



Parallels Remote Application Server version 17 Release Notes

- Parallels Remote Application Server 17.0
- Parallels Remote Application Server 17.1

Supported Platforms

- Discontinued support for installing RAS Publishing Agent services on a non 64-bit platform.
- Discontinued support for installing RAS Gateway service on a non 64 bit platform.
- Discontinued support for installing RDSH Agent on Windows 2003 servers.
- Minimum requirements to deploy the RAS Guest Agent are Windows 7 or higher for workstations, or Windows 2008 R2 or higher for server operating systems.
- Minimum requirements to deploy the RAS Console are Windows 7 or higher for workstations, or Windows 2008 R2 or higher for server operating systems.
- Minimum requirements to deploy the Parallels Client for Windows are Windows 7 or higher for workstations, or Windows 2008 R2 or higher for server operating systems.
- Discontinued support for installing Parallels Client for Linux on 32 bit platforms.
- Discontinued support for RAS arm/pi client.
- Discontinued support for RAS Web Portal.

Changes in trusted certificates (trusted.pem)

Added

- Trustwave Global ECC P256 Certification Authority
- VRK Gov. Root CA - G2
- NAVER Global Root Certification Authority
- Autoridade Certificadora Raiz Brasileira v5
- RCSC RootCA
- Trustwave Global Certification Authority
- Trustwave Global ECC P384 Certification Authority

Removed

- Fabrica Nacional de Moneda y Timbre
- NetLock Uzleti (Class B) Tanusitvanykiado
- GeoTrust Global CA 2
- NetLock Kozjegyzoi (Class A) Tanusitvanykiado
- NetLock Expressz (Class C) Tanusitvanykiado

Parallels Remote Application Server Parallels version 17.1.3 (21955) - 30 March 2021

Remote Application Server Core version 17.1.3 (21955)

- Improved: Localized strings in Japanese language.

- Improved: Publishing Agent stability improvements.
- Improved: RAS management console message in case it is not able to communicate with the remote installer service.
- Improved: RAS management console process using elevated privileges if the user is in the local administrator group.
- Fixed: Incorrect SSL extension error when using Dell Wyse ThinOS with RAS version 17.1 and above.
- Fixed: In some scenarios, Publishing Agent may occasionally display the "Not Verified" state or the service may experience crashes.
- Fixed: In some scenarios, Enrollment Server may get stuck in "Synchronizing" state.
- Fixed: Enrollment Server deployed on the secondary site receives an incorrect registration certificate.
- Fixed: A remote user is able to connect to a Remote PC despite another locally logged in user.
- Fixed: In case using a VDI provider, user may connect to a different Guest VM than the one assigned.
- Fixed: Orphaned sessions may appear in the Session management tab without an ability to control.
- Fixed: The RAS Console may crash while a template is exiting from maintenance.
- Fixed: In rare scenarios, submitting a system report to Parallels may fail.
- Fixed: When using VMWare vSphere as a VDI provider, Guest VM recreation may fail when using VMware vSphere Virtual Volumes (vVols).
- Fixed: In case using Thermal printers such as Star TSP100 or Star TSP700 printouts are incorrect.
- Fixed: In case using Remote PC as a VDI provider, Remote PCs may become "not verified" after a reboot.
- Fixed: Unexpected window popup behavior in a remote application.
- Fixed: SAML SSO authentication is not available after a restart of the server hosting Enrollment Server Agent and Publishing Agent.
- Fixed: In some scenarios, Guest VMs may not be enumerated when using Remote PC as a VDI provider.
- Fixed: Taskbar icons might not always show for published applications.
- Fixed: When using Microsoft Hyper-V Cluster as a VDI provider, template creation fails when deploying full clones over SMB file share.
- Fixed: RAS console might crash while updating RAS Guest Agents.
- Fixed: Intermittently RAS management console fails to receive a reply from Publishing Agent.
- Fixed: Printing fails if a redirected printer includes Japanese characters.
- Fixed: After an upgrade from RAS version 17.0.1, RDP-UDP tunneling may stop working unexpectedly.
- Fixed: In case using Microsoft Hyper-V as a VDI provider, some Guest VMs could stay in "Not verified" state after creation.

