



Parallels Remote Application Server v19 Release Notes

- Parallels Remote Application Server 19.2
- Parallels Remote Application Server 19.1
- Parallels Remote Application Server 19.3
- Parallels Remote Application Server 19.0

Parallels RAS Core

Parallels RAS Core v19.4-24962 (2 May 2024)

- New: Session Host Agent auto-upgrade.
- New: Support for SC//HyperCore version 9.2.
- New: Ability to enable HTTP host header attacks protection.
- New: Tunnelling policies can be enabled if the <Default> Theme is used and either the “Allow gateway tunneling connections” setting is set or the Secure Gateway or Parallels Client IP is excluded from MFA on the “Restrictions” tab.
- New: Email OTP MFA provider.
- New: Added an option to opt-in to Client Experience Program to the installer.
- New: "Allow view of Licensing information" permission for power and custom administrators.
- New: "Allow session management based on AD group membership" permission for custom administrators.
- New: Added the “Overwrite support actions with the following URL” option.
- New: Template versioning support for the Nutanix provider.
- New: Add applied policy information to the session information page and details window.
- New: Allows the administrator to clear user preferences from the Device Manager category. This will remove “Favorites” for all clients, EULA selection, and CEP Opt-In for User Portal.
- Improved: Universal printing performance by caching font information.
- Improved: Theme access settings and the URL can be easily viewed in the Theme’s general settings.
- Improved: Enrollment Agent template and smartcard logon certificate template can use a key size higher than 2048.
- Improved: Added Web Authentication to Standard Client Feature Set.
- Improved: Allowed an administrator to provide instruction prompts to users when they are asked for TOTP or Radius OTP.
- Improved: Template versioning is shown in a hierarchy tree structure.
- Improved: VDI Host pool status is shown where applicable.
- Improved: Template and version used for the host are shown.
- Improved: Alignment of control for the file transfer window.
- Improved: Ensure that the proper license information is provided to the user according to the settings and permissions.
- Improved: The number of archived log files can be set to more than five.
- Improved: Ability to drag the application to another monitor when maximized (requires Windows Registry setting WinArrangement).
- Improved: Ability to validate UPN credentials format for a Remote PC provider (static).
- Improved: Virtual machines are now shown as “Not available” if they are deleted from a hypervisor.
- Improved: Ability to import a certificate with the same fingerprint.
- Improved: Ability to change the initial time for Windows performance counters.
- Improved: Reduced the number of less informative logs.
- Improved: Universal Scanning support for “PaperStream Capture” and “PaperStream Clickscan” applications with Fujitsu scanners.
- Improved: Security when retrieving Secure Gateway logs.

- Improved: Forbid installation or attempts to start the file redirection cache driver on x86 operating systems.
 - Improved: VDI Agent stability.
 - Improved: Better recovery if communication with the Nutanix provider fails.
 - Improved: Bulk deleting of hosts on the Nutanix provider might log multiple “Failed to get information about VM” warnings.
 - Improved: Synchronization of Site settings is faster when changing Site defaults.
 - Improved: Clearly show if we use Hardware ID or MAC address in RAS Console.
 - Improved: Allows multiple providers with the same name.
 - Improved: Added validation in both the Theme properties and the “Connection” and “Authentication” categories.
 - Improved: Improved warning when Secure Gateway uses TLS 1.3 only.
 - Improved: Added a “Test” button wherever a URL is entered to validate it.
 - Improved: Added warning prompts when generating Tenant's keys.
 - Improved: Changed the text of the button or link to open the “Properties” window from “Change” to “View” when properties are read-only, .
 - Improved: Warning message related to template name patterns.
 - Improved: If the IP of an RDSH host created from a templated host changes, the direct address is updated automatically.
 - Improved: Guest Agent service hangs on stopping if the RasRdpFS service is not installed.
 - Improved: Endpoint agents take less time to be available for connection.
 - Improved: Moved logs “Start new transaction 0xC8563FED - CleanUpPersistentGuests transaction” to “Verbose” level.
 - Improved: Reduced the time required to restart the RAS VDI Agent service.
 - Improved: If a host is restarted while processing a schedule, the schedule will attempt to continue on restart.
 - Improved: Warn administrators if PC self-enrollment and SMTP are not configured.
 - Improved: Warn users about legacy templates that do not support versioning when switching to maintenance mode.
 - Improved: VDI host pools show status while adding or removing members.
 - Improved: FSLogix logs stating installation and downloading of packages.
 - Improved: VDI Agent service process closing time.
 - Improved: “Assign to VDI Host pool - Schedule” window default date is set to the current date.
 - Improved: Handling RD Session Host states when using a standby Connection Broker.
 - Improved: Unattend.xml is removed after a clone preparation is ready.
 - Improved: VMware template might be reported as non-template after exiting maintenance.
 - Improved: Provider has status updates in a faster manner.
 - Improved: Stability of VDI information with three Connection Brokers.
-
- Fixed: RAS Console, host, and template pages might show “Last used by” without a user in the description.
 - Fixed: RAS VDI operations caused in MS SCVMM duplicated VM instances.
 - Fixed: Favorites information is not saved if a user is not a domain user.
 - Fixed: Incorrect calculation for the FSLogix disk size.
 - Fixed: Font auto-installation does not work with AVD resources.
 - Fixed: Possible crash in 2XRedundancy service on closure.
 - Fixed: MSIX packages do not save profile information.
 - Fixed: Joining an AVD host pool sometimes fails.
 - Fixed: When trying to create an AVD Azure gallery template, it might fail with the generic status of “Agent Installation Failed”.
 - Fixed: When cloning a new RDSH host from an Azure VDI template, the clone might fail to be created with the following log: “disk.supportsHibernation' is not supported for this subscription/region.”
 - Fixed: VDI cloning might fail with the ‘FSLogix needs update’ state when the FSLogix version on the clone is correct.
 - Fixed: Unable to shadow devices due to missing productanalytics.dll.
 - Fixed: Provider Agent fails to communicate after a network outage.
 - Fixed: Restarting the Connection Broker service might result in hosts not being shown in RAS Console or Management Portal.
 - Fixed: Cloning a VM on AWS might not work correctly.
 - Fixed: Hyper-V cluster template fails to enter maintenance mode.

- Fixed: Template creation wizard does not filter all the hosts that were previously created from a template.
- Fixed: Device Manager export to CSV command fails.
- Fixed: FSLogix Cloud Caching Service might fail.
- Fixed: Logged off VDI/AVD sessions might still be visible in RAS Console or Management Portal.
- Fixed: VDI desktops can lose user or device assignments if the VDI provider is not reachable.
- Fixed: After an upgrade, RAS VDI clones have incorrect status. Status is “OK” while it should be “Needs update”.
- Fixed: Some template host naming patterns like "RAS-TEST%ID:1%" or “RAS-TEST%ID:0%” are not allowed.
- Fixed: Enrollment server erroneous log “Failed to unload user profile for...”.
- Fixed: Enrollment server logs with the “Unknown” algorithm name.
- Fixed: Distribution groups are hidden when browsing for AD objects.
- Fixed: RAS Console might show a "Failed to retrieve status information" error message after some time.
- Fixed: Default FSLogix settings for RDSH are not saved.
- Fixed: Possible crash when adding an AWS VDI provider.
- Fixed: In RAS Console, if you navigate to a Farm, Site, Site Defaults, or Secure Gateways, the settings are read-only.
- Fixed: Universal printing does not work if RAS TWAIN drivers are removed from "C:\Windows\twain_32".
- Fixed: Template version wizard does not allow to change tags if an administrator navigates back in the wizard steps.
- Fixed: When using the PDF format in Universal Printing, the last page might be smaller than the expected size.
- Fixed: Host used as RDSH template becomes VDI host after a template is deleted.
- Fixed: Templated VDI host might be erroneously removed after a user logs off from the client.
- Fixed: The file redirection cache driver might not show the correct files after the copy or rename operations.
- Fixed: Recreating a host from a new version of a template might fail.
- Fixed: RDSH Agent, Guest Agent, and Remote PC Agent might take a long time to shut down.
- Fixed: Some clones are marked as RAS templates on Nutanix 6.5.
- Fixed: If a template version fails, the status might be shown as “Creating version”, preventing further action.
- Fixed: If a host pool is disabled from RAS Console, incorrect information about its respective templated hosts is shown on the hosts' page.
- Fixed: When sending support requests, query information entered by the user might be incorrect.
- Fixed: When using TOTP, RAS Client might show two OTP providers.
- Fixed: RAS Console is getting stuck after clicking on add workspace for AVD.
- Fixed: Adding a new Connection Broker via APIs might result in a “Not verified” state of the new Connection Broker.
- Fixed: Schedules with messages might be triggered at the incorrect time.
- Fixed: Unable to save credentials for authenticated proxy.
- Fixed: Ensure proper context help is shown.
- Fixed: Template version windows do not show when and by whom the object was created and last modified.
- Fixed: Template host list window might not allow the administrator to recreate the hosts.
- Fixed: Hosts using VDI Provider Remote PC might show incorrect states, power state, or IP.
- Fixed: Changing the preferred Connection Broker for a non-Remote PC provider on a three Connection Broker system will change the provider server address, resulting in an invalid configuration.
- Fixed: Log Level for Enrollment Servers is not shown correctly in RAS Console and Management Portal.
- Fixed: Adding a new template for an AVD Provider might result in empty vCPUs and RAM values.
- Fixed: After upgrading to RAS 19.4, the templated cloned hosts could not be upgraded from the “Upgrade all agents...” window.
- Fixed: When using a VDI Remote PC provider, hosts might take some time to be available for use.
- Fixed: Incorrect AVD host details are exported if the host fails to be created.
- Fixed: Incorrect log message is shown when a Secure Gateway is uninstalled.
- Fixed: Font auto-installation is not working for AVD sessions.
- Fixed: After an upgrade, upgraded templates and recreated RDSH hosts might remain in the “Needs update” state.

- Fixed: Ensure proper device redirection channels initialization, which could potentially fail, affected by third-party applications.
- Fixed: When using a VDI Remote PC provider, hosts might lose assignments if the provider credentials are changed to invalid credentials.
- Fixed: Paused VDI hosts may fail to recreate on Hyper-V.
- Fixed: Sessions may not be shown for clones in RAS Console if a previously registered VDI template virtual machine is registered as a Remote PC.
- Fixed: "Recreate all hosts" option was not disabled for a VDI template in maintenance mode.
- Fixed: When creating VDI hosts from RAS Console, a smaller number of hosts than requested might be created.
- Fixed: Network instability during VDI host creation might lead to duplicate VDI host entries in RAS Console.
- Fixed: Possible failure while cloning with log error "Waiting for guest 'name'(ID) logoff took 600 seconds".

Parallels RAS Core v19.3.1.2-24624 (13 March 2024)

- Improved: Web authentication lookup for accounts now uses the Theme domain if configured.

Parallels RAS Core v19.3.1.1-24621 (29 February 2024)

- Critical Fix: File redirection cache could lock sessions until server reboot.
- Fixed: Automatic SAML session logon might not complete.
- Fixed: VDI desktop could be unassigned unexpectedly while switching a preferred connection broker for the VDI provider.
- Fixed: VDI desktop may fail to create if FSLogix is enabled in VDI host pool.
- Fixed: Host pool action to unassign host on session logoff might not work.

Parallels RAS Core v19.3.1-24619 (12 December 2023)

- New: Administrators can now allow users to force logoff their session
- Improved: Allow cloning and recreation from a template while it is in the 'needs update' status for the AVD provider.
- Improved: Ability to configure the request/response timeout for a public key from Enrollment Agent.
- Fixed: RAS Console: Fixed column sorting for numeric columns represented in text form (time values, bandwidth, etc.).
- Fixed: RAS Console: Added a checkbox to enable and disable Quick Keypads and Certificates in their respective properties window.
- Fixed: RAS Console: Validation fails when publishing "Unlimited" concurrent user license settings for non-English languages.
- Fixed: RAS Console: Removed suggestion to disable host pools after exiting maintenance mode for an RDSH template.
- Fixed: RAS Console: The delete option is always available for template versions.
- Fixed: RAS Console: The administrator may not be warned about some unassigned hosts after a RAS upgrade.
- Fixed: RAS Console: Template information may not be shown while removing a template from a host pool.
- Fixed: After an upgrade from 19.2.3, all RD session hosts created from a template are in the 'Not verified' state instead of the 'Needs update' state and cannot be recreated or deleted.
- Fixed: Possible crash when shutting down RAS Agent service.
- Fixed: RAS Console: Cannot save credentials for proxy settings.
- Fixed: AVD hosts cannot be created if the template VM has a public IP.
- Fixed: Failed to delete some guests while bulk deleting on Nutanix provider.
- Fixed: File redirection cache might provide invalid information which could crash applications (e.g. PowerShell).
- Fixed: Web authenticated session will continue to loop when locking the workstation.

- Fixed: A user may fail to connect to a VDI desktop if Parallels Client IP address is changed during the desktop preparation.
- Fixed: Possible crash when shutting down RAS Connection Broker service.
- Fixed: AVD host may not join a host pool if it was created to satisfy the "Keep available buffer" value.
- Fixed: Failed to install FSLogix 2210 hotfix 2.
- Fixed: An error could be logged in recreation or removal of a host despite there being none.
- Fixed: A user may fail to connect to a Remote PC VDI host.
- Fixed: A host needing an update may switch to an OK state after a schedule finishes running.
- Fixed: Hosts may not be assigned to pools after an upgrade to RAS 19.3 in a multi-site environment.
- Fixed: It is not possible to change the state for Universal Printing or Universal Scanning for VDI providers.
- Fixed: Upgrade from version 19.2.x to version 19.3.0 might result in unusable RDSH templates..

Parallels RAS Core v19.3.0.2-24520 (14 November 2023)

- Critical Fix: Potential crash on a session host after consecutive log-ins using web authentication.
- Fixed: When a new file is copied to a redirected folder on the local host, the remote application does not dynamically show the new file without requiring the user to reconnect.

Parallels RAS Core v19.3.0.1-24518 (26 October 2023)

- Fixed: In multi-user environment, Universal Printing works only for the first user

Parallels RAS Core v19.3-24515 (17 October 2023)

- New: Template versioning: you can manage and use different versions of a template, including tag assignment, scheduled recreation of hosts, and the ability to roll back to a previous version. This feature works for the following providers: VMware ESXi, VMware vCenter, Microsoft Hyper-V, Microsoft Hyper-V failover cluster, Microsoft Azure, and Azure Virtual Desktop.
- New: Move settings from templates and providers to host pools for easier management and better granularity.
- New: Ability to change user passwords via third-party IdPs.
- New: Support for FSLogix Office Containers.
- New: Support for FSLogix App Services, Cloud Cache, and Logging settings.
- New: Policy to control "Drive redirection cache."
- New: Policy to prohibit saving both the username and password on Parallels Client.
- New: AVD: Allow configurable friendly names for workspaces and host pools.
- New: Add multiple provider addresses configuration for the SC//HyperCore provider.
- New: Ability to recreate guests keeping the existing MAC addresses on SC//HyperCore provider.
- New: Ability to allow power on/off when using autoscaling for host pools.
- New: In a multi-tenant environment, you can opt not to show billing information in the Tenant's RAS Console.
- Improved: Support manual addition of templated ghosts for new RDSH host pools.
- Improved: Add the "Rename" item to the publishing context menu.
- Improved: Error message when pushing a RAS component fails.
- Improved: Terminology update: the terms "Host Pool" and "Host" are used across all technologies.
- Improved: When an RD Session Host is in drain mode due to a schedule, allow reconnection to existing sessions.
- Improved: Allow choosing the authentication mode when inviting users.
- Improved: Improved on-screen message and information in the log files when reporting no available resources.
- Improved: Upgraded to OpenSSL 3.0.10 (FIPS 3.0.8).
- Improved: Add support for TLS 1.3.
- Improved: Limit the RAS Browser Plugin to have one active installation only.
- Improved: In RAS Console, fix the Reporting category tab control when high DPI is used.
- Improved: Add power actions in the template host listing window.

