organizations are evaluating hybrid or cloud solutions to address the challenge of transforming their End User Computing (EUC) infrastructure. Desktop and application delivery solutions provide administrators with a single control plane to provision and manage published resources while providing end-users with the capability to securely access their data and applications from any device at any time.

In this white paper, we provide an overview of one such desktop and application delivery solution: Azure Virtual Desktop. We also explain how Parallels® Remote Application Server (RAS) version 19 enhances this solution to create a unified experience for both administrators and end-users.

Overview of Azure Virtual Desktop

What Is Azure Virtual Desktop?

Azure Virtual Desktop is a desktop and application virtualization service that runs on Azure. Microsoft released this solution to help organizations transform their workplace by simplifying access to corporate information and applications, which also helps reduce the costs and management resources required to run an on-premises infrastructure. The main features and benefits of Azure Virtual Desktop follow.

Scalability and flexibility:

- Azure Virtual Desktop exclusively includes Windows 10/11 Enterprise multi-session capability. This enables organizations to optimize resource usage by minimizing the number of virtual machines running at once while also providing clients with a rich Microsoft 365 user experience.

- By using the Azure Shared Image Gallery, organizations can build and customize their own images, distribute them to different Azure regions and create Azure Virtual Desktop pools based on these replications.

- Host pools can be configured as "Personal" or "Pooled." Administrators can provide individual ownership by enabling users to use their personal desktop to always connect to the same specific virtual machine. When working with "Pooled" host pools, all session hosts within the pool are shared among all authorized users.

Easier management:

- Management tasks can be completed using the Azure Portal, Azure Virtual Desktop PowerShell and REST interfaces.

- Administrators only need to manage templates and virtual machines—not infrastructural components, such as the roles required for a Remote Desktop Services setup.

Expanded, secure end-user access:

- Users can establish connections to their published desktops and applications from either native clients or any HTML5 web client.

- Published resources are securely accessed through reverse connections, thus avoiding opening unnecessary inbound ports.

More information about Azure Virtual Desktop and its pricing can be found here.

Azure Virtual Desktop Architecture

In terms of service architecture, Azure Virtual Desktop is similar to Windows Server Remote Desktop Services. The main difference lies in who manages each component.

Components Managed by Microsoft

Microsoft manages the control panel of Azure Virtual Desktop solutions, which consists of the following components:

- **Web access:** Enables access to published applications and desktops through an HTML5-enabled web browser.

- **Gateway:** Connects remote users to their published resources from any device running a Azure Virtual Desktop client.

- **Connection broker:** Manages connections to remote desktops and applications, in addition to load-balancing incoming user-sessions.

- **Diagnostics:** Registers all actions made by users or administrators over the Azure Virtual Desktop setup as either a success or failure event.

- **Extensibility components:** Azure Virtual Desktop supports different administration methods, such as Windows PowerShell and REST APIs.

Components Managed by Organizations

Azure customers manage the following components of Azure Virtual Desktop deployments:

- **Azure AD:** Used for client authentication and access management, as well as the integration of different features such as conditional access and multi-factor authentication.

- **Active Directory Domain Services (AD DS):** Virtual machines used in a Azure Virtual Desktop deployment must be joined to an AD DS service, and the AD DS must be in sync with Azure AD to associate users between both services. Azure AD Connect can be used to associate AD DS with Azure AD. In addition, if Windows Server Active Directory is used, it needs to be synchronized with Azure AD either by using Azure AD Connect for hybrid organizations or Azure AD Domain Services for hybrid or cloud organizations.

- **Azure Virtual Desktop Session Hosts:** These are virtual machines thar run end-user workloads. Each session host has a Azure Virtual Desktop host agent and can have one or more application groups, which are sets of published applications or desktop sessions.

- **Host pools:** Collections of one or multiple identical virtual machines.

- **App groups:** An app group is a logical grouping of applications installed on session hosts in the host pool. It can be either *Remote App* where users access the applications you individually select and publish to the app group or *Desktop*, where users access the full desktop.