HTML5 Gateway:

- Fixed: In rare scenarios, published application may crash when accessed using the HTML5 Client.

PowerShell version 17.1.3 (21952)

- Fixed: RAS Powershell module cmdlets generate the error "'DontShow' property specified was not found".

Parallels Client (Linux) 17.1.3 (21954)

- New: Added support for Ubuntu 20.04.
- Fixed: Some hotkeys do not work as expected on the Published Desktop session on Ubuntu x64 client with 4K resolution.
- Fixed: While working with published Microsoft Excel only "paste as values" is available.
- Fixed: Extra blank lines are inserted when you copy and paste multiline text in published application.

Reporting 17.1.3 (21957)

- Fixed: Data retention settings are not followed causing unexpected storage consumption.

- **Fixed:** A test connection may result in "Failed to get report list" error.
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Remote Application Server Parallels version 17.1.2.2 (21874) - 1 October 2020

RAS Core v17.1.2.2-21874

- **Fixed:** Launching published resources with long override parameters may fail.
 - **Fixed:** In some scenarios, high memory usage is experienced on Secure Client Gateway and Enrollment Server.
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Remote Application Server Parallels version 17.1.2.1 (21873) - 15 September 2020

RAS Core 17.1.2.1 (21873)

- **Fixed:** Security vulnerability issue disclosed in Parallels KB article <https://kb.parallels.com/en/125112>.
- **Fixed:** VDI Remote PCs can become not verified

HTML5 Gateway:

- **Fixed:** Security vulnerability issue disclosed in Parallels KB article <https://kb.parallels.com/en/125112>.

Parallels Client (Linux) v17.1.2-21869

- **Fixed:** Security vulnerability issue disclosed in Parallels KB article <https://kb.parallels.com/en/125112>, dependent on Parallels RAS security update version 17.1 Update 2 Hotfix 1.

Parallels Client (Mac) v17.1.2-21868

- **Fixed:** Security vulnerability issue disclosed in Parallels KB article <https://kb.parallels.com/en/125112>, dependent on Parallels RAS security update version 17.1 Update 2 Hotfix 1.

Parallels Client (iOS) v17.1.2-21808

- **Fixed:** Security vulnerability issue disclosed in Parallels KB article <https://kb.parallels.com/en/125112>, dependent on Parallels RAS security update version 17.1 Update 2 Hotfix 1.

Parallels Client (Android) v17.1.2-21808

- **Fixed:** Security vulnerability issue disclosed in Parallels KB article <https://kb.parallels.com/en/125112>, dependent on Parallels RAS security update version 17.1 Update 2 Hotfix 1.

Parallels Client (Chrome App) v17.1.2-21868

- **Fixed:** Security vulnerability issue disclosed in Parallels KB article <https://kb.parallels.com/en/125112>, dependent on Parallels RAS security update version 17.1 Update 2 Hotfix 1.
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Remote Application Server Parallels Client (Android) v17.1.2-21806 - 31 July 2020

- **Fixed:** When an external keyboard is used, "+" and "=" symbols are not typed in a remote session.
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Remote Application Server v17.1.2 - 21860 - 15 July 2020