- Improved: Increased time for RD Session Host to initiate performance counters if the machine is restarted due to possible failure.
- Improved: Some printers might not show up as being redirected with RAS Universal Printing.
- Improved: Maximized windows from applications built using WinDev framework do not show properly when using multi-monitor.
- Improved: Adding FSLogix logs when retrieving logs.
- Improved: Allow tenants to be easily moved to a new Tenant Broker.
- Improved: Diagnostics logs when importing or exporting settings, during version upgrades, using the VMware provider, and checking Load Balancing algorithms.
- Improved: Drag and drop files from the local machine to the remote application.
- Improved: The console shows as not responding when retrieving information about VDI hosts or templates.
- Improved: Diagnostics when a device is unassigned on logoff.
- Improved: Diagnostics when tags are removed, used by AVD and Azure provider.
- Improved: Diagnostics when registering a VDI provider agent.
- Improved: Error message and diagnostics for AWS Provider credentials with a valid key but wrong access level.
- Improved: Disable suspend action for the AWS provider.
- Improved: Support credentials of the form domain\username for Hyper-V providers.
- Improved: Log reason for failure to open a published application.
- Improved: Reduce duplicate log entries stemming from ACME-related functionality on non-primary connection brokers.
- Improved: Reduce duplicate log entries stemming from VDI Guest Agent related to the use of 2XVDIAgent configuration.
- Improved: RAS Console: Improved filtering on the administration auditing page.
- Improved: Removed unnecessary diagnostic logs.
- Improved: More information was added to the RAS Console Information category page.
- Improved: Tenant state when unjoined from Tenant broker or when disabled.
- Improved: The pushing of agents is now audited in the system audit with the transaction results.
- Improved: Diagnostic logs when pushing agents.
- Improved: Diagnostic when the endpoint server cannot order a remote session.
- Improved: Session information for AVD sessions.
- Improved: Change registry entry to override transaction timeout for RAS Console and PowerShell.
- Improved: RAS Console: added a description for templates.
- Improved: The FSLogix version is now set to 2210 HF 02.
- Improved: Add the TOTP type to MFA TOTP provider.
- Improved: RAS Console: add trusted domains to the domain list on the Authentication page within the Connection category.
- Improved: The console shows a warning message when the administration session is logged off due to a Connection Broker promotion.
- Improved: RAS Console: firewall rules are always set when installing agents via diagnostic agent check.
- Improved: Added retry after Azure VM disks cannot be deleted immediately.
- Improved: AVD Provider Agent is stuck in a synchronizing state for a long time. Reduce timeouts.
- Improved: Communication between multiple Connection Brokers on A Site have multiple IPs.
- Improved: Clean up of tags to an AVD host that failed to be added to a host pool so it could be reused.
- Improved: Decrease the time required to join the host pool by removing CustomScriptExtension and changing the method of rebooting the host.
- Improved: If Connection Broker is not working, Agents state is set to "Unknown".
- Improved: VDI sessions might be skipped when listing available sessions.
- Improved: Increased timeout for VDI guest agent to connect to the system, which could prevent clones from failing when the system is under stress.
- Improved: The secondary Connection Broker might not have the latest settings if the connection with the other Connection Brokers is recovered.
- Improved: RAS Console: A Secure Gateway configured in Forwarding mode cannot be switched to Normal mode.
- Improved: Multiple requests to delete the same template are suppressed.
- Improved: Reduce the frequency of retries if a provider is configured with the wrong credentials.
- Fixed: Possible crash in RAS Console when switching Sites/Farms while viewing RDSH Host pools.

- Fixed: The iTwo application home screen is not displayed properly when using Remote App.
- Fixed: RAS Console, Site page: sort by CPU, RAM, Disk read time, Disk write time, or Sessions might be incorrect.
- Fixed: RAS Console, Enrollment Servers category, AD Integration page: Certification Authority has incorrect value selected if sorting is used.
- Fixed: RAS Console, Load Balancing: when using read only, the keyboard still toggles state.
- Fixed: RAS Console, Policies, Client options, Advanced, Credentials: when using read-only, the keyboard still toggles state.
- Fixed: RAS Console, Policies: search is not working for the Credentials section.
- Fixed: RAS Console: the "Allow only clients with the latest security patches" prompt does not enable the option.
- Fixed: RAS Console: the preferred PA is not saved in VDI Azure and AWS provider settings.
- Fixed: RAS Console: the user cannot enter more than 3 digits in the Host Pool sessions limit.
- Fixed: RAS Console: possible crash when scrolling to the last entry of the auditing page.
- Fixed: RAS Console: audit information for a bookmark is missing information.
- Fixed: RAS Console: creating a policy and saving it without any changes will result in the policy not being created.
- Fixed: RAS Console: while creating a new Remote Desktop Session host pool, hosts might disappear after they were added after some idle time.
- Fixed: RAS Console, Policies, Client options, Connection properties, Local Resources: when using read-only, the keyboard still toggles state.
- Fixed: RAS Console: Add Provider wizard might not update the install/uninstall text when installing/uninstalling the Agent.
- Fixed: RAS Console, AVD Create template wizard: when switching between Azure gallery and a custom host, window content might not be updated.
- Fixed: RAS Console: AVD Host pool settings: "Use RDP Shortpath" is not enabled after checking "Manage RDP Shortpath."
- Fixed: RAS Console, Publishing Wizard: when selecting the type of desktop to use, "VDI Desktop" might be checked and disabled.
- Fixed: RAS Console: VDI template Site defaults show the RDSH optimization window.
- Fixed: If RD Session Host is not verified, the associated application packages might show an incorrect state.
- Fixed: Missing event log definition in Windows event logs originating from Parallels RAS.
- Fixed: RAS Console: the login window background image might show in the wrong place.
- Fixed: If you try to delete a Connection Broker that is in use, the prompt to delete has the wrong name.
- Fixed: When provisioning clones, creating a computer account might fail if using a SAM account format.
- Fixed: Log operations with Secure Proxy Gateway will not work if "Allow only Let's Encrypt verification" is enabled.
- Fixed: Possible crash when using SC//HyperCore provider and host cannot be accessed.
- Fixed: SAML Single Sign-On is not triggered when running on Windows 11 22H2 (Azure).
- Fixed: Long time to clean stranded printers, making the server not responsive.
- Fixed: App Attach applications might not be available after a reboot if the RD Session Host is provisioned from a template.
- Fixed: The device manager might show an incorrect "Last logon time" if services are rebooted.
- Fixed: VDI hosts might be removed from the system if there are network issues.
- Fixed: FS Cache driver signed for Windows 7.
- Fixed: AVD: provider state switching to synchronizing due to incorrect disk SKU processing.
- Fixed: AVD: creating a host from a template fails if the subnet has no address prefix.
- Fixed: Remote PC Agent might not report the correct log level.
- Fixed: Upgrade to Grafana v9.2.20 due to CVE-2023-3128.
- Fixed: Possible increase in memory if network instability is present.
- Fixed: Corrected "Logon duration" calculation in the session information.
- Fixed: Rare possibility that the Agent installer crashes after failing to retrieve the Active Power Scheme.
- Fixed: Possible resource leak when users log out from sessions in Connection Broker.
- Fixed: When installing the RAS agent on the Remote Desktop Session Host and enabling the RDP Role, the host might not be enabled.
- Fixed: Possible crash if Enrollment Agent Service takes too long to stop.
- Fixed: Some printer paper form names might not be redirected.

- Fixed: Some redirected printers might be displayed with unexpected names on a 2019 server.
- Fixed: Universal printer: server-side printer preferences show color options for b/w printer.
- Fixed: Theoretical crash in FSCache driver.
- Fixed: Deletion of a VMware linked clone disks might fail when exiting maintenance mode.
- Fixed: The user portal might not have the latest settings set on the system due to file locking.
- Fixed: When running an application published with the "-runexplorer" argument, an invalid window might appear on the client size.
- Dropped: Dropped universal printing retention option, which caused some redirected printers not to be available in all applications.

Parallels RAS Core v19.2.3-24005 (13 July 2023)

- New: Administration audit replication across all Connection Brokers can now be enabled or disabled.
- New: AVD Provider can match AD users by using objectGUID as a string.
- Improved: Moved logs related to authentication sessions to the extended level.
- Improved: If a Connection Broker is not verified, other agents' states will be unknown.
- Fixed: File Cache driver does not install on Windows 7 operating system.
- Fixed: After pushing a Guest Agent on a new Windows 10 Enterprise VM, RDS Role is not enabled.
- Fixed: Push installation via the RDSH wizard works only for the first RDSH.
- Fixed: A template might be deleted after being used in the maintenance mode.
- Fixed: If a published desktop has a startup application configured, session reconnection might provide the user with a new session.
- Fixed: If a user starts a desktop session as a member of the administration group, session reconnection might provide the user with a new session.
- Fixed: If the Enrollment Server is not connected to a Connection Broker, it will leak resources.
- Fixed: Clones may not be accessible from RAS Client if a template is added to a VDI pool with PowerShell.
- Fixed: Wildcards in MAC addresses are not handled properly in expression-based filtering.

Parallels RAS Core v19.2.2-23975 (29 May 2023)

- New: Automatically modify the license type of a host when it joins a host pool. You can also manually change the license type of any host within a host pool from Remote Application Server Console.
- Improved: Additional diagnostic logs to determine the cause of errors that can occur while retrieving a new certificate.
- Improved: Increased the allowed length of cipher strings for Secure Gateway and HALB Virtual Servers in SSL Offloading mode from 512 to 1024 characters.
- Improved: Decreased timeout for REST API calls from 15 minutes to 30 seconds for faster responses (affects Azure, AVD, Amazon EC2, and Let's Encrypt).
- Critical Fix: Connection Brokers might stop servicing new client connections requiring the service to be restarted.
- Fixed: Possible deadlock in the redundancy service.
- Fixed: Cloning an RD Session Host from a template intermittently fails on the Amazon EC2 provider.

Parallels RAS Core v19.2.1-23942 (18 April 2023)

- Fixed: RD Session Host Group might not be deleted if it is still linked to an orphaned and automatically deleted RD Session Host.
- Fixed: When upgrading from 19.1 to 19.2, templates with OS Disk type set to Premium SSD are changed to Standard SSD_ZRS.

Parallels RAS Core v19.2-23920 (12 April 2023)

- Critical Fix: Potential deadlock in Connection Broker service requires the service to be restarted.
- Fixed: Universal Printing does not work with Windows Server 2008 R2.

Parallels RAS Core v19.2-23906 (28 March 2023)

- New: Provide the ability to launch Azure Virtual Desktop sessions when using User Portal, Mac, and Linux Parallels Clients.
- New: Integration of MSIX app attach for Azure Virtual Desktop.
- New: Azure cost optimization for managed disks.
- New: Support for managing Azure Virtual Desktop Shortpath settings, including the range of ports to use for public networks.
- New: Support for VMware ESXi/vCenter 8.0.
- New: Ability to assign VDI desktops to client devices in addition to assigning based on users.
- New: Keep DRS (host-affinity rules) groups for recreated VMs for the vCenter provider.
- New: Keep the same VM hardware ID for recreated VMs for the ESXi/vCenter provider.
- New: Support for managing the RDP transport protocol for RD Session Hosts, VDI, and Remote PC sources.
- New: Microsoft authenticator as an MFA option under TOTP.
- Improved: When using Microsoft Hyper-V, guest VM may not be visible if cloned by export and import manually.
- Improved: Health checks on Azure Virtual Desktop hosts.
- Improved: New states for when Azure Virtual Desktop hosts are unavailable or upgrading.
- Improved: Upgrading RAS Guest Agent while Azure Virtual Desktop Agent is upgrading.
- Improved: While cloning, sysprep fails to join a VM to a domain if Microsoft update with CVE-2022-38042 protection is applied, and configuration is set with "Administrator" set, including the domain. Validation was improved not to allow such configuration.
- Improved: Delete any sparse disk files when entering/exiting maintenance mode.
- Improved: Duration of remote installation of RAS Guest Agent for VDI Pool.
- Improved: VDI Remote PC Power states and IP are not updated if 2XVDSAgent.exe is terminated.
- Improved: RAS Provider service is installed when installing RAS in Tenant Broker mode. Service is not required.
- Improved: When sending TOTP registration information to the client, UPN is used.
- Improved: RD Session Host status when reboot or shutdown is pending from a schedule.
- Improved: Host pools states in the case when multiple host pools have the same name.
- Improved: Reduced time for a host to join a host pool.
- Improved: Application published from packages fails to launch after some time due to the mount point being lost.
- Improved: Auditing information for remote Agent installation in the RAS Console.
- Improved: Status icon when the host state is "Optimization pending" or "Optimization in progress" in the RAS Console.
- Improved: Added context help to the Radius "Advanced" page in the RAS Console.
- Improved: Added icon information to the published items information page in the RAS Console.
- Improved: Added the "Delegate Permissions" action to RD Session Host Groups, HALB, Application packages, and Custom public addresses in the RAS Console.
- Improved: When selected from a list of known devices a new column denotes the operating system of the device in the RAS Console.
- Improved: Allow an easy way to clear the search criteria in the "Policy" window in the RAS Console.
- Improved: "Select Device" window now shows the operating system of each device in the RAS Console.
- Improved: Hosts should not be listed in the RAS Console if their provider is not verified.
- Fixed: Microsoft Hyper-V Failover Cluster agent is using the wrong interface to access other nodes.
- Fixed: Template test might fail during domain membership check while verifying target OU.
- Fixed: Shadowing a remote session might fail with the message "The version of Windows running on this server does not support user shadowing".

- Fixed: HALB device might not synch with Connection Broker and stay in the "Not verified" state.
- Fixed: Deploying desktops after adding a new template on ESX 8.0 could fail.
- Fixed: Restarting an Azure Virtual Desktop host could create unexpected logs in vdiagent.log.
- Fixed: Correct Gateway "Accepted SSL version" text. Before: "SSL v3 - TLS v1.2 (weak)". After: "SSL v2 - TLS v1.2 (weak)".
- Fixed: If you install RAS with a Gateway and a local RD Session Host and then remove the Gateway, memshell.exe will be removed from the system.
- Fixed: When using a dedicated VDI Agent remote installation might fail.
- Fixed: Automatic logon is not triggered when logging in using web authentication (SAML SSO) while remote applications are enabled on Windows Server 2022.
- Fixed: Manually assigning a user to a VDI desktop might result in the deployment of a different VDI desktop.
- Fixed: Switching RAS Console from a Tenant Broker to a Tenant without closing the application will result in the Tenant state shown as "Not Verified".
- Fixed: RAS template may fail to be created if the ESXi storage type is VMFS5.
- Fixed: Checking the credentials from the "Amazon EC2 provider properties" window multiple times will fail.
- Fixed: Session Information window might show incorrect value in "Logon durations" > "Others".
- Fixed: Agent settings tab missing in Guest VM properties.
- Fixed: Application packages are still present after an Azure Virtual Desktop host is removed from a host pool, or an RD Session Host agent is uninstalled.
- Fixed: RAS template might end up in the "Not available" state in a multi Connection Broker environment.
- Fixed: "This action cannot be completed because there is an active user session" might appear when opening the window to configure the Azure Virtual Desktop provider in the RAS Console.
- Fixed: If you press the "Default" button in the settings page of the TOTP provider wizard in the RAS Console, the name change could be incorrect.
- Fixed: While navigating in the publishing wizard, you might end up with incorrect application information if you switch between pools in the RAS Console.
- Fixed: Azure Virtual Desktop Host pool wizard template list contents does not change if you change the Host Pool type in the RAS Console.
- Fixed: "Status" column might not be shown by default on VDI Desktop page.
- Fixed: You cannot browse to an OU within the VDI Remote PC (dynamic) properties if you do not specify the full UPN in the RAS Console.
- Fixed: "Effective Access" windows might give wrong results if long usernames are used in the RAS Console.
- Fixed: Changing the Active Directory Domain Services type is not saved in the RAS Console.
- Fixed: Incorrect message warning about configuring optimization displays in RAS Console.
- Fixed: On failure of MSIX app attach staging, the notification email is sent twice.
- Fixed: Universal Printing "Duplex" and "Collate" options are wrongly made available/unavailable on the server printer.
- Fixed: Email notification for application packages issues uses the provider name instead of that of the host.
- Fixed: Incorrect "Suspend" option is available in the "Delete unused guest VMs after" in the Azure Virtual Desktop template properties window.
- Fixed: When the "Secure gateway port" and "Allow only Let's Encrypt verification" options are enabled, changing the Gateway's log level will fail.
- Fixed: Drag & Drop might freeze the window.
- Fixed: Incorrect Azure Virtual Desktop Agent might be reported once Agent is upgraded.
- Fixed: VDI application packages do not work when host is provisioned from a template.
- Fixed: URL Redirection might crash when URLs are very long (e.g., when using URL redirection for Teams).
- Fixed: Universal Printing and Universal Scanning settings are lost when migrating to 19.1.
- Fixed: Universal Printing might fail when printing through the web client.

Parallels RAS Core v19.1.2-23478 (28 February 2023)

- Improved: After AVD host pool removal, Guest Agent and tags are still present on the host.
- Improved: Allow changing timeout for network transactions between RAS Console and Connection Broker. Add detailed logs of the loading settings process.