- **Azure Virtual Desktop Workspace:** Formerly Azure Virtual Desktop Tenant, Azure Virtual Desktop Workspace is a logical grouping of application groups which, when associated with workspace, provide users access to their published apps and desktops.

Additional information about supported virtual machine OS images and supported Remote Desktop clients can be found here.

How Does Parallels RAS Extend Azure Virtual Desktop?

Parallels RAS integrates and extends Azure Virtual Desktop capabilities by providing enterprises with unified workload and resource management. Let's take a closer look at how this works.

Simplified Deployment

Parallels RAS can be deployed on-premises, or via hybrid and multi-cloud environments. This enables organizations to group the delivery of legacy applications along with newer Azure Virtual Desktop workloads and other resources hosted over cloud service providers through a single control plane.

Parallels RAS also supports multi-tenant architecture, which ensures isolation among tenants and enhances environment security. When working with this design resource, usage is optimized because access layer components, such as the Secure Client Gateways (SCGs) and the High Available Load Balancers (HALBs), are shared among tenants.

Central Administration

Parallels RAS extends the capabilities of Azure Virtual Desktop by consolidating all workloads and resources within a central management point: the Parallels RAS Console. This enables organizations to deliver Azure Virtual Desktop workloads as part of a unified environment, completely integrating them with all other available resources in their Parallels RAS setup.

Parallels RAS can help companies overcome the challenge of deploying and configuring a Azure Virtual Desktop setup by providing wizard-driven capabilities to create workspaces, configure "Personal" or "Pooled" host pools, build custom or Azure Gallery-based templates and manage user assignments.

Enhanced User Experience

Parallels RAS optimizes the user experience when working with Azure Virtual Desktop workloads through the following built-in capabilities and features:

Automated image optimizations: Administrators can apply more than 130 pre-configured image optimizations for Azure Virtual Desktop workloads, thus optimizing host performance and providing a more efficient and streamlined delivery for virtual applications and desktops. Further, downgrading managed disks during power off provides automatic cost benefits.

HTML5 Web Client: Users are provided the flexibility of accessing Azure Virtual Desktop workloads from any browser on any device via the HTML5 web client.

Multiple Displays: Users can customize the multi-monitor experience by designating which monitor(s) present virtual desktops.

Accelerated file retrieval: File-caching capabilities optimize the communication between client devices and host servers. This feature provides the high-speed retrieval of local files in cases where published applications and desktops require access to information located on client drives, thus enhancing the user experience—even more so over poor-quality networks.

Session-prelaunch: When users open published applications, launching the underlying session can take some time. Consequently, the pre-launch feature improves the user experience by starting remote sessions before they are requested. Parallels RAS can be configured to pre-launch sessions either as soon as users get the application list or after an analysis of user habits based on machine learning techniques.

Universal printing and scanning: Both of these features are ready out-of-the-box, which enables users to access local printers and scanners without any extra configurations.

In addition, the Parallels Client integrates with the Azure Virtual Desktop client, providing instant access to Azure Virtual Desktop resources and client features along with other hosted applications and desktops. In other words, users can seamlessly access all resources from one place.

User Session Management

In terms of helpdesk assistance, user sessions can be centrally monitored or managed regardless of whether users are connecting to on-premises or cloud resources. Administrators can perform different administrative actions including disconnecting, logging off, remote control and managing processes directly from the Parallels RAS Console over sessions connected to Azure Virtual Desktop host pools.

Parallels RAS includes a complete set of metrics to provide administrators a comprehensive overview of user session details. The UX Evaluator is a quantitative indicator that calculates user experience by measuring the time elapsed between user interactions with a published resource and the corresponding response. It also accounts for different factors that can hinder a good user experience, such as network latency and remote host response time.

In order to completely analyze user sessions, Parallels RAS provides additional built-in metrics, such as logon breakdowns, the number of reconnects, reasons for disconnection and bandwidth usage. These metrics help administrators pinpoint issues faster and more accurately, and even proactively identify potential service degradations. Network metrics, such as round-trip time and latency, are also included.