RAS Core v17.1.2.21860

- **New:** Support for Nutanix Acropolis (AOS) 5.15 as a VDI Provider.
- **New:** Support for creating RD Session Host template on Nutanix AOS 5.15.
- **New:** Ability to recreate Guest VM while preserving its MAC address on Nutanix AOS 5.15.
- **New:** Ability to specify RAS Shell with RAS Agent internal communication port manually through registry. In case that port is in use, a new port is dynamically chosen for communication.
- **Improved:** Configured VDI pool might not be visible in the available list of pools when publishing applications.
- **Improved:** Localization improvements.
- **Improved:** Reporting tool logs archive size optimization.
- **Critical Fix:** RAS Publishing Agent may experience crashes due to high memory consumption.
- **Critical Fix:** RAS RD Session Host Agent crashes occasionally if User Profile Disks are used.
- **Fixed:** Using Google Authenticator, or other TOTP provider, as an MFA provider, users added in the exclusion list could still be prompted to provide a one-time password.
- **Fixed:** When using Zebra label printer and Parallels Client for Mac, default paper size is not forwarded correctly and incorrect page margins are noticed.
- **Fixed:** When using VMware vCenter as a VDI provider and creating a template, a particular host is selected instead of the resource pool for Guest VM deployment.
- **Fixed:** SAML authentication fails when multiple displays are used.
- **Fixed:** In certain scenarios, when using Remote PC as a VDI provider, Remote PC agent may occasionally show "Not Verified" state.
- **Fixed:** When using Remote PC as a VDI provider, Remote PC from a trusted domain is not available for publishing.
- **Fixed:** In certain scenarios, when using a Gateway connection mode through a VPN, published resource may fail to start.
- **Fixed:** VDI pool is not available for publishing.
- **Fixed:** Trusted.pem file is removed if RAS Console or RAS PowerShell components are uninstalled.
- **Fixed:** Unable to launch sessions from powered off or suspended Guest VMs.
- **Fixed:** Fujitsu Paperstream IP 7030 scanner is not redirected using TWAIN.
- **Fixed:** VDI Agent fails to install on a 32-bit operating system.
- **Fixed:** Applications published from Remote PCs, display elements of host PC desktop.
- **Fixed:** Change of network adaptors on the licensing server may lead to a duplicate records for the same RAS Farm.
- **Fixed:** In some scenarios, settings may not apply to Secondary Publishing Agents.
- **Fixed:** Some RD Session Host control settings, such as "Disable logons until server restart", are ignored.
- **Fixed:** In some scenarios, Microsoft Excel documents printouts are incorrect.
- **Fixed:** Unable to launch a published application if RD Session Host session is in a disconnected state.

HTML5 Gateway:

- **Improved:** When using HALB, HTML5 Portal may experience long loading time.
- **Improved:** Mouse behaviour in published sessions when using CAD applications.
- **Critical Fix:** Vulnerability CVE-2017-9447 has been addressed.
- **Fixed:** When using Mozilla Firefox, '/' symbol is intercepted while typing in a published desktop session.
- **Fixed:** In rare scenarios, published desktops configured to open in full screen, may fail to start.

Parallels Client (Windows) v17.1.2.21859

- **New:** Ability to control Windows touch input redirection.

- **Improved:** In rare scenarios, published application does not allow to be minimized or switched to another window.
- **Fixed:** In some scenarios, when using a Gateway connection mode through a VPN, published resource may fail to start.
- **Fixed:** Print preview window may appear in the background of a published application.
- **Fixed:** In some scenarios, with PrintBoss software installed, Parallels Client may experience crashes.

Parallels Client (Linux) v17.1.2-21853

- **Fixed:** Windows key remains pressed after restoring a minimized published desktop.

Parallels Client (Mac) v17.1.2-21853

- **Fixed:** Some keys might be redirected incorrectly when using the Italian keyboard layout.
- **Improved:** Performance and stability.

Parallels Client (iOS) v17.1.2-21805

- **Improved:** Performance and stability.

Parallels Client (Android) v17.1.2-21805

- **Improved:** Performance and stability.
- **Fixed:** Tab key pressed on an external hardware keyboard might not work in a remote session.
- **Fixed:** Integrated barcode scanner might not work properly with applications in a remote session.

Reporting v17.1.2.21859

- **Fixed:** Installation of RAS Reporting Service fails when using Windows Server in French locale.
 - **Fixed:** Power administrator is unable to view reports in the RAS Console.
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Remote Application Server v17.1.1.3-21791 - 22 May 2020

RAS Core v17.1.1.3-21791

- **Fixed:** Occasionally, Publishing Agent may crash due to a database deadlock.
- **Fixed:** RAS Universal Printing does not work as expected after an upgrade from RAS v16.5 Update 5.