- Critical Fix: CWE-15: External control of the system or configuration settings.
- Critical Fix: Controller service might stop responding after applying new settings.
- Fixed: Schedule can stop working.
- Fixed: Client policies that use the "computer" criteria do not work.
- Fixed: RAS Console crashes if viewing AVD hosts with AVD provider(s) disabled.
- Fixed: Web authentication asks for standard credentials.
- Fixed: In RAS Console, VDI template site defaults show incorrect settings.
- Fixed: Syncing of Connection Broker state fails when ID is larger than 7,000,000.
- Fixed: Redundancy service can fail to start servicing administration sessions due to corrupted files.
- Fixed: Potential crash when logging in using web authentication (SAML SSO) while remote applications are enabled on Windows Server 2022.

Parallels RAS Core v19.1.1-2.23477 (30 January 2023)

- Critical Fix: RAS Console might fail to complete the login process without restarting the redundancy service.

Parallels RAS Core v19.1.1-23476 (23 December 2022)

- Fixed: Information not sent to the Performance Monitor

Parallels RAS Core v19.1.1-23474 (9 December 2022)

- Improved: Added delegated permissions for power administrators for RD Session Hosts, HALB virtual servers, application packages, and custom public addresses.
- Improved: Stability when upgrading RAS Agent on an AVD host.
- Improved: Stability of RAS Agent while applying image optimization.
- Fixed: Runtime statuses for templates and hosts might not update when requested.
- Fixed: Template might get stuck on leaving maintenance after an upgrade.
- Fixed: Upgrading RAS components might fail due to missing firewall rules.
- Fixed: Some of the private printer settings changed through the printer preferences window might not be used in the remote application.
- Fixed: RAS Management Console might fail to load with the error "Failed to receive reply from Connection Broker."
- Fixed: When using AVD as a provider with templated personal host pools, an incorrect warning about reaching the maximum allowed hosts in the host pool is shown.
- Fixed: Published application windows have an erratic position when running alongside explorer.exe and using multi-monitor.

Parallels RAS Core v19.1-23468 (15 November 2022)

- New: Integration with MSIX app attach for VDI.
- New: Search for specific settings in the RAS Policies properties.
- New: Control Azure Virtual Desktop Multimedia redirection via policies.
- New: Upgrade all agents related to an Azure Virtual Desktop Host pool from the host pool page or properties window. In the host pool properties window the Registration column was changed to show the actual status.
- New: Support for Nutanix Acropolis (AOS) 6.5 LTS as a provider.
- New: RAS Policy to control dynamic desktop resizing for published applications.
- Improved: Ability to register public domain addresses when using a secret key for joining a RAS Tenant Broker.
- Improved: Create RemoteApp Application group only for Azure Virtual Desktop host pools with publishing type set to applications.
- Improved: Controller service, Redundancy service, Enrollment service, and VDI Host Agent service

updated to TLS 1.2.

- Improved: Decreased the size of the package when pushing an agent to an RD Session Host, VDI, Azure Virtual Desktop, or Remote PC.
- Improved: Autoscaling: Azure Virtual Desktop host pools might exceed the number of maximum allowed sessions if triggered after creating a pool with a predefined number of session hosts to be created.
- Improved: Host joining time when Azure Virtual Desktop autoscaling is triggered after creating a pool with the predefined number of session hosts to be created.
- Improved: Guest VM status and power state information.
- Improved: Before, when a template was locked by another admin session, the enter maintenance mode command was disabled. Now the command is enabled so that the correct information is provided to the administrator trying to enter maintenance mode.
- Improved: Show a warning when web authentication is not configured correctly.
- Improved: Improved priority for RD Session Host Agent status when server reboot pending and drain mode are both set.
- Improved: Ensure uniqueness for Application package IDs if all packages are deleted.
- Critical Fix: Possible crash when using drive redirection cache driver.
- Fixed: In RAS Console, items in Farm > Sessions > Resources are not shown when using grouping following a refresh of the list.
- Fixed: Check agent for any VM from the "Desktops" tab in the VDI category will result in "Agent did not reply, please install agent."
- Fixed: RAS Console log file not updated.
- Fixed: When using universal printing, printers might not be redirected if the previous session cleanup is not performed properly.
- Fixed: RAS template cloning might stall if running on a secondary Site.
- Fixed: Flow control in the session details is not available when FIPS is used.
- Fixed: When the primary connection broker becomes available after some time, a Secure Gateway may not reconnect to it.
- Fixed: Universal printing using raw format might not work, and a file will stay on the local spooler.
- Fixed: "Update all agents" option from the Site view might cause RAS Console to crash.
- Fixed: Possible crash in controller.exe when using the guest distribution feature.
- Fixed: Incorrect warning message when trying to delete a provider in use.
- Fixed: Possible crash when assigning users to desktops.
- Fixed: Log rotation fails for Shell-related log files.
- Fixed: Incorrect RAS template is created, where "Inherit default settings" is off on the "Image optimization" tab when using Site Defaults.
- Fixed: Possible crash on user logon, if no default theme is created on the Site after an upgrade.
- Fixed: RAS template will not exit maintenance mode when using multiple level folders and using ESXi and vCenter as a provider.

Parallels RAS Core v19.0.2.3-23340 (14 October 2022)

- Improved: Removed the option to use MFA in combination with Web authentication (SAML) to avoid conflicts of settings.
- Fixed: Missing filtering page for published applications using VDI sources.
- Fixed: Universal printing using raw format might not work and will stay on the local spooler.

Parallels RAS Core v19.0.2-23333 (30 September 2022)

- Fixed: Correct MFA criteria, which used AND logic instead of OR logic.
- Fixed: Management console may crash when clicking the add category in the expression based control used in MFA restrictions window.
- Fixed: When MFA and Web authentication (SAML) are both enabled, the option to disable MFA is ignored.

Parallels RAS Core v19.0.2-23329 (31 August 2022)

- Fixed: Parallels RAS Console does not detect new versions.
- Fixed: When upgrading templates, firewall port rules TCP 30010 and UDP 30009 are not retained.

Parallels RAS Core v19.0.1-23320 (11 August 2022)

- Improved: Added export and import of hardware IDs in all expression-based controls.
- Improved: Built-in support for FSLogix version 2201 hotfix 2 (2.9.8228.50276).
- Improved: 2XRemoteExec option is not available for single-session AVD host pools and could fail to work with a multi-session host pool.
- Improved: AVD host pool status when members need attention.
- Fixed: Invitation email is not sent if using Amazon SES as SMTP provider.
- Fixed: Resources published with AVD might not be listed in the Resources tab from the Sessions category.

Parallels RAS Core v19.0-23304 (28 July 2022)

- New: Amazon Web Services (AWS) as a cloud provider.
- New: MSIX app attach integration.
- New: Let's Encrypt certificate management.
- New: Expression-based publishing filtering.
- New: Theme criteria for publishing filtering expressions.
- New: Expression-based client policies.
- New: Power Management for RD Session Hosts, Azure Virtual Desktop, and VDI-based session hosts.
- New: Logon hours restrictions.
- New: Multiple Multi-factor Authentication (MFA) providers with the ability to assign to MFA provider to Theme.
- New: Terminology updates - "Publishing Agent" is now "Connection Broker", "Secure Client Gateway" is now "Secure Gateway", "VDI Agent" is now "Provider Agent", and "HTML5 Client/Portal" are now "Web client/User Portal".
- New: Specific URL redirection.
- New: Custom administrator permissions can be set to all publishing folders.
- New: Make use of the printer "Start printing immediately" option when using EMF formats.
- New: Streamline RDS groups and RDS templates deployment.
- New: Manage your RD Session Hosts template from the dedicated section in the RD Session Hosts section to simplify RDSH group management.
- New: Support of multiple NICs for VDI Guest Agent.
- New: Criteria for Notifications alerts.
- New: Connection Broker (Publishing Agent), Secure Gateway (Secure Client Gateway), User Portal (RAS HTML5 Gateway), Provider Agent (VDI Agent), Enrollment Server, Web Administration Service, Parallels RAS Console and PowerShell are supported on Windows Server 2012 R2 up to Windows Server 2022.
- New: Show the hypervisor type on which the hosts are running in the Site Information page and Agent Information window.
- New: Custom administrators' permission for RD Session Hosts is removed. You can manage permissions at RD Session Host group level since all RD Session Hosts are members of a group.
- New: Ability not to show specific errors from RADIUS servers to the end users. This is used to mitigate problems when some RADIUS servers fail to send a proper challenge reply.
- New: VMware ESXi supported versions are 6.5.0, 6.7.0, 7.x.
- New: Nutanix AHV AOS supported versions are 5.15, 5.20.
- New: Scale Computing supported versions are HC3 8.9, 9.1
- New: RD Session Host Agent is supported on Windows Server 2008 R2 up to Windows Server 2022.
- New: Built-in support for FSLogix version 2201 hotfix 1 (2.9.8171.14983).
- New: Azure Virtual Desktop sessions now make use of Microsoft's Azure Web Account ID. The minimum supported operating system for Azure Virtual Desktop sessions is Windows 10.
- New: SAML SSO Authentication branding from Registry.
- New: Support for TLS 1.2 SMTP servers.

- Improved: Authentication support when using SAM account name and UPN formats for user login. This removes multiple authentication attempts done during authentication. The Pre-Windows 2000 login format is deprecated when new clients are used.
 - Improved: Graceful power off for clones during VM recreation.
 - Improved: Enable High Availability for Provider Agent in case it is assigned to a preferred Connection Broker.
 - Improved: Auto-populate Subnet masks fields based on IP address in the RAS console.
 - Improved: Improve usability by moving all providers to a common page.
 - Improved: Client updater information data is now retrieved over HTTPS.
 - Improved: Restrictions on import and export of user settings now can be controlled separately under one policy.
 - Improved: Decreased joining time for a session host to join an Azure Virtual Desktop host pool.
 - Improved: Azure Virtual Desktop agent and bootloader are now automatically installed without the need for settings.
 - Improved: Session license consumption when sessions log out due to black hole effect.
 - Improved: Use the application folder if the configured application startup folder is not a valid one.
 - Improved: Do not show password complexity requirements if a UPN or domain is not specified.
 - Improved: Ability to open UWP application without RemoteApps mode. Requires additional application argument.
 - Improved: Search does not work in Published Explorer.
 - Improved: Additional logs for SAML automatic logon since sometimes user intervention is required to log on.
 - Improved: Improve Drag&Drop first response time (Cursor update)
-
- Critical Fix: Possible host crash due to RasRdpFs.sys driver.
-
- Fixed: FSLogix Cloud Cache configuration is not working correctly.
 - Fixed: When creating an Azure Virtual Desktop host pool, you cannot change the Publishing type and Load Balancer type fields for specific languages.
 - Fixed: Creating hosts from an Azure Virtual Desktop template might fail with the status "Cloning failed" after an attempt to join the host pool.
 - Fixed: Using some naming convention for a template will make clone creation from a Template fail.
 - Fixed: Guest VMs may fail to create.
 - Fixed: Inherited default site settings are not used on cloned VMs created from a Template.
 - Fixed: When using VMware as a provider, the hard disk files of the Template are not consolidated after exiting maintenance mode.
 - Fixed: When Microsoft Hyper-V is used as a provider and Connection Broker is running on Windows Server 2022, full clones may fail to create.
 - Fixed: RD Session Host group with autoscale configuration might remain empty.
 - Fixed: When an Azure Virtual Desktop template is unassigned from a host pool, the hosts are not removed from the host pool.
 - Fixed: Cloned VMs from a template are not deleted from a provider when the provider is removed from the distribution list.
 - Fixed: Deleting a template with multiple providers in its distribution list does not clean cloned VMs.
 - Fixed: Cloned VMs might be created on the wrong hypervisor when using a template with multiple providers in its distribution list when a request starts from a client connection.
 - Fixed: Cloned VMs from one of the providers on a multi-provider template may not be shown in the RAS Console.
 - Fixed: Incorrect action is made after a user logs out of the desktop when switching action from "Shutdown" to "Do nothing".
 - Fixed: Improved session cache data retention and memory utilization.
 - Fixed: Recreation of desktops will not register the machine again if it is to stay in the same organizational unit.
 - Fixed: RAS Console needs to be restarted if SSO is going to be used for the first time after logging in to the operating system.
 - Fixed: Universal printing using PDF format in certain environments might use a wrong page size.
 - Fixed: Importing IdP Metadata XML converts data to lowercase.
 - Fixed: After upgrade, the secondary Connection Broker can end up with the "Not verified" state.

- Fixed: When using Universal Printing, redirected printers may fail to be added to the system.
- Fixed: When using Universal Printing, printing from Microsoft Word 2019 using Brother printers might generate an invalid margin error.
- Fixed: HALB group in site view might show a wrong icon.
- Fixed: In rare circumstances, a wrong high-resolution icon might be stored.
- Fixed: When using Azure Virtual Desktop, if you delete a host from a host pool and then add the host to another host pool, the host will be unavailable and cannot be repaired.
- Fixed: If a user is assigned multiple desktops from different host pools and one of the pools is disabled, the user might not be able to start desktops from other host pools.
- Fixed: Application window might disappear.
- Fixed: Floating language bar remains even after exiting the published application and the session is not closed.
- Fixed: When printing using EMF format some printing settings selected in sessions are not used, instead the local printer settings are used.

RAS REST API

RAS REST API v19.4-24962 (2 May 2024)

- New: MFA Users APIs.
- New: Added MFA Validate and CheckConnection Controllers.
- Improved: Improved APIs documentation.
- Fixed: Autoscaler parameter doesn't work in the New RAS RDS Host Pool.
- Fixed: WorkLoadDrain parameter doesn't work in the New RAS AVD Host Pool.
- Fixed: Do not allow a template to be deleted if it is still in use.
- Fixed: AVD Workspace and Host pool do not allow empty descriptions or friendly names.
- Fixed: Resetting administrator permissions does not clear any dependent permissions (e.g. if you reset AllowViewingSite, it should automatically reset AllowSiteChanges).
- Fixed: Improve validation of arguments.
- Fixed: AVD-related commands should fail if a feature is disabled.
- Fixed: GetTemplateLicenseKey command is not working.
- Fixed: Issues with setting up IDP configuration.

RAS REST API v19.3.1-24619 (12 December 2023)

- New: Get-RASAVDPredefinedImages.
- New: Implement AVD HostPool User Assignment commands.
- Fixed: HostName parameter is ignored for New-RASAVDHostPool and Set-RASAVDHostPool.
- Fixed: New-RASCertificate fails to import the PFX file.
- Fixed: Error message when Get-RASTemplateStatus is called without specifying a template ID.
- Fixed: Get-RASVDIHosts might not return all the hosts available.
- Fixed: Some policy settings are not reflected in the system.

RAS REST API v19.3-24515 (17 October 2023)

- New: Introduce version 4 of the API and drop version 1.
- New: Schedule APIs restructuring.
- New: Templates APIs restructuring.
- New: Windows Device Groups APIs.
- New (experimental): AVD APIs.
- New (experimental): AVD Templates APIs.

- Improved: Terminology update: the terms "Host Pool" and "Host" are used across all technologies.
- Improved: Update FSLogix APIs.
- Improved: Change RDSScheduler to Scheduler and implement it for VDI and AVD.
- Improved: Update Windows device groups.
- Improved: Invoke-RASExportSettings supports the timeout argument.
- Improved: Add DisplayName to ImageOptimization WindowsComponent.
- Improved: Add the "Force" optimization option for all selected categories.
- Improved: Validation for FSLogix APIs.
- Improved: Validation for notification script arguments.
- Improved: Add the "Takeover" argument to Create Broker.
- Improved: Modify VDIHostStatus commands to be in line with other status commands.
- Improved: Create NotificationScript and add support for editing tags in AppPackages.
- Fixed: Some operations might result in insufficient permissions if using a custom administrator.
- Fixed: Agent diagnostic for a dedicated Provider Agent shows incorrect versions.
- Fixed: Invoke RDSSESSIONCmd might fail when issuing a log off command.
- Fixed: Correct validation for Modify InvitationEmailSettings "Email" parameter.
- Fixed: Cannot create or delete a Windows device groups inbound port when a profile is set as 'all.'
- Fixed: Retrieve/Remove PrintingAutoInstallFont does not work.
- Known Issue: Assigning template version tags to host pools is not supported.

RAS REST API v19.2.1-23942 (18 April 2023)

- Fixed: Updating the FSLogix Profile Containers Site Settings does not work.