How Does Parallels RAS Extend Azure Virtual Desktop/Applications

Applications are critical for the success of every virtualization project, and Parallels RAS enables administrators to easily deploy MSIX App Attach packages to Azure Virtual Desktop workloads.

User Session Management/Network Optimizations

With one click, RDP Shortpath can be enabled for Azure Virtual Desktop workloads, thus enabling UDP as the transport between the client and virtual resource. In addition, the UDP port range can be specifically designated.

User Environment Management

Microsoft FSLogix Profile Containers offer enhanced profile management capabilities over non-persistent remote computing environments, especially when used in conjunction with Azure Virtual Desktop. As the solution is based on the standard Server Message Block (SMB) protocol and Cloud Cache for purposes of resiliency and high-availability, Azure offers multiple storage solutions that can be used to save profiles, such as Azure Files or Azure NetApp Files.

Parallels RAS integrates the deployment, maintenance and configuration of FSLogix Profile Containers within the Parallels RAS Console. Administrators can manage the whole solution over a graphical user interface from the distribution of the FSLogix agent to manage advanced configuration, such as included or excluded users, folders to save and FSLogix registry settings. This means that FSLogix Profile Containers can be easily configured for Azure Virtual Desktop workloads as well as Remote Desktop Session Host (RDSH) and virtual desktop infrastructure (VDI) resources.

On-Demand Provisioning and Autoscaling

Parallels RAS includes the capability of automatically adapting available resources to dynamic single-session or multi-session workloads based on predefined settings and thresholds. The number of running hosts over Azure Virtual Desktop workspaces or Azure and on-premises VDI providers can be scaled up or down depending on user demand, thus ensuring efficient resource utilization and reducing costs.

When working with template-based Azure Virtual Desktop host pools, the Autoscale feature allows administrators to predefine different values, such as the maximum or minimum number of hosts to be added and workload thresholds to add or remove hosts on demand, thus contributing to cost savings and reducing management tasks. New standalone hosts can also be manually added to existing host pools from the Parallels RAS Console.

Additional details on the integration between Parallels RAS and Azure Virtual Desktop can be found in the Parallels RAS Joint Solution Brief with Microsoft.

Other Notable Features of Parallels RAS

Straightforward Installation

Parallels RAS enables organizations to build an application and desktop delivery solution in a very simple manner thanks to its easy, wizard-driven installation process. Once the product is installed, everything can be centrally managed from the Parallels RAS Console—even the deployment of additional core components, such as Secure Client Gateways, Publishing Agents and the RDSH role.

All-in-One Solution

Parallels RAS offers a single product edition that includes all enterprise features, such as application and virtual desktop delivery, load balancing, reporting, user-session management and high-availability. High Availability Load Balancing (HALB) virtual appliances are used to distribute loads among Secure Client Gateways, allowing organizations to build a high-availability application and desktop delivery solution over different sites and physical locations. For customers who already use Azure Load Balancer, Parallels RAS has been designed to provide optimized content delivery when accessing published resources.

Conclusion

Parallels RAS supports private, hybrid or multi-cloud deployments for ultimate flexibility and end-user productivity. IT organizations can reduce the management and infrastructure costs and complexities by using intuitive wizards and administrators can streamline, provision and manage Azure Virtual Desktop workloads and components such as workspaces, host pools and application groups.

Parallels RAS enriches, integrates and extends Azure Virtual Desktop capabilities by providing organizations with a unified administrative and end-user experience. From a single pane of glass—the Parallels RAS Console—administrators can configure and maintain Azure Virtual Desktop and other resources alike.

Users can also access resources directly from the Parallels RAS Client thanks to its integration with the Azure Virtual Desktop client under the hood. Users will not only benefit from a unified access point, but also from all Parallels RAS built-in features that sit on top of Azure Virtual Desktop Client native functionalities, thus enhancing user experience.

Learn more about how Parallels RAS enhances Azure Virtual Desktop.