RAS REST API v19.2-23906 (28 March 2023)

- New: api/EnrollemntServer/Status and api/EnrollmentServer/{id}/Status.
- New: LogonHours Theme controller - POST/GET/DEL /api/LogonHours/{id}/Criteria/Themes.
- New: Access in ClientPolicy controller - PUT /api/ClientPolicies/{id}/Rules/{ruleId}/Criteria.
- New: Add support for editing tags in AppPackages.
- Improved: Change Criteria/SecurityPrincipal to Criteria/SecurityPrincipals in MFA, MFADef, and LogonHours.
- Improved: Improve case sensitivity when adding assigned packages.
- Improved: Fix spellings in HypervisorTypeAll enum.
- Improved: Rename WVDApp and WVDDesktop to AVDApp and AVDDesktop in RASPubObject.
- Improved: Change EnableOverlayIcons to Overlay enum in Client Settings.
- Fixed: Add StringValue to Registry Optimizations.
- Fixed: Add missing values in NotificationType.
- Fixed: Fix backward compatibility for Rules when no rule is present.
- Fixed: Add missing values in HypervisorTypeAll.
- Fixed: Add missing TLS1.2 enum value in MailboxTLS.
- Fixed: Add missing Provider Types.
- Fixed: When "Secure gateway port" and "Allow only Let's Encrypt verification" are enabled, changing the Gateway's log level will fail.
- Fixed: Removed ADType from Azure provider.
- Fixed: Add Access to RASCriteria when ObjType is ClientPolicy.
- Fixed: UnjoinTenant might not report errors.

RAS REST API v19.1.2-23478 (28 February 2023)

- Improved: Correct CertificatePassword validation in SetWebAdminSettProc.
- Critical Fix:CWE-23: Relative path traversal.

RAS REST API v19.1.1.1-23476 (22 December 2022)

- Improved: When registering Application packages, icons are added to the backend to be used when publishing applications.
- Improved: When registering Application packages, certificate expiry is not set correctly; thus, staging would fail.

RAS REST API v19.1.1-23474 (09 December 2022)

- Improved: Improved POST /api/VDIPool/{vdiPoolId}/Members parameters validation.
- Fixed: When using POST /api/Provider/* provider name might be used as the hostname.
- Fixed: Assignment of an application package using PackageName fails.

RAS REST API v19.1-23468 (15 November 2022)

- New functionality to configure Application Packages:
 - ◆ /api/AppPackage/{id}: List, Create, Get, Update, Delete
 - ◆ /api/AppPackageAvailVersions: Get
 - ◆ /api/AppPackageSettings: Get, Update
 - ◆ /api/AppPackageSettings/Tags/{id}: Update
 - ◆ /api/RDS/{id}/AppPackageAssigned: Create, Get, Update, Delete
 - ◆ /api/RDSDefaultSettings/AppPackageAssigned: Create, Get, Update, Delete
 - ◆ /api/VDIPool/{id}/AppPackageAssigned: Create, Get, Update, Delete
 - ◆ /api/VDIDefaultSettings/AppPackageAssigned: Create, Get, Update, Delete
- New functionality to configure Logon Hours:
 - ◆ /api/LogonHours/{id}: List, Create, Get, Update, Delete
 - ◆ /api/LogonHours/{id}/Criteria: Get, Update
 - ◆ /api/LogonHours/{id}/Criteria/Devices: List, Create, Delete
 - ◆ /api/LogonHours/{id}/Criteria/GatewayIPs: List, Create, Delete
 - ◆ /api/LogonHours/{id}/Criteria/HardwareIDs: List, Create, Delete
 - ◆ /api/LogonHours/{id}/Criteria/IPs: List, Create, Delete
 - ◆ /api/LogonHours/{id}/Criteria/OSes: Get, Update
 - ◆ /api/LogonHours/{id}/Criteria/SecurityPrincipals: List, Create, Delete
 - ◆ /api/LogonHours/{id}/Criteria/Themes: List, Create, Delete
 - ◆ /api/LogonHours/{id}/DayPlan: Get, Update
 - ◆ /api/LogonHours/{id}/Order: Update
- New functionality to configure Tenant Broker joining:
 - ◆ /api/TenantBroker/Join
 - ◆ /api/TenantBroker/Unjoin
 - ◆ /api/TenantBroker/Status
- Improved POST /api/VDIPool/{vdiPoolId}/Members by supporting credentials in query

RAS REST API v19.0.1-23320 (11 August 2022)

- Fixed: api/RDSession: Get - RFIInfoList field is always empty and RFICount field is always 0.

RAS REST API v19.0-23304 (26 July 2022)

- New functionality to configure Farm Settings
 - ◆ /api/FarmSettings: Get, Update
- New functionality configure System Settings:
 - ◆ /api/SystemSettings: Get, update
- New functionality to configure AD Integration Settings:
 - ◆ /api/ADIntegrationSettings: Get, Update
 - ◆ /api/ADIntegrationSettings/validate

- New functionality to configure Enrollment Servers:
 - ◆ /api/EnrollmentServer: List, Create, Get, Update, Delete
 - ◆ /api/Agent/Diagnostic/EnrollmentServer: Get
- New functionality to configure SAML IDPs:
 - ◆ /api/SAMLIDP: List, Create, Get, Update, Delete
 - ◆ /api/SAMLIDP/{id}/Duplicate
- New functionality to configure LetsEncrypt:
 - ◆ /api/Certificates/GenerateLetsEncrypt: Post
 - ◆ /api/Certificates/{id}/Renew: Post
 - ◆ /api/Certificates/{id}/Retry: Post
 - ◆ /api/Certificates/{id}/Revoke: Post
 - ◆ /api/LetsEncryptSettings: Get, Update
 - ◆ /api/LetsEncryptSettings/EULA: Get
- New functionality to configure HelpdeskEmail:
 - ◆ /api/HelpdeskEmailSettings
 - ◆ /api/InvitationEmail/invite
 - ◆ /api/InvitationEmailSettings
- New functionality to configure Proxy Settings:
 - ◆ /api/ProxySettings: Get, Update
- New functionality to configure Client Settings:
 - ◆ /api/ClientSettings: Get, Update
- New functionality to configure URL Redirection
 - ◆ /api/URLRedirectionSettings: Get, Update
 - ◆ /api/URLRedirectionSettings/Entry: List, Create, Get, Update, Delete
- New functionality to configure BrokerAutoPromotion:
 - ◆ /api/BrokerAutoPromotion: Get, Update
- New functionality to configure Startup and Shutdown RDS Schedules:
 - ◆ /api/RDSSchedules: List, Create, Get, Update, Delete
 - ◆ /api/RDSSchedules/Disable: List, Create, Get, Update, Delete
 - ◆ /api/RDSSchedules/{id}/Disable/Messages : List, Create, Get, Update, Delete
 - ◆ /api/RDSSchedules/Reboot: List, Create, Get, Update, Delete
 - ◆ /api/RDSSchedules/{id}/Reboot/Messages: List, Create, Get, Update, Delete
 - ◆ /api/RDSSchedules/Shutdown: List, Create, Get, Update, Delete
 - ◆ /api/RDSSchedules/{id}/Shutdown/Messages: List, Create, Get, Update, Delete
 - ◆ /api/RDSSchedules/Startup: List, Create, Get, Update, Delete
- New functionality to configure Image Optimization
 - ◆ /api/Provider/{providerId}/VM/{vdiDesktopId}/Desktop/Optimization: Get, Update
 - ◆ /api/Provider/{providerId}/VM/{vdiDesktopId}/Desktop/Optimization/Registry: List, Create, Get, Delete
 - ◆ /api/Provider/{providerId}/VM/{vdiDesktopId}/Desktop/Optimization/WindowsComponent List, Create, Get, Delete
 - ◆ /api/Provider/{providerId}/VM/{vdiDesktopId}/Desktop/Optimization/WindowsScheduledTask: List, Create, Get, Delete
 - ◆ /api/Provider/{providerId}/VM/{vdiDesktopId}/Desktop/Optimization/WindowsService: List, Create, Get, Delete
 - ◆ /api/RDS/{id}/Optimization: Get, Update
 - ◆ /api/RDS/{id}/Optimization/Registry: List, Create, Get, Delete
 - ◆ /api/RDS/{id}/Optimization/WindowsComponent: List, Create, Get, Delete
 - ◆ /api/RDS/{id}/Optimization/WindowsScheduledTask: List, Create, Get, Delete
 - ◆ /api/RDS/{id}/Optimization/WindowsService: List, Create, Get, Delete
 - ◆ /api/RDSDefaultSettings/Optimization: Get, Update
 - ◆ /api/RDSDefaultSettings/Optimization/Registry: List, Create, Get, Delete
 - ◆ /api/RDSDefaultSettings/Optimization/WindowsComponent: List, Create, Get, Delete
 - ◆ /api/RDSDefaultSettings/Optimization/WindowsScheduledTask: List, Create, Get, Delete
 - ◆ /api/RDSDefaultSettings/Optimization/WindowsService: List, Create, Get, Delete
 - ◆ /api/VDIDefaultSettings/Optimization: Get, Update
 - ◆ /api/VDIDefaultSettings/Optimization/Registry: List, Create, Get, Delete
 - ◆ /api/VDIDefaultSettings/Optimization/WindowsComponent: List, Create, Get, Delete

- ◆ /api/VDIDefaultSettings/Optimization/WindowsScheduledTask: List, Create, Get, Delete
- ◆ /api/VDIDefaultSettings/Optimization/WindowsService: List, Create, Get, Delete
- ◆ /api/VDITemplate/{id}/Optimization: Get, Update
- ◆ /api/VDITemplate/{id}/Optimization/Registry: List, Create, Get, Delete
- ◆ /api/VDITemplate/{id}/Optimization/WindowsComponent: List, Create, Get, Delete
- ◆ /api/VDITemplate/{id}/Optimization/WindowsScheduledTask: List, Create, Get, Delete
- ◆ /api/VDITemplate/{id}/Optimization/WindowsService: List, Create, Get, Delete
- ◆ /api/RDS/Optimization/Predefined/WindowsComponent: Get
- ◆ /api/RDS/Optimization/Predefined/WindowsScheduledTask: Get
- ◆ /api/RDS/Optimization/Predefined/WindowsService: Get
- ◆ /api/VDI/Optimization/Predefined/WindowsComponent: Get
- ◆ /api/VDI/Optimization/Predefined/WindowsScheduledTask: Get
- ◆ /api/VDI/Optimization/Predefined/WindowsService: Get
- New functionality to configure multiple MFAs:
 - ◆ /api/MFA: List, Get, Update, Delete
 - ◆ /api/MFA/{id}/Criteria: Get, Update
 - ◆ /api/MFA/{id}/Criteria/Devices: List, Create, Get, Update, Delete
 - ◆ /api/MFA/{id}/Criteria/GatewayIPs: List, Create, Get, Update, Delete
 - ◆ /api/MFA/{id}/Criteria/HardwareIDs: List, Create, Get, Update, Delete
 - ◆ /api/MFA/{id}/Criteria/IPs: List, Create, Get, Update, Delete
 - ◆ /api/MFA/{id}/Criteria/OSes: List, Create, Get, Update, Delete
 - ◆ /api/MFA/{id}/Criteria/SecurityPrincipal: List, Create, Get, Update, Delete
 - ◆ /api/MFA/Deepnet: List, Create, Get, Update, Delete
 - ◆ /api/MFA/Radius: List, Create, Get, Update, Delete
 - ◆ /api/MFA/{id}/RadiusAttr: List, Create, Get, Update, Delete
 - ◆ /api/MFA/{id}/RadiusAutoInfo: List, Create, Get, Update, Delete
 - ◆ /api/MFA/Safenet: List, Create, Get, Update, Delete
 - ◆ /api/MFA/TOTP: List, Create, Get, Update, Delete
 - ◆ /api/MFADefaultSettings: Get, Update
 - ◆ /api/MFADefaultSettings/Criteria: Get, Update
 - ◆ /api/MFADefaultSettings/Criteria/Devices: List, Create, Get, Update, Delete
 - ◆ /api/MFADefaultSettings/Criteria/GatewayIPs: List, Create, Get, Update, Delete
 - ◆ /api/MFADefaultSettings/Criteria/HardwareIDs: List, Create, Get, Update, Delete
 - ◆ /api/MFADefaultSettings/Criteria/IPs: List, Create, Get, Update, Delete
 - ◆ /api/MFADefaultSettings/Criteria/OSes: List, Create, Get, Update, Delete
 - ◆ /api/MFADefaultSettings/Criteria/SecurityPrincipal: List, Create, Get, Update, Delete
- New functionality to get Desktop Status:
 - ◆ /api/Provider/{providerId}/VM/DesktopStatus: Get
- New functionality to manage RDSGroup:
 - ◆ /api/RDSGroups/status: List, Get
 - ◆ /api/RDSGroups/{id}/CancelDisabledState: Post
 - ◆ /api/RDSGroups/{id}/CancelPendingReboot: Post
 - ◆ /api/RDSGroups/{id}/CancelPendingShutdown: Post
- New functionality to configure PubItem Filters (Deprecate /api/PubItems/{id}/*Filters):
 - ◆ /api/PubItems/{id}/Rules: List, Create, Get, Update, Delete
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria: Get, Update
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria/Devices: List, Create, Get, Delete
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria/GatewayIPs: List, Create, Get, Delete
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria/HardwareIDs: List, Create, Get, Delete
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria/IPs: List, Create, Get, Delete
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria/OSes: Get, Update
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria/SecurityPrincipals: List, Create, Get, Delete
 - ◆ /api/PubItems/{id}/Rules/{ruleId}/Criteria/Themes: List, Create, Get, Delete
 - ◆ /api/PubItemsFilter/{id}/Filter: Get
- New functionality to configure Client Policy Assignment (Deprecate /api/ClientPolicies/{id}/*Filters):
 - ◆ /api/ClientPolicies/{id}/Rules: List, Create, Get, Update, Delete
 - ◆ /api/ClientPolicies/{id}/Rules/{ruleId}/Criteria: Get, Update
 - ◆ /api/ClientPolicies/{id}/Rules/{ruleId}/Criteria/GatewayIPs: List, Create, Get, Delete

- ◆ /api/ClientPolicies/{id}/Rules/{ruleId}/Criteria/HardwareIDs: List, Create, Get, Delete
- ◆ /api/ClientPolicies/{id}/Rules/{ruleId}/Criteria/IPs: List, Create, Get, Delete
- ◆ /api/ClientPolicies/{id}/Rules/{ruleId}/Criteria/OSes: Get, Update
- ◆ /api/ClientPolicies/{id}/Rules/{ruleId}/Criteria/SecurityPrincipals: List, Create, Get, Delete
- ◆ /api/ClientPolicies/{id}/Assignment: Get
- Improved terminology: Changed PA to Broker
 - ◆ Renamed /api/PA/* to /api/Broker/*
 - ◆ Renamed /api/Agent/Diagnostic/PA to /api/Agent/Diagnostic/Broker
- Improved terminology: Changed GW to Gateway
 - ◆ Renamed /api/GW/* to /api/Gateway/*
 - ◆ Renamed /api/Agent/Diagnostic/GW to /api/Agent/Diagnostic/Gateway
- Improved terminology: VDIGuest to Desktop
 - ◆ Renamed /api/Provider/{providerId}/VM/{id}/Guest to /api/Provider/{providerId}/VM/Desktop
 - ◆ Renamed /api/VDIGuestDefaultSettings/* to /api/VDIDefaultSettings/*
 - ◆ Renamed /api/VDITemplate/{id}/CreateGuests to /api/VDITemplate/{id}/CreateDesktops
 - ◆ Renamed /api/VDITemplate/{id}/Guests to /api/VDITemplate/{id}/Desktops
 - ◆ Renamed /api/VDITemplate/{id}/RecreateGuests to /api/VDITemplate/{id}/RecreateDesktops
- Improved /api/VDIPool/{vdiPoolId}/Members: Create to install Guest Agent
- Improved RASProvider to create and update provider-specific settings
 - ◆ /api/Provider/avd: Create
 - ◆ /api/Provider/awsec2: Create
 - ◆ /api/Provider/azure: Create
 - ◆ /api/Provider/hyperv: Create
 - ◆ /api/Provider/hypervfailover: Create
 - ◆ /api/Provider/nutanix: Create
 - ◆ /api/Provider/remotepcdynamic: Create
 - ◆ /api/Provider/scale: Create
 - ◆ /api/Provider/vcenter: Create
 - ◆ /api/Provider/vmwareesxi: Create
- Improved Powershell verbs:
 - ◆ Renamed Add-RASRDSGroupMember to Move-RASRDSGroupMember
- Fixed: in /api/NotificationDefaultSettings gracePeriod and interval are returned in Minutes
- Removed /api/ConnectionMFA endpoints:
 - ◆ Superseded with MFA endpoints
- Removed /api/NotificationDefaultSettings Defaults:
 - ◆ Settings dropped

RAS PowerShell

RAS PowerShell v19.4 - 24962 (2 May 2024)

- New: AVD APIs.
- New: AVD template APIs.
- New: Email OTP in MFA APIs.
- New: ManageSessionsByADGroups in CustomPermission APIs.
- New: Retrieve VDIHostPool Status APIs.
- New: Provider Credentials APIs.
- New: Pass policy information in session details to the RAS Console.
- New: Trusted Domains list.
- New: Retrieve VDIHostPool Status API.
- New: Enable CEP opt-in dialogue option in Theme settings.
- New: Invoke commands for Repair/RetryLastAction/StopOptimization.
- New: Retrieve TemplateVersion Status API.

- New: Support for auto-update configurations.
- New: Check Connection in Radius, Deepnet, and Safenet MFAs.
- New: User management commands for Email OTP.
- New: Validate Access command for email OTP.
- New: APIs to handle new custom permission for the Active Directory security groups.
- New: API to fetch vendor details.
- New: APIs to handle new permissions for the license and support management.
- New: Configure an HTTP host header attack protection from PowerShell.
- New: Add an Email OTP as an MFA provider.
- New: Support the Recreate command in Schedules.
- New: Implement retrieval and creation of AVD - GalleryImage.
- New: Implement retrieval and creation of AVD - Gallery.
- New: Implement retrieval of AVD - Version.
- New: Implement retrieval of AVD - SKU.
- Improved: Expose AzureIds in AVD commands.
- Improved: Improved APIs documentation.
- Fixed: Autoscaler parameter doesn't work in the New RAS RDS Host Pool.
- Fixed: WorkLoadDrain parameter doesn't work in the New RASA VDHHostPool.
- Fixed: Do not allow a template to be deleted if it is still in use.
- Fixed: AVD workspace and host pool do not allow empty descriptions or friendly names.
- Fixed: Resetting administrator permissions does not clear any dependent permissions (e.g. if you reset AllowViewingSite, it should automatically reset AllowSiteChanges).
- Fixed: Improve validation of arguments.
- Fixed: Get-RASGatewayStatus triggers the "No dynamic settings defined for cmdlet 'Get-RASGatewayStatus'" error.
- Fixed: AVD-related commands should fail if a feature is disabled.
- Fixed: Get-TemplateLicenseKey command is not working.
- Fixed: Get-RASTemplateVersion does not work for an RDSH template.
- Fixed: Issues with setting up IDP configuration.

Version updates and changes

In Parallels RAS 19.3, the PowerShell module is titled **RASAdmin**, and it provides support for various API versions. For details on the differences, click [here](#)

RAS PowerShell v19.3.1-24619 (12 Decmeber 2023)

- New: Get-RASAVDPredefinedImages.
- New: Implemented AVD HostPool User Assignment commands.
- Fixed: HostName parameter is ignored for New-RASAVDHostPool and Set-RASAVDHostPool.
- Fixed: New-RASCertificate fails to import the PFX file.
- Fixed: Error message when Get-RASTemplateStatus is called without specifying a template ID.
- Fixed: Get-RASVDIHosts might not return all the hosts available.
- Fixed: Some policy settings are not reflected in the system.

RAS PowerShell v19.3-24515 (17 October 2023)

- New: Introduce version 4 of the API and drop version 1.
- New: Schedule APIs restructuring.
- New: Templates APIs restructuring.
- New: Windows Device Groups APIs.
- New (experimental): AVD APIs.
- New (experimental): AVD templates APIs.

- New: For Nutanix provider, if Remove-RASVDIDesktop is executed on a clone, the VM is deleted.
- Improved: Terminology update: the terms "Host Pool" and "Host" are used across all technologies.
- Improved: Upgraded to OpenSSL 3.0.10 (FIPS 3.0.8).
- Improved: Update FSLogix APIs.
- Improved: Change RDSScheduler to Scheduler and implement it for VDI and AVD.
- Improved: Update Windows device groups.
- Improved: Invoke-RASExportSettings supports the timeout argument.
- Improved: Add DisplayName to Get-RASImageOptimizationWindowsComponent.
- Improved: Add the "Force" optimization option for all selected categories.
- Improved: Validation for FSLogix APIs.
- Improved: Validation for notification script arguments.
- Improved: Add the "Takeover" argument to New-RASBroker.
- Improved: Modify the VDIHostStatus commands to be in line with other status commands.
- Improved: For New-RASNotificationScript and add support for editing tags in AppPackages.
- Fixed: Some operations might result in insufficient permissions if using a custom administrator.
- Fixed: Agent diagnostic for a dedicated Provider Agent shows incorrect versions.
- Fixed: Invoke-RASRDSSessionCmd might fail when issuing a log off command.
- Fixed: Correct validation for Set-RASInvitationEmailSettings "-Email" parameter.
- Fixed: Cannot create or delete a Windows device groups inbound port when a profile is set to 'all.'
- Fixed: Get-RASSite -Name <name> fails.
- Fixed: Get-RASVDIPersistentDesktop returns an error when called.
- Fixed: Correct values for "Template" (VDI) GroupType enum.
- Fixed: Get/Remove-RASPrintingAutoInstallFont does not work.
- Known Issue: Assigning template version tags to host pools is not supported.

RAS PowerShell v19.2-23906 (28 March 2023)

- New: Get-RASEnrollmentServerStatus.
- New: Add support for editing tags in AppPackages.
- Improved: Get-RasProvider improved returned type.
- Improved: Set-RASProvider ADType is now an enum.
- Improved: Change VDI Pool Member Types to use guests instead of desktops.
- Improved: Improve case sensitivity when adding assigned packages.
- Improved: Fix spellings in HypervisorTypeAll enum.
- Improved: Rename WVDApp and WVDDesktop to AVDApp and AVDDesktop in RASPubObject.
- Improved: Change EnableOverlayIcons to Overlay enum in Client Settings.
- Fixed: Fix backward compatibility for rules when no rule is present.
- Fixed: Set-RASProvider should not allow changing the graphURL.
- Fixed: Get-RASVDIDesktopStatus - AssignmentType is not being properly populated.
- Fixed: Get-HALBStatus fails.
- Fixed: Get-RASProvider missing AllowDragAndDrop property.
- Fixed: Correct typos in VisualEffectsType Enum values and description.
- Fixed: Add StringValue to Registry Optimizations.
- Fixed: Add missing values in NotificationType.
- Fixed: Add missing values in HypervisorTypeAll.
- Fixed: Add missing TLS1.2 enum value in MailboxTLS.
- Fixed: Add missing Provider types.
- Fixed: When "Secure gateway port" and "Allow only Let's Encrypt verification" are enabled, changing the Gateway's log level will fail.
- Fixed: Removed ADType from the Azure provider.
- Fixed: Add access to RASCriteria when ObjType is ClientPolicy.
- Fixed: UnjoinTenant might not report errors.
- Fixed: RemoveRASProvider will fail if you pass the Name, Username, and Password arguments together.

RAS PowerShell v19.1.2-23478 (28 February 2023)

- Improved: Correct CertificatePassword validation in SetWebAdminSettProc.

RAS PowerShell v19.1.1.1-23476 (22 December 2022)

- Improved: When registering Application packages, icons are added to the backend to be used when publishing applications.
- Improved: When registering Application packages, certificate expiry is not set correctly thus staging would fail.

RAS PowerShell v19.1.1-23474 (09 December 2022)

- Improved: Improved Add-RASVDIPoolMember parameters validation.
- Fixed: When using New-RASProvider, the provider name might be used as the hostname.
- Fixed: Assignment of an application package using PackageName fails.

RAS PowerShell v19.1-23468 (15 November 2022)

- New cmdlets to configure Application Packages:
 - ◆ Get-RASAppPackage
 - ◆ New-RASAppPackage
 - ◆ Remove-RASAppPackage
 - ◆ Set-RASAppPackage
 - ◆ Add-RASAppPackageAssigned
 - ◆ Get-RASAppPackageAssigned
 - ◆ Remove-RASAppPackageAssigned
 - ◆ Set-RASAppPackageAssigned
 - ◆ Get-RASAppPackageAvailVersions
 - ◆ Get-RASAppPackageSettings
 - ◆ Set-RASAppPackageSettings
 - ◆ Set-RASAppPackageSettingsTags
 - ◆ Get-RASMSIXImageDetails
- New cmdlets to configure Logon Hours:
 - ◆ Get-RASLogonHours
 - ◆ New-RASLogonHours
 - ◆ Remove-RASLogonHours
 - ◆ Set-RASLogonHours
 - ◆ Set-RASLogonHoursOrder
 - ◆ Get-RASDayPlan
 - ◆ Set-RASDayPlan
- New cmdlets to configure Tenant Broker joining:
 - ◆ Invoke-RASTenantBroker
 - ◆ Get-RASJoinedBrokerStatus
- Removed VDI Settings cmdlets:
 - ◆ Get-RASVDISettings
 - ◆ Set-RASVDISettings
- Removed VDI Settings cmdlets:
 - ◆ Get-RASVDITemplateSettings
 - ◆ Set-RASVDITemplateSettings
- Remove the DisableSecondLevelAuthentication parameter from Set-RASSAMLIDP.
- Improve Published Applications cmdlets to handle Application Packages using Package and PackagedApp parameters:
 - ◆ New-RASPubRDSApp

- ◆ New-RASPubVDIApp
- ◆ Set-RASPubRDSApp
- ◆ Set-RASPubVDIApp
- Improve Set-RASRDS and Set-RASVDIPool to be able to set the following parameter:
 - ◆ InheritDefaultAppPackageSettings
- Improve Set-RASCertificate cmdlet to handle the certificate request setting by PFX file.
- Improve Set-RASClientPolicy to be able to set the following parameters:
 - ◆ UseDynamicDesktopResizing
 - ◆ AVDMultimediaRedirEnabled
 - ◆ AVDMultimediaRedir
- Improve Set-RASVDIDesktop and Set-RASVDITemplate by renaming the following parameters:
 - ◆ InheritDefVDIActionSettings to InheritDefaultVDIActionSettings
 - ◆ InheritDefVDISecuritySettings to InheritDefaultVDISecuritySettings
 - ◆ InheritDefOptimizationSettings to InheritDefaultOptimizationSettings
 - ◆ InheritDefVDIUserProfileSettings to InheritDefaultVDIUserProfileSettings

RAS PowerShell v19.0.1-23320 (11 August 2022)

- Fixed: Get-RASRDSession RFIInfoList field is always empty and RFICount field is always 0.

RAS PowerShell v19.0-23304 (26 July 2022)

- New: API Version 3 with backward compatibility with v1 and v2
- New cmdlets to configure Farm Settings
 - ◆ Get-RASFarmSettings
 - ◆ Set-RASFarmSettings
- New cmdlets configure System Settings:
 - ◆ Get-RASSystemSettings
 - ◆ Set-RASSystemSettings
- New cmdlets to configure AD Integration Settings:
 - ◆ Get-RASADIntegrationSettings
 - ◆ Set-RASADIntegrationSettings
 - ◆ Invoke-RASADIntegrationSettings
- New cmdlets to configure Enrollment Servers:
 - ◆ New-RASEnrollmentServer
 - ◆ Get-RASEnrollmentServer
 - ◆ Set-RASEnrollmentServer
 - ◆ Remove-RASEnrollmentServer
- New cmdlets to configure SAML IDPs:
 - ◆ New-RASSAMLIDP
 - ◆ Get-RASSAMLIDP
 - ◆ Set-RASSAMLIDP
 - ◆ Remove-RASSAMLIDP
 - ◆ Invoke-RASSAMLIDP
- New cmdlets to configure LetsEncrypt:
 - ◆ New-RASCertificate - LetsEncrypt
 - ◆ Get-RASLetsEncryptEULA
 - ◆ Get-RASLetsEncryptSettings
 - ◆ Set-RASLetsEncryptSettings
 - ◆ Invoke-RASCertificateCmd - Retry | Renew | Revok
- New cmdlets to configure HelpdeskEmail:
 - ◆ Get-RASHelpdeskEmailSettings
 - ◆ Set-RASHelpdeskEmailSettings
- New cmdlets to configure Proxy Settings:
 - ◆ Get-RASProxySettings
 - ◆ Set-RASProxySettings
- New cmdlets to configure Client Settings:
 - ◆ Get-RASClientSettings

- ◆ Set-RASClientSettings
- New cmdlets to configure URL Redirection:
 - ◆ Get-RASURLRedirectionSettings
 - ◆ Set-RASURLRedirectionSettings
 - ◆ Add-RASURLRedirectionEntry
 - ◆ Get-RASURLRedirectionEntry
 - ◆ Set-RASURLRedirectionEntry
 - ◆ Remove-RASURLRedirectionEntry
- New cmdlets to configure BrokerAutoPromotion:
 - ◆ Get-RASBrokerAutoPromotionSettings
 - ◆ Set-RASBrokerAutoPromotionSettings
- New cmdlets to configure Startup and Shutdown RDS Schedules:
 - ◆ New-RASRDSScheduleStartup
 - ◆ Get-RASRDSScheduleStartup
 - ◆ Set-RASRDSScheduleStartup
 - ◆ Remove-RASRDSScheduleStartup
 - ◆ New-RASRDSScheduleShutdown
 - ◆ Get-RASRDSScheduleShutdown
 - ◆ Set-RASRDSScheduleShutdown
 - ◆ Remove-RASRDSScheduleShutdown
- New cmdlets to configure Image Optimization
 - ◆ Get-RASImageOptimization
 - ◆ Set-RASImageOptimization
 - ◆ Add-RASImageOptimizationRegistry
 - ◆ Get-RASImageOptimizationRegistry
 - ◆ Remove-RASImageOptimizationRegistry
 - ◆ Add-RASImageOptimizationWindowsComponent
 - ◆ Get-RASImageOptimizationWindowsComponent
 - ◆ Remove-RASImageOptimizationWindowsComponent
 - ◆ Add-RASImageOptimizationWindowsScheduledTask
 - ◆ Get-RASImageOptimizationWindowsScheduledTask
 - ◆ Remove-RASImageOptimizationWindowsScheduledTask
 - ◆ Add-RASImageOptimizationWindowsService
 - ◆ Get-RASImageOptimizationWindowsService
 - ◆ Remove-RASImageOptimizationWindowsService
 - ◆ Get-RASImageOptimizationPredefined
- New cmdlets to configure multiple MFAs:
 - ◆ New-RASMFA
 - ◆ Get-RASMFA
 - ◆ Set-RASMFA
 - ◆ Remove-RASMFA
 - ◆ Get-RASMFACriteria
 - ◊ Use RASCriteria cmdlets to update MFACriteria
 - ◆ Add-RASMFARadiusAttr
 - ◆ Get-RASMFARadiusAttr
 - ◆ Remove-RASMFARadiusAttr
 - ◆ Add-RASMFARadiusAuto
 - ◆ Get-RASMFARadiusAuto
 - ◆ Remove-RASMFARadiusAuto
 - ◆ Get-RASMFADefaultSettings
 - ◆ Invoke-RASDuplicateMFA
 - ◆ Invoke-RASMFA
- New cmdlet to get Desktop Status:
 - ◆ Get-RASVDIDesktopStatus
- New cmdlet to manage RDSGroup:
 - ◆ Get-RASRDSDGroupStatus
 - ◆ Invoke-RASRDSDGroupCmd - CancelDisabledState | CancelPendingReboot | CancelPendingShutdown

- New cmdlets to configure PubItem Filters:
 - ◆ Get-RASPubItemFilter
 - ◆ Set-RASPubItemFilter
- New cmdlets to configure Client Policy Assignment:
 - ◆ Get-RASClientPolicyAssignment
 - ◆ Set-RASClientPolicyAssignment
- New cmdlets to configure RAS Rules:
 - ◆ Add-RASRule
 - ◆ Get-RASRule
 - ◆ Set-RASRule
 - ◆ Remove-RASRule
- New cmdlets to configure RAS Criteria:
 - ◆ Get-RASCriteria
 - ◆ Set-RASCriteria
 - ◆ Add-RASCriteriaDevice
 - ◆ Get-RASCriteriaDevice
 - ◆ Remove-RASCriteriaDevice
 - ◆ Add-RASCriteriaGatewayIP
 - ◆ Get-RASCriteriaGatewayIP
 - ◆ Remove-RASCriteriaGatewayIP
 - ◆ Add-RASCriteriaHardwareID
 - ◆ Get-RASCriteriaHardwareID
 - ◆ Remove-RASCriteriaHardwareID
 - ◆ Add-RASCriteriaIP
 - ◆ Get-RASCriteriaIP
 - ◆ Remove-RASCriteriaIP
 - ◆ Add-RASCriteriaSecurityPrincipal
 - ◆ Get-RASCriteriaSecurityPrincipal
 - ◆ Remove-RASCriteriaSecurityPrincipal
 - ◆ Add-RASCriteriaTheme
 - ◆ Get-RASCriteriaTheme
 - ◆ Remove-RASCriteriaTheme
 - ◆ Get-RASCriteriaOS
 - ◆ Set-RASCriteriaOS
- Improved terminology: Changed PA to Broker
 - ◆ Renamed New/Get/Set/Remove-RASPA to New/Get/Set/Remove-RASBroker
 - ◆ Renamed Get-RASPASStatus to RASBrokerStatus
 - ◆ Renamed Invoke-RASAPromoteToPrimary to Invoke-RASBrokerPromoteToPrimary
 - ◆ Renamed Set-RASAPriority to Set-RASBrokerPriority
- Improved terminology: Changed GW to Gateway
 - ◆ Renamed New/Get/Set/Remove-RASGW to New/Get/Set/Remove-RASGateway
 - ◆ Renamed Add/Remove-RASClientPolicyGW to Add/Remove-RASClientPolicyGateway
 - ◆ Renamed Add/Get/Set/Remove-RASPubItemGWFilter to Add/Get/Set/Remove-RASPubItemGatewayFilter
 - ◆ Renamed Get/Set-RASGWDefaultSettings to Get/Set-RASGatewayDefaultSettings
 - ◆ Renamed Get-RASGWStatus to Get-RASGatewayStatus
- Improved terminology: VDIGuest to Desktop
 - ◆ Renamed Get/Set/Remove-RASVDIGuest to Get/Set/Remove-RASVDIDesktop
 - ◆ Renamed Get/Set-RASVDIGuestDefaultSettings to Get/Set-RASVDIDefaultSettings
 - ◆ Renamed Get/Set/Remove-RASVDIPersistentGuest to Get/Set/Remove-RASVDIPersistentDesktop
- Improved Add-RASVDIPoolMember to install Guest Agent
- Improved RASProvider to create and update provider-specific settings
- Improved Powershell verbs:
 - ◆ Renamed Add-RASRDSGroupMember to Move-RASRDSGroupMember
- Replaced Client Policy cmdlets

- ◆ Dropped:
 - ◇ Invoke-RASDuplicateClientPolicy
 - ◇ Invoke-RASImportClientPolicy
 - ◇ Invoke-RASExportClientPolicy
- ◆ Replaced by:
 - ◇ Invoke-RASClientPolicy
- Fixed: GET-RASAgent to not support RemotePC
- Fixed: in Get-RASNotificationDefaultSettings GracePeriod and Interval are returned in Minutes
- Removed RAS 2FA Exclude cmdlets:
 - ◆ Superseded with MFA cmdlets
- Removed RAS Notification Defaults:
 - ◆ Settings dropped

Management Portal

Management Portal v19.4-24962 (2 May 2024)

- New: Changed the telemetry server from Google Analytics to Amplitude.
- Improved: Improved warnings when Secure Gateway uses TLS 1.3 only.
- Fixed: Available sessions are not shown.
- Fixed: Editing Radius MFA provider settings will clear the “Secret” field.
- Fixed: Changes to an MFA provider settings are not reflected in the MFA list upon saving.
- Fixed: “Providers” page freezes if there is more than one provider.

Management Portal v19.3.1-24619 (12 December 2023)

- Improved: Ability to view information about running applications per user.
- Fixed: usernameOnly and forwardFirstPwdToAD are not updating correctly for Radius MFA.
- Fixed: Cannot edit FSLogix settings.

Management Portal v19.3-24515 (17 October 2023)

- New: Ability to change user passwords via third-party IdPs.
- New: Support for Radius Multi-Factor Authentication provider.
- New: Support for FSLogix Office Containers.
- New: Support for FSLogix App Services, Cloud Cache, and Logging settings.
- Improved: Terminology update: the terms "Host Pool" and "Host" are used across all technologies.
- Improved: Validation is not consistent.
- Improved: Expression-based filters UI.
- Improved: Handling of Scheduler state and their actions.
- Improved: Upgraded to OpenSSL 3.0.10 (FIPS 3.0.8).
- Critical Fix: Memory consumption increases over time.
- Fixed: The printer rename pattern is not updated if changed externally.
- Fixed: Logging on as a custom administrator might result in insufficient permissions.
- Fixed: Cannot add multiple fonts in the Universal Printing category.
- Fixed: Some settings are not updated if changed externally.

Management Portal v19.2.0.23906 (28 March 2023)

- Improved: Virtual Desktop pane now includes the sidebar.

Management Portal v19.1.0-23468 (15 November 2022)

- Improved: Correct information when showing Azure Virtual Desktop hosts in the Virtual Desktops view.
- Fixed: Published object filters overview link does not work.

Management Portal v19.0.1-23320 (10 August 2022)

- Improved: Expression-based publishing filtering with better validation and corrected ability to change the default rule.
- Fixed: Cursor is not updating when using the Microsoft Edge browser.
- Fixed: Missing Route Flow Information in session details.

Management Portal v19.0.0.23304 (26 July 2022)

- New: Let's Encrypt Certificate Management.
- New: Expression-based publishing filtering.
- New: Theme criteria for publishing filtering expressions.
- New: Multiple Multi-factor Authentication (MFA) providers (Google Authenticator only).
- New: Terminology updates - "Publishing Agent" is now "Connection Broker", "Secure Client Gateway" is now "Secure Gateway", "VDI Agent" is now "Provider Agent ", and "HTML5 Client/Portal" are now "Web client/User Portal".
- New: Abide by new custom administrator permissions for publishing folders
- New: Built-in support for FSLogix version 2201 hotfix 1 (2.9.8171.14983).
- New: Drop support for Internet Explorer browser.
- Improved: Custom routing information is shown on the published item information page.
- Fixed: Monitoring might not show network usage and Secure Gateway information with a network error: URI Too Long(414).
- Fixed: FSLogix users are added incorrectly.

User Portal (Web client)

User Portal (Web client) v19.4-24962 (2 May 2024)

- New: Multi-monitor support.
- New: Added an option to opt-in to Client Experience Program when the user signs in for the first time.
- New: Changed the telemetry server from Google Analytics to Amplitude.
- New: Ability to sort all published items by name or description.
- New: API: Allow specifying the user name only, which will pre-fill the user name field while logging on.
- Improved: Show instructions prompt administrator provided when users are asked for TOTP or Radius OTP.
- Improved: Allows pinning specific published resources on the Chrome shelf.
- Improved: API: Redirect to Login URL in case login by API fails.
- Improved: Upgraded NodeJS to the 13-October-2023 Security release.
- Improved: Updated the "Download Parallels Client" page images.
- Improved: Added support for audio playback policy.

- Fixed: When quickly starting two applications, the second one might fail with an invalid command.
- Fixed: Breadcrumb control disappears when navigating an empty folder.
- Fixed: SSO login to different Secure Gateways from Parallels Client when using a different theme with the same IDP.
- Fixed: Add IFrame sandbox protection.
- Fixed: Touch input and virtual keyboard do not work on iOS.
- Fixed: Native iOS client is not detected.
- Fixed: Some applications might be shown as collapsed on the virtual desktop when minimized.
- Fixed: Switching to a secondary Site does not show the respective sessions.
- Fixed: Trying to publish an application from an AVD host pool with all hosts turned off will not allow the administrator to turn on any host.
- Fixed: Azure Provider, PremiumV2_LRS, is now a recognized disk type and works with cost optimization.
- Fixed: RAS Console might show incorrect log level for some components if the primary Connection Broker is restarted.
- Fixed: User menu is shown below the launcher window.
- Fixed: File upload is not available if a self-signed certificate is used.
- Fixed: NLA URL in the connection error message is not valid.
- Fixed: Application list is not updated if you refresh while within a folder.
- Fixed: Application might be shown behind the launcher window.
- Fixed: Session display might get skewed.

User Portal (Web client) v19.3.1.2-24624 (13 March 2024)

- Fixed: EULA prompt interferes with the web authentication from Parallels Client.

User Portal (Web client) v19.3.1.1-24621 (29 February 2024)

- Critical Fix: A session might not be established if the gateway network is bound to all available addresses.
- Critical Fix: Starting a published item using web authentication might result in a prompt for a password.
- Fixed: Mouse scrolling is not working.

User Portal (Web client) v19.3.1-24619 (12 December 2023)

- Improved: Ability to refresh a list of applications in AppLauncher.
- Improved: When all applications are closed, automatically open the app launcher.
- Fixed: AppLauncher is displayed behind opened applications.
- Fixed: The domain field is not pre-filled in the "Change password" menu.
- Fixed: Published items might not launch if non-latin characters are used in their names.
- Fixed: Clipboard indicator is not updated according to policies.
- Fixed: When launching an AVD resource, launching animation does not stop.
- Fixed: File transfer is always bidirectional regardless of actual settings.
- Fixed: Launching User Portal from API and then launching an app in a new tab does not work.
- Fixed: Keep the tile/list view option always visible in the navigation bar.
- Fixed: Farm name showed on header instead of "Log in" setting.

Chrome OS PWA:

- Fixed: Client detection warning should not be displayed.

User Portal (Web client) v19.3.0.2-24520 (14 November 2023)

- Fixed: Starting published desktops when using web authentication does not work.

User Portal (Web client) v19.3-24515 (17 October 2023)

- New: New look for User Portal with migration from KnockoutJS to Vue.
- New: Ability to change user passwords via third-party IdPs.
- New: Allow changing the login and logout URLs via the Web API.
- Improved: Native client detection user interface.
- Improved: Upgraded to OpenSSL 3.0.10 (FIPS 3.0.8).
- Improved: Change cookie acceptance from opt out to opt in.
- Improved: Update NodeJs to 18.17.1.
- Improved: Handling of pen redirection when moving pen out of the browser window for desktop sessions.
- Improved: Use high-resolution icons when available.
- Fixed: Broken link for Remote clipboard information.
- Fixed: Downloading files via file transfer with non-Latin characters in the name while using Safari browser will result in the wrong file name of the local file.
- Fixed: Sound redirection banner displayed when not required.

User Portal (Web client) v19.2-23906 (28 March 2023)

- New: Support for items published for Azure Virtual Desktop.
- Improved: _RASHTML5LoadApp and _RASWebclientLoadApp now support showing published items if you don't specify a published item to start.
- Improved: Hide/Show desktop might show ghost-minimized windows.
- Improved: Upgraded Node.js from v14.20.1 to v14.21.3.
- Improved: Added sidebar to Virtual Desktops.

User Portal (Web client) v19.1.1.1-23476 (22 December 2022)

- Fixed: When web authentication is set, a user is prompted for credentials when starting an application, after which the application fails to start.

User Portal (Web client) v19.1.0-23468 (15 November 2022)

- Improved: Reject all unnecessary HTTP methods.
- Improved: UI improvements for Universal Printing and Universal Scanning Site settings.
- Fixed: File transfer does not work if using the "RASHTML5Gateway" URL.
- Fixed: RDSH Site Defaults configuration does not work correctly.
- Fixed: Improved security by supporting secure cookie attributes.

User Portal (Web client) v19.0.0.23304 (26 July 2022)

- New: Add themes support in the User Portal (Web client) API.
- New: Support for secure web cookies. Configuration from RAS Console is required.
- New: Drop support for the Internet Explorer browser.
- Improved: Pen and touch input redirection supports eraser button with inverted hover, combined mouse and pointer events, and pointer fallback when pen input is stopped during the session.
- Improved: Increase page loading timeout to 60 seconds.
- Improved: Username and Password are set as mandatory when a user is trying to log on to the User Portal.
- Improved: Added a notification banner so that sound redirection can be enabled when using the Safari browser.
- Fixed: Keyboard in an iOS platform generates invalid input when using toggle keys.
- Fixed: Published desktops might not show due to Content Security Policies.

Parallels Client (Windows)

Parallels Client (Windows) v19.4-24962 (2 May 2024)

- New: Suppress browser prompt when using web authentication and internal browser.
- New: Added an option to opt-in to Client Experience Program to the installer.
- Improved: Show instructions prompt administrator provided when users are asked for TOTP or Radius OTP.
- Improved: Provide proper error message when a web authentication session is expired.
- Improved: Internal Browser uses Edge-based technology when installing the Basic Client.
- Improved: Do not redirect local font smoothing settings with “Use client system settings”.
- Improved: Universal Scanning support for “PaperStream Capture” and “PaperStream Clickscan” applications with Fujitsu scanners.
- Improved: Tray icon clicks now open the application window with a single left click and the menu with a right click.
- Improved: If you pin published items to the taskbar, they will be started when clicked on.
- Improved: When installing SSO, you are now prompted to restart the workstation directly from Parallels Client.
- Improved: Parallels Client with modern user interface does not start as a minimized window when it is expected to do so.
- Improved: Various UX improvements to modern user interface.
- Fixed: Adding/removing multiple favorites quickly might crash the client’s backend.
- Fixed: Ensure proper context help is shown.
- Fixed: Adding a connection via URLSchema might not work if the launcher is not running.
- Fixed: It is not possible to remove the description or friendly name from an AVD Host pool.
- Fixed: Concurrent web authentication using the internal browser might result in a “Cannot create webview environment (0x8007139F)” error.
- Fixed: Client logs show FIPS failures when running on an ARM platform although FIPS is not supported on this platform.
- Fixed: The option to print EULA in the installer will always print the in-product EULA instead of the downloaded one.
- Fixed: When closing Parallels Client with modern user interface, a COM exception might be reported.
- Fixed: Automatic connection refresh might change the connection selected if using modern user interface.
- Fixed: The toast window for connecting information has the wrong size.
- Fixed: Setting the connecting window to none does not work for web authentication. A window is always needed.
- Fixed: Log level is reset to standard if the client is restarted.
- Fixed: Parallels Client does not upgrade through Tools > Options if using modern user interface.
- Fixed: Starting an AVD session using Standard mode might crash if using device or camera redirection.
- Fixed: List of available browsers might not show all browsers available on the system.
- Fixed: Full-screen desktop might still show scroll bars when selecting a subset of monitors to use.

Parallels Client (Windows) v19.3.2.1-24685 (6 March 2024)

- Fixed: Upgrade to a new version when using modern UI does not work.

Parallels Client (Windows) v19.3.2-24676 (21 February 2024)

- New: Added telemetry information.
- New: Ability to redirect the already redirected printers if you create an RDP session within another RDP session. The feature needs to be enabled via the registry.

- Improved: Option "Add RAS connection automatically when starting web or shortcut items" is now enabled by default. This affects only new installations.
- Improved: Removed port 50005 from the opened ports on the Windows Defender firewall. This port can be managed via Device Manager.
- Improved: Enabled auto-reconnect for undocumented disconnect error 267 (0x10B).
- Improved: Removed the following CAs from trusted.pem:
 - ◆ NLB Nova Ljubljanska Banka d.d. Ljubljana
 - ◆ A-Trust-Root-05
 - ◆ SECOM Trust Systems CO LTD
 - ◆ Trustis FPS Root CA
 - ◆ E-Tugra Certification Authority
 - ◆ TURKTRUST Elektronik Sertifika Hizmet Saglayicisi H6
 - ◆ TURKTRUST Elektronik Sertifika Hizmet Saglayicisi H5
 - ◆ Autoridade Certificadora Raiz Brasileira v2
 - ◆ Hongkong Post Root CA 1
 - ◆ VRK Gov. Root CA
- Improved: Added the following CAs to trusted.pem:
 - ◆ SSL.com Code Signing ECC Root CA 2022
 - ◆ SSL.com Document Signing RSA Root CA 2022
 - ◆ SSL.com Document Signing ECC Root CA 2022
 - ◆ SSL.com Client ECC Root CA 2022
 - ◆ SSL.com Client RSA Root CA 2022
 - ◆ SSL.com Code Signing RSA Root CA 2022
 - ◆ SSL.com TLS RSA Root CA 2022
 - ◆ Entrust Digital Signing Root Certification Authority - DSR1
 - ◆ Entrust P384 TLS Root CA - 2022
 - ◆ SwissSign RSA SMIME Root CA 2022 - 1
 - ◆ SwissSign RSA TLS Root CA 2022 - 1
 - ◆ Atos TrustedRoot Root CA RSA TLS 2021
 - ◆ Atos TrustedRoot Root CA RSA G2 2020
 - ◆ Atos TrustedRoot Root CA ECC G2 2020
 - ◆ Atos TrustedRoot Root CA ECC TLS 2021
 - ◆ Entrust 4K TLS Root CA - 2022
 - ◆ Entrust P384 EV TLS Root CA - 2022
 - ◆ Entrust SMIME Root CA - 2022
 - ◆ Entrust 4K EV TLS Root CA - 2022
 - ◆ AffirmTrust 4K TLS Root CA - 2022
 - ◆ Sectigo Public Email Protection Root E46
 - ◆ Sectigo Public Time Stamping Root R46
 - ◆ Sectigo Public Document Signing Root E46
 - ◆ Sectigo Public Document Signing Root R46
 - ◆ Sectigo Public Server Authentication Root R46
 - ◆ Sectigo Public Time Stamping Root E46
 - ◆ Sectigo Public Email Protection Root R46
 - ◆ Sectigo Public Server Authentication Root E46
 - ◆ Telekom Security TLS RSA Root 2023
 - ◆ Telekom Security SMIME RSA Root 2023
 - ◆ Telekom Security SMIME ECC Root 2021
 - ◆ Telekom Security TLS ECC Root 2020
 - ◆ MOIS SSL Root CA
 - ◆ TWCA Global Root CA G2
 - ◆ TWCA CYBER Root CA
 - ◆ ePKI Root Certification Authority - G4
 - ◆ eSignTrust Root Certification Authority (G03)
 - ◆ A-Trust-Root-09
 - ◆ LAWtrust Root CA2 (4096)
- Fixed: Modern Interface - Exception might happen when changing appearance.

- Fixed: Modern Interface - Published items are not displayed if the description has non-Latin characters.
- Fixed: Modern Interface - If appearance is changed from system to dark or light, menus do not use the theme colors.
- Fixed: Modern Interface - Automatic refresh might change the selected connection.
- Fixed: ARM64 version update window will download the x64 version of the installer.
- Fixed: Upgrading the existing version would switch to a modern user interface.

Parallels Client (Windows) v19.3.1-24619 (12 December 2023)

- New: New modernized user interface. Ability to switch between the new and classic user interface.
- New: Add support for Universal Scanning in Azure Virtual Desktop Standard feature set.
- Fixed: Global Parallels Client settings enforced by policy are not retained if Parallels Client is restarted.
- Fixed: A 5-second delay might be observed when starting applications in the same session.
- Fixed: An incorrect number of copies might be printed if PDF format is chosen.
- Fixed: The first connection to a new RAS connection will not show the published items.
- Fixed: Selected folder might switch to the first one after launching an application or desktop.

Parallels Client (Windows) v19.3-24515 (17 October 2023)

- New: Ability to change user passwords via third-party IdPs.
- New: When redirecting the default printer only, if the local default printer is changed, the new printer replaces the redirected one.
- New: Choose between an enhanced internal Chromium-based browser, an external default browser, or any external browser that you have installed on your system for web authentication. You can also choose to use incognito mode when using an external browser.
- New: Policy to prohibit saving both the username and password on Parallels Client.
- New: AVD Standard mode - Support RAS Universal Printing.
- New: AVD Standard mode - Support for 2XRemoteExec.
- New: AVD Standard mode - Support for URL and email redirection.
- New: AVD Standard mode - Support for driver redirection cache.
- New: Add drag and drop when using Remote App.
- New: Show a warning that importing settings will overwrite all existing settings.
- Improved: Allow choosing the authentication mode when inviting users.
- Improved: Upgraded to OpenSSL 3.010 (FIPS 3.0.8).
- Improved: Display message code below a text message.
- Improved: You do not need to re-create manually created shortcuts if the connection properties are changed (the name and the icon cannot be updated).
- Improved: Diagnostic log for problems authenticating to AVD resources.
- Improved: Diagnostics logs for universal scanning.
- Improved: Handling of URL schemas to open a connection and list published items.
- Improved: Reduce CPU resources required for connecting banner animation.
- Improved: When switching between displays, the last position when the desktop was placed is cleared.
- Improved: Applied policy information is not always displayed.
- Improved: A log file is now archived when a specific size is reached.
- Improved: Removed unnecessary diagnostic logs.
- Improved: Add a prompt to install the 64-bit version of Parallels Client when installing a 32-bit version on an ARM64 platform.
- Improved: Changing a password via the "Change password" notification requires the user to enter the current password.
- Improved: Added a regkey to enable smart card pin query on each session start.
- Improved: Use proper application icons when starting AVD in standard mode.
- Fixed: The message to check for updated Windows information is cropped while downloading the AVD client.
- Fixed: When using web authentication via an internal browser (IE component) and logging out multiple times, the client might hang.

- Fixed: Creating a connection by running a session from a shortcut does not work.
- Fixed: Multiple connections with the same name will not start the correct application.
- Fixed: If RAS connection servers are not reachable, logout will fail.
- Fixed: A new RAS connection is created when using a URL schema without a username.
- Fixed: If Parallels Client is in managed mode and you switch to administration, you cannot edit local applications.

Parallels Client (Windows) v19.2.2-23974 (29 May 2023)

- New: Add the option to lock or log off from a workstation when all sessions are closed. The option is controlled via policies.
- New: Add the -logoffallsession and -disconnectallsessions options to AppServerClient.exe to log off or disconnect all running sessions.
- Improved: Do not collect cached printer information if the printer is not available.

Parallels Client (Windows) v19.2-23906 (28 March 2023)

- New: Ability to select a subset of monitors to be used for desktop sessions.
- New: Ability to create a connection which is shared with all users on a PC.
- New: Support for items published on Azure Virtual Desktop for platforms which do not support native Azure Virtual Desktop client.
- Improved: Updated trusted.pem root certificates.
- Improved: Using "Program Files" instead of "Program Files (ARM)" as the default installation folder for the ARM platform.
- Improved: Use launcher cached password if starting from a shortcut and a connection to the RAS Farm is already logged on.
- Improved: Ensure that only full paths are used in the export window.
- Improved: When installing x32bit or x64bit on ARM64 platform, you are now offered to use the ARM64 installer.
- Improved: Enable option to span desktop across all monitors only when a primary display is selected.
- Fixed: Disabling Multimedia redirection for Azure Virtual Desktop has no effect.
- Fixed: SSO not working on the ARM platform.
- Fixed: Correct URL to download to 64-bit version during installation of the 32-bit version on 64-bit operating system.
- Fixed: Client Downloader does not recognize the ARM64 platform.

Parallels Client (Windows) v19.1.2-23479 (28 February 2023)

- Improvement: Stability improvements.
- Fixed: Brazilian ABNT-2 keyboard ?/ key not working.

Parallels Client (Windows) v19.1.1.1-23476 (22 December 2022)

- Fixed: When creating a new connection and choosing web authentication, the connection will not work.

Parallels Client (Windows) v19.1.1-23473 (09 December 2022)

- Fixed: Single sign-on component fails to install on ARM platforms.

Parallels Client (Windows) v19.1-23468 (15 November 2022)

- New: Ability to control Azure Virtual Desktop Multimedia redirection from connection properties or enforce it with policies.

- New: Option to control dynamic desktop resizing for published applications.
- Improved: Switching between local and published applications using the ALT+Tab key combination.
- Improved: Increase the number of attempts to launch Azure Virtual Desktop resources to overcome the "Published resource cannot be launched due to insufficient user permissions or network related issues" message that appears due to network issues.
- Fixed: Ignore fixed-size server-set resolution for published applications when using RemoteApps.
- Fixed: Reconnection does not work when using Azure Virtual Desktops applications or desktops.
- Fixed: Redirection policy does not work when using web authentication.

Parallels Client (Windows) v19.0.2-23330 (16 September 2022)

- Fixed: Log file size may increase significantly when using printer hardware information cache.

Parallels Client (Windows) v19.0.2-23329 (31 August 2022)

- Fixed: Scanning using WIA devices is unsuccessful.

Parallels Client (Windows) v19.0.1-23320 (11 August 2022)

- Improved: Removed the following CAs from trusted.pem: D-TRUST GmbH, Visa eCommerce Root, Actalis Authentication CA G1, Post.Trust Root CA, GeoTrust Global CA, D-TRUST GmbH.
- Improved: Added the following CAs to trusted.pem: SecureSign Root CA12, Visa Public RSA Root CA, Visa Public ECC Root CA, SecureSign Root CA15, CybertrustTrust Root. Certification Authority, SecureSign Root CA14.
- Fixed: Using 2XRemoteExec with AVD session in standard mode freezes the session.

Parallels Client (Windows) v19.0-23304 (26 July 2022)

- New: Parallels Client for Windows on ARM64.
- New: Email-based connection discovery.
- New: Support for multimedia redirection for Azure Virtual Desktop connections (experimental).
- Improved: Support for Azure Virtual Desktop client v1.2.2600 (when using the advanced client feature set).
- Improved: Connection page of the client properties shows the correct FIPS compliance state.
- Improved: Isolated process to retrieve the printers' information thus avoiding any effect on the client itself.
- Fixed: Azure Virtual Desktop sessions do not have the "Session" entry in the sessions information window.
- Fixed: Parallels client might crash when starting a published object from a shortcut when its connection is deleted from the client list of connections.
- Fixed: Upgrading the client using INSTALLSSO=1 might overwrite some client settings.
- Fixed: Pasting is not allowed when starting a published item from a shortcut and you are to enter an OTP.
- Fixed: Tray icon does not show when using RemoteApps mode.
- Fixed: When using desktop replacement, the Start menu button is not hidden on Windows 11.
- Fixed: Issues with Microsoft's new IME for the Japanese language

Parallels Client (Mac)

Parallels Client (Mac) v19.4-24962 (2 May 2024)

- New: Added an option to opt-in to Client Experience Program when the user launches Parallels Client for the first time.

- Improved: Improved user experience by introducing the option to “Limit camera resolution to 720p”.
- Improved: Show instructions prompt administrator provided when users are asked for TOTP or Radius OTP.
- Improved: If the server provides clipboard data in HTML format only, auto-convert it to TEXT.
- Improved: Shift key state during the session.
- Improved: Application stability.
- Fixed: Copying text into the primary connection field causes the field to become empty after saving.
- Fixed: Empty lines can be pasted into the client connection field.

Parallels Client (Mac) v19.3.2.1-24686 (6 March 2024)

- Improved: Upgraded Amplitude library to version 1.3.4.

Parallels Client (Mac) v19.3.2-24676 (21 February 2024)

- New: Added telemetry information.
- Improved: Added a context menu command to create a shortcut for the selected item in search results.
- Improved: Added a command to log out from the menu bar.
- Improved: Changed settings to allow the creation of shortcuts for each connection.

Parallels Client (Mac) v19.3.1-24617 (12 December 2023)

- New: New modernized user interface.
- Fixed: Incorrect behaviour of the Mac Menu Bar in fullscreen for the session window on laptops with a notch.
- Fixed: The Parallels client might freeze if opened after hibernation.

Parallels Client (Mac) v19.3.0.1-24519 (1 November 2023)

- Fixed: Reconnection does not work.

Parallels Client (Mac) v19.3-24515 (17 October 2023)

- New: Ability to change user passwords via third-party IdPs.
- New: Show a warning that importing settings will overwrite all existing settings.
- Improved: Allow choosing the authentication mode when inviting users.
- Improved: Upgrade to OpenSSL 3.0.10 (FIPS 3.0.8).
- Improved: RAS Client reports the latest Apple operating systems.
- Improved: Improve prompt to configure drive redirection.
- Improved: Installer might restart on the confirmation to allow installation.
- Fixed: The prompt to ‘Grant access to <user> folder’ is shown each time a RAS connection is opened unless you add folders, even if the ‘Don’t ask me again’ option is selected.
- Fixed: Deleting a shortcut for an RDP connection does not work.
- Fixed: "Do not ask me again" is not respected in the dialog for configuring drive redirection.

Parallels Client (Mac) v19.2.3-24007 (6 July 2023)

- New: File redirection cache support.
- Improved: Handling of Macbook notch (camera housing area).

Parallels Client (Mac) v19.2.2-23974 (29 May 2023)

- Fixed: Incorrect credentials error on the second login attempt if the credentials are entered in the "domain\user" format and the "Force clients to use NetBIOS credentials" option is set by the server.

Parallels Client (Mac) v19.2.0.1-23920 (12 April 2023)

- Fixed: Cannot print from Parallels Client 19.2 when it is connected to RAS 18.X.

Parallels Client (Mac) v19.2-23906 (28 March 2023)

- New: Support for items published on Azure Virtual Desktop.
- Improved: Provide a way for a user to be logged out from IDP when using web authentication.
- Improved: Performance and stability for camera redirection.
- Improved: Performance and stability on Parallels Client.
- Fixed: Auto-configuring Parallels Client from a RAS invitation email might crash.
- Fixed: Using password when it is passed via URL Schema.
- Fixed: When using web authentication, the server will prompt for a password when launching published resources.

Parallels Client (Mac) v19.1.1-23473 (09 December 2022)

- Fixed: Connection redirection policy does not work when using web authentication.
- Fixed: Newly created connection using the UPN format splits the UPN into user and domain fields.

Parallels Client (Mac) v19.1-23468 (15 November 2022)

- New: Ability to select video capture devices to redirect to the remote session.
- New: Option to close error messages automatically.
- Improved: Quality of sound when using a microphone.
- Improved: No error message is to be shown if a user confirms disconnect of a session due to logon hours restrictions.
- Fixed: Internal error <65540> can occur when using AVC adaptive enabled on Apple iMac M1.
- Fixed: Authentication using UPN might fail.
- Fixed: Possible crash when using the auto-configuration link through email invitation.

Parallels Client (Mac) v19.0-23310 (26 July 2022)

- New: Clipboard support for RTF and HTML formats.
- New: Email-based connection discovery.
- New: Support for camera redirection.
- New: Dynamic session resolution update.
- New: Updated minimum supported version to macOS version 10.13.
- Improved: General updates and improvements.
- Improved: Support for RDP 10.3-10.4.
- Fixed: Attempts to print a file with a custom page size can result in a failed print job.
- Fixed: Possible crash when launching multiple applications.
- Fixed: Desktop cannot be opened in full screen on the second monitor.

Parallels Client (Linux)

Parallels Client (Linux) v19.4-24962 (2 May 2024)

- Improved: Show instructions prompt administrator provided when users are asked for TOTP or Radius OTP.
- Fixed: When using the Parallels Client on IGEL 12, attempting to view the log file from the launcher component does not work.
- Fixed: Incorrect credentials format used when creating shortcuts if the connection is using “domain\user” format.
- Fixed: Published applications limited to the primary monitor are displayed incorrectly when partially moved offscreen.
- Fixed: Starting a connection without credentials will show a window to enter them. The window is incorrectly titled “Invalid credentials”.
- Fixed: Adding connections via URL schema does not work if the launcher is not running.

Parallels Client (Linux) v19.3.2-24677 (21 February 2024)

- New: Support for policy to prohibit saving both the username and password on Parallels Client.
- Improved: Removed the following CAs from trusted.pem:
 - ◆ NLB Nova Ljubljanska Banka d.d. Ljubljana
 - ◆ A-Trust-Root-05
 - ◆ SECOM Trust Systems CO LTD
 - ◆ Trustis FPS Root CA
 - ◆ E-Tugra Certification Authority
 - ◆ TURKTRUST Elektronik Sertifika Hizmet Saglayicisi H6
 - ◆ TURKTRUST Elektronik Sertifika Hizmet Saglayicisi H5
 - ◆ Autoridade Certificadora Raiz Brasileira v2
 - ◆ Hongkong Post Root CA 1
 - ◆ VRK Gov. Root CA
- Improved: Added the following CAs to trusted.pem:
 - ◆ SSL.com Code Signing ECC Root CA 2022
 - ◆ SSL.com Document Signing RSA Root CA 2022
 - ◆ SSL.com Document Signing ECC Root CA 2022
 - ◆ SSL.com Client ECC Root CA 2022
 - ◆ SSL.com Client RSA Root CA 2022
 - ◆ SSL.com Code Signing RSA Root CA 2022
 - ◆ SSL.com TLS RSA Root CA 2022
 - ◆ Entrust Digital Signing Root Certification Authority - DSR1
 - ◆ Entrust P384 TLS Root CA - 2022
 - ◆ SwissSign RSA SMIME Root CA 2022 - 1
 - ◆ SwissSign RSA TLS Root CA 2022 - 1
 - ◆ Atos TrustedRoot Root CA RSA TLS 2021
 - ◆ Atos TrustedRoot Root CA RSA G2 2020
 - ◆ Atos TrustedRoot Root CA ECC G2 2020
 - ◆ Atos TrustedRoot Root CA ECC TLS 2021
 - ◆ Entrust 4K TLS Root CA - 2022
 - ◆ Entrust P384 EV TLS Root CA - 2022
 - ◆ Entrust SMIME Root CA - 2022
 - ◆ Entrust 4K EV TLS Root CA - 2022
 - ◆ AffirmTrust 4K TLS Root CA - 2022
 - ◆ Sectigo Public Email Protection Root E46
 - ◆ Sectigo Public Time Stamping Root R46
 - ◆ Sectigo Public Document Signing Root E46

- ◆ Sectigo Public Document Signing Root R46
- ◆ Sectigo Public Server Authentication Root R46
- ◆ Sectigo Public Time Stamping Root E46
- ◆ Sectigo Public Email Protection Root R46
- ◆ Sectigo Public Server Authentication Root E46
- ◆ Telekom Security TLS RSA Root 2023
- ◆ Telekom Security SMIME RSA Root 2023
- ◆ Telekom Security SMIME ECC Root 2021
- ◆ Telekom Security TLS ECC Root 2020
- ◆ MOIS SSL Root CA
- ◆ TWCA Global Root CA G2
- ◆ TWCA CYBER Root CA
- ◆ ePKI Root Certification Authority - G4
- ◆ eSignTrust Root Certification Authority (G03)
- ◆ A-Trust-Root-09
- ◆ LAWtrust Root CA2 (4096)

Parallels Client (Linux) v19.3.1-24619 (12 December 2023)

- New: Add the option to lock or log off a workstation when all sessions are closed. The option is controlled via policies.

Parallels Client (Linux) v19.3.0.1-24519 (1 November 2023)

- Fixed: Reconnection does not work.

Parallels Client (Linux) v19.3-24515 (17 October 2023)

- New: Ability to change user passwords via third-party IdPs.
- New: Policy to prohibit saving both the username and password on Parallels Client.
- Improved: Allow choosing the authentication mode when inviting users.
- Improved: Upgraded to OpenSSL 3.0.10 (FIPS 3.0.8).
- Improved: Webcam redirection might fail in successive sessions.
- Improved: Handling published applications on a multi-monitor system.
- Improved: Redirection of Plantronics USB headset.
- Improved: Use "Parallels Client" instead of "appserverclient" for tuxclient protocol handler name.
- Improved: Mouse pointer size is too small when running on a system using high DPI.
- Improved: Handling of applications running on a multiple-monitor system.
- Fixed: Correct tab order for the "Change Domain Password" window.
- Fixed: When logging off a RAS connection, Parallels Client might freeze.
- Fixed: Starting published objects that use custom preferred routing crashes Parallels Client.
- Fixed: Starting a published application using only the primary monitor on a multi-monitor system might result in a mouse working at an offset of its current position.
- Fixed: The "Do not warn if the server certificate is not verified" option does not work.
- Fixed: Adding the same connection via URL schema invite always adds a new connection.

Parallels Client (Linux) v19.2-23906 (28 March 2023)

- New: Support for items published on Azure Virtual Desktop.
- Improved: Camera redirection stability.
- Improved: Fullscreen published applications support on displays with panels.
- Improved: Position for maximized window for published applications.
- Fixed: Maximized/Restored window using different displays on a multi-display system.

- Fixed: Tooltips might show on the taskbar.
- Fixed: Redirection policy might end up with published items not launching.

Parallels Client (Linux) v19.1.1.1-23476 (22 December 2022)

- Fixed: Various fixes when running published applications on a multi-monitor system.

Parallels Client (Linux) v19.1.1-23473 (09 December 2022)

- Improved: Correct redirection of the desktop work area for published applications.

Parallels Client (Linux) v19.1-23468 (15 November 2022)

- New: Support Ubuntu 22.04 LTS
- Fixed: Drag and drop may not work with specific applications.

Parallels Client (Linux) v19.0-23304 (26 July 2022)

- New: Support for Debian 11 and Fedora 35.
- New: Drop support of Ubuntu 16.04, CentOS 7 and 8, Debian 9, and Fedora 33
- New: Ability to initiate SAML authentication.
- New: Email-based connection discovery.
- Improved: Support for RDP 10.3-10.4.
- Improved: Client updater information data is now retrieved over HTTPS.
- Improved: Connection page of the client properties shows the correct FIPS compliance state.
- Fixed: Published item shortcuts on a desktop will disappear when starting Parallels Client from an installation with restricted use.
- Fixed: Desktop sessions do not span across multiple monitors.
- Fixed: Error "Failed to process command line parameters." is shown during application launch when using a specific command-line parameter.
- Fixed: Unable to open a published application on multiple monitors in Kubuntu.
- Fixed: Printing fails if all shortcuts to published objects are disabled.

Parallels Client (iOS)

Parallels Client (iOS) v19.4 - 24923 (2 May 2024)

- Improved: Show instructions prompt administrator provided when users are asked for TOTP or Radius OTP.
- Removed: Session prelaunch support.
- Removed: Swiftpoint mouse support via its direct SDK, as now it is supported by the OS directly.

Parallels Client (iOS) v19.3.2-24625 (21 February 2024)

- New: Removed the telemetry component (Flurry).
- Fixed: Favorite applications do not have the star icon.

Parallels Client (iOS) v19.3.1-24588 (12 December 2023)

- Fixed: Failed to start applications from User Portal.
- Fixed: Incorrect Save Password policy applied.
- Fixed: Applications don't start automatically with "Start automatically when user logs" option enabled.

Parallels Client (iOS) v19.3-24285 (17 October 2023)

- New: Ability to show passwords is added.
- New: Ability to change user passwords via third-party IdPs.
- New: Favorite items support.
- Improved: Allow choosing the authentication mode when inviting users.
- Improved: Upgraded to OpenSSL 3.0.10.
- Improved: RAS Client reports the latest Apple Operating systems.
- Fixed: Connecting to a RAS connection for the first time might result in icons not being shown.
- Fixed: Login window: Using the "Next" key does not work.
- Fixed: Black, empty screen might be shown when switching between the launcher and a running remote desktop.

Parallels Client (iOS) v19.2.3.1-24090 (02 October 2023)

- Fixed: The client, running on iOS17, might stop working when pressing the Enter key on an external keyboard.

Parallels Client (iOS) v19.2-24080 (28 March 2023)

- Fixed: Authentication using UPN might fail.

Parallels Client (iOS) v19.1-23485 (15 November 2022)

- Improved: General stability and performance improvements.
- Fixed: Cannot set desktop custom resolution on iOS 15 and iOS 16.
- Fixed: "Request Support" link does not work.
- Fixed: Authentication using UPN might fail.

Parallels Client (iOS) v19.0.2.23357 (31 August 2022)

- Fixed: Low-quality screen output on devices with high scale factor.

Parallels Client (iOS) v19.0-23351 (26 July 2022)

- New: Secure folder redirection to be used in remote sessions.
- New: Email-based connection discovery.
- New: Apple pencil redirection with RAS policy support.
- New: Updated minimum supported version to iOS 13.
- Improved: Tutorial and troubleshooting screen.
- Improved: User is prompted for resolution changes when a keyboard is opened.
- Improved: General updates and improvements.
- Improved: Support for RDP 10.3-10.4.
- Fixed: Report might not be sent when an application crashes.
- Fixed: After copying and pasting data in a Microsoft Excel document on a virtual desktop, autofill in Microsoft Excel is slow.

Parallels Client (Android)

Parallels Client (Android) v19.4-24922 (2 May 2024)

- Improved: Show instructions prompt administrator provided when users are asked for TOTP or Radius OTP.
- Improved: Application stability.
- Fixed: Using split-screen mode while a published application is running might result in a crash.
- Fixed: Application might crash if you add an RDP connection with invalid credentials.
- Removed: Session prelaunch support.

Parallels Client (Android) v19.3.2-24617 (21 February 2024)

- New: Removed the telemetry component (Flurry).

Parallels Client (Android) v19.3.1-24589 (12 December 2023)

- Fixed: Possible crash if launching Parallels Client after a forced close and internet is not available.
- Fixed: Possible crash while importing RAS connections from a file.
- Fixed: Pointer mouse mode on Google Pixel 7 Pro may not work properly.

Parallels Client (Android) v19.3.0.1-24286 (07 November 2023)

- Fixed: Possible crash when connecting to a RAS Farm.
- Fixed: Possible crash when switching between Favorites and All Apps tabs.
- Fixed: Possible crash when device orientation changes on opening a published application.
- Improved: Application workflow in Split mode.

Parallels Client (Android) v19.3-24283 (17 October 2023)

- New: Ability to change user passwords via third-party IdPs.
- New: Favorite items support.
- Improved: Allow choosing the authentication mode when inviting users.
- Improved: Upgraded to OpenSSL 3.0.10.
- Fixed: Redirection policy does not work with web authentication.
- Fixed: Possible crash on session disconnect when running sessions from User Portal.
- Fixed: Published items that are removed from maintenance mode are not visually updated on refresh.
- Fixed: Possible crash when launching an application.

Parallels Client (Android) v19.2.2-24081 (29 May 2023)

- Fixed: Possible crash when opening connection list.

Parallels Client (Android) v19.2-24080 (28 March 2023)

- Fixed: Authentication using UPN might fail.
- Fixed: Possible crash when switching to application while it is running in the background.
- Fixed: Possible crash when searching through multiple connections.

Parallels Client (Android) v19.1-23485 (15 November 2022)

- Improved: General stability and performance improvements.
- Fixed: May experience crashes when creating a shortcut by dragging an icon.
- Fixed: The user's password change might fail.
- Fixed: Authentication using UPN might fail.

Parallels Client (Android) v19.0.1-23356 (11 August 2022)

- Improved: Improved overall stability.
- Fixed: Possible crash when using File Manager.
- Fixed: Unable to protect the application with a PIN.
- Fixed: Possible crash when launching an application with the pointer mouse mode activated.

Parallels Client (Android) v19.0-23351 (26 July 2022)

- New: Added support for Android 12 and updated the minimum supported version to Android 7.0.
- New: Secure folder redirection updated to support the latest security requirements.
- New: Email-based connection discovery. Information needs to be stored in a DNS record.
- New: Pen and touch input redirection with RAS policy support.
- Improved: Add support for RDP 10.3-10.4.
- Improved: Tutorial and troubleshooting screen.
- Improved: General updates and improvements.

Parallels Client (Chrome App)

Parallels Client (Chrome App) v19.0-23304 (26 July 2022)

- Improved: General updates and improvements.

RAS Reporting

Reporting v19.4-24819 (2 May 2024)

- New: "Sessions disconnect for RD Session Host Pool" report.
- New: "Sessions disconnect for VDI Host Pool" report.
- New: "Transport protocol for RD Session Host Pool" report.
- New: "Transport protocol for VDI Host Pool" report.
- New: "Transport protocol for AVD Host Pool" report.
- New: "Bandwidth availability for RD Session Host Pool" report.
- New: "Bandwidth availability for VDI Host Pool" report.
- New: "Bandwidth availability for AVD Host Pool" report.
- New: "Latency for RD Session Host Pool" report.
- New: "Latency for VDI Host Pool" report.
- New: "Latency for AVD Host Pool" report.
- New: "Connection quality for RD Session Host Pool" report.
- New: "Connection quality for VDI Host Pool" report.
- New: "Connection quality for AVD Host Pool" report.
- New: "UX Evaluator for RD Session Host Pool" report.

- New: “UX Evaluator for VDI Host Pool” report.
- New: “UX Evaluator for AVD Host Pool” report.
- New: “Logon Duration for RD Session Host Pool” report.
- New: “Logon Duration for VDI Host Pool” report.
- New: “Logon Duration for AVD Host Pool” report.
- Improved: Changed the log level from “Error” to “Extended” for transactions that do not have full information.
- Fixed: Data retention for “Logon Duration” and “User experience” is not observed.

Reporting v19.3.1-24581 (12 December 2023)

- Fixed: Applications reports might not return data.

Reporting v19.3-24281 (17 October 2023)

- New: Session activity report for RDSH Host Pool.
- New: Session activity report for VDI Host Pool.
- New: Session activity report for AVD Host Pool.
- New: Session disconnect report for all users.
- New: Session disconnect report for a specific user.
- New: Session disconnect report for an RD Session Host.
- New: Session disconnect report for a VDI provider.
- New: Session disconnect report for an AVD provider.
- Improved: Restructured server activity reports and changed terminology where required.
- Improved: During setup, you can decide if firewall rules are added automatically or not.
- Improved: Information processing from Connection Broker was improved to handle more transactions.
- Improved: Reports fit pages when printing.
- Improved: Add the "Server" column in the "Session activity for all users" report.
- Critical Fix: Memory leak detected.
- Fixed: Data information that was received before the starting time of the report is being used in the report.
- Fixed: Invalid IP might be shown in the "Client IP" column in the "Session activity for all users" report.

Reporting v19.2.1-23778 (18 April 2023)

- Fixed: RAS Reporting 19.2.0 build 23775 requires the installation to be deployed twice to work.

Reporting v19.2-23775 (28 March 2023)

- Improved: Reports are set to use the whole available area on screen.
- Fixed: Reports do not include data if the information sent from Connection Broker is collected before the start of the report time period.

Reporting v19.1-23463 (15 November 2022)

- New: Detailed Connection Quality reports for all users, a specific user, or a specific server.
- New: Detailed Latency reports for all users, a specific user, or a specific server.
- New: Detailed Bandwidth Availability reports for all users, a specific user, or a specific server.
- New: Detailed Transport Protocol reports for all users, a specific user, or a specific server.
- Fixed: During installation, if you choose the option "localhost", you might get the error "SQL server version 'localhost' is not supported."

Reporting v19.0.23305 (26 July 2022)

- New: Updated system requirement to support Windows Server 2012 R2 up to Windows Server 2022 and Microsoft SQL Server and SQL Server Reporting Services (SSRS) version 2016, 2017, and 2019.
- New: Detailed Logon Duration reports for all users, a specific user, or a specific server.
- New: User experience reports.
- Fixed: Reports list is sent to the RAS Console in the requested language.
- Fixed: Full user information does not show correctly when exported to PDF.
- Fixed: Reporting installer launches twice.

RAS Performance Monitor

RAS Performance Monitor v19.4-24796 (2 May 2024)

- Fixed: PowerShell module grafana_update_dashboard.ps1 signed with a self-signed certificate.

RAS Performance Monitor v19.3-24239 (17 October 2023)

- Fixed: Adding a new user in Grafana fails.

RAS Performance Monitor v19.2-23764 (28 March 2023)

- Improved: Upgraded Grafana from version 9.0.3 to 9.2.7.
- Improved: Included Enrollment servers information.
- Fixed: A number of graphs are not showing in the dashboard.

RAS Performance Monitor v19.1.1.1-23456 (22 December 2022)

- Fixed: Various graphs do not contain relevant information.

RAS Performance Monitor v19.1-23454 (15 November 2022)

- Improved: Grafana updated to version 9.0.3.

RAS Performance Monitor v19.0-23303 (26 July 2022)

- New: Updated system requirement to support Windows Server 2012 R2 up to Windows Server 2022.
- New: Updated terms based on the terminology updates.
- Fixed: Dashboards and credentials are reset after an upgrade.

RAS Browser Plugin

RAS Browser Plugin v19.3.1-24558 (17 October 2023)

- Improved: Browser Vulnerabilities CVE-2023-4863 - Upgraded electron to version v27.0.0.

RAS Browser Plugin v18.1-22629 (09 December 2022)

- Fixed: Upgrading to version 18.1.22627 might result in missing files which require a repair of the setup.

RAS Browser Plugin v18.1-22627 (15 November 2022)

- Improved: Upgraded browser plugin framework from version 8.2.3 to 21.1.1.

HALB

HALB v19.3-24515 (17 October 2023)

- Improved: HALB VHD images are now compressed.
- Improved: Upgraded to OpenSSL 3.0.10 (FIPS 3.0.8).
- Improved: Add support for TLS 1.3.

HALB v19.1-23468 (15 November 2022)

- Improved: HALB Agent updated to TLS 1.2.

HALB v19.0.23304 (26 July 2022)

- Improved: General updates and improvements

Known issues

To access information on known issues and their resolutions, please refer to the article: [Parallels Remote Application Server v19 Known Issues](#)

For any assistance or direct support inquiries, please reach out to our support team by visiting [Support | Parallels RAS](#)