Parallels Client for Windows Version 17.1.1.3-21792

- **Fixed:** Warning message from Microsoft SmartScreen due to code signing certificate issue.
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Remote Application Server v17.1.1.21785 - 06 May 2020

Remote Application Server Core v17.1.1.2-21785

- **Fixed:** In certain scenarios, when using SAML based authentication, RD Session Host might experience instability issues, resulting in unexpected reboots.
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Remote Application Server v17.1.1.21783 - 28 April 2020

Remote Application Server Core v17.1.1.1-21783

- **Improved:** Performance and stability improvements.
- **Fixed:** In some scenarios, remote applications do not start for a user with an existing disconnected session running on an RD Session Host.
- **Fixed:** The resource pool list is not populated when using VMware vCenter as a VDI Provider.
- **Fixed:** Creation of a Guest VM from a Template might fail due to delays in obtaining an IP address from the DHCP server.
- **Fixed:** In certain scenarios, when using Remote PC as a VDI Provider, the Preferred Publishing Agent assignment might change unexpectedly.
- **Fixed:** SAML authentication in multi-domain Active Directory environments.
- **Fixed:** High memory usage on a Publishing Agent when using multi-factor authentication exclusions.

Parallels Client for Windows Version 17.1.1.1-21783

- **Fixed:** Security improvements.
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Remote Application Server - Mobile Clients - 21 April 2020

Parallels Client (iOS) v17.1.1-21785

- **New:** Support for secondary connections to provide alternative connections to RAS environment, in case primary connection is not reachable.
- **Improved:** Disable UDP from the clients if RAS Secure Client Gateway UDP tunneling is disabled.
- **Improved:** App Launcher button is restored on the App Switcher to ease navigation to the list of published items.
- **Improved:** Localisation for the configuration dialog, in case Google Authenticator or other Time-based One-time password (TOTP) provider is used as a multi-factor authentication provider.
- **Improved:** Performance and stability.
- **Fixed:** Password expiration reminder might not appear.
- **Fixed:** Exported connection settings might not be imported properly by other RAS Clients.
- **Fixed:** Icons for some applications might be missing in the App Switcher.
- **Fixed:** Tapping "Back" in multi-line text edit mode hides the keyboard.
- **Fixed:** Text entered in multi-line text edit mode is lost after switching between remote applications.
- **Fixed:** Deleted RAS connections might appear in Spotlight search results.
- **Fixed:** A minimized remote application window might not be restored from the App Switcher.

Parallels Client (Android) v17.1.1-21786

- **New:** Ability to control visibility of the text selection toolbar within the RAS session.
- **Improved:** External keyboard usage in "PC Keyboard" mode.
- **Improved:** Mouse pointer state synchronization with a remote application while in Samsung DeX mode.
- **Improved:** Additional keys bar appearance when using external keyboard.
- **Improved:** Increase delay to show window header in full screen while in Samsung DeX mode.
- **Improved:** Disable UDP from the clients if RAS Secure Client Gateway UDP tunneling is disabled.
- **Improved:** Mouse pointer mode usability on a Chromebook.
- **Improved:** Interoperability with HTML5 Client.
- **Improved:** Performance and stability.
- **Fixed:** Client might crash after receiving a One-time password (OTP) when it connects to a RAS Farm.

- **Fixed:** Client PIN code request might not appear after application start.
 - **Fixed:** Text selection in a remote application is dropped after right mouse click in Samsung DeX mode.
 - **Fixed:** On-screen keyboard might automatically pop up when using an external keyboard.
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Remote Application Server 17.1.1 (21772) - 19 March 2020

RAS Core v17.1.1.21772

- **New:** Support for Microsoft Hyper-V cluster on SMB (3.0) for RD Session Hosts and VDI provisioning.
- **New:** Ability to exclude specified Active Directory users or groups from multi-factor authentication.
- **New:** Prevent user enrollment by a predefined time limit when using Google Authenticator, or another Time-based One-time password (TOTP) provider, as a multi-factor authentication provider.
- **New:** A schedule can now have multiple individuals or groups of RD Session Hosts as targets.
- **New:** Add multiple messages at different times within the same RD Session Host schedule. Similarly, messages may also be sent after RD Session Hosts are in drain mode.
- **New:** Set recurrence for an RD Session Host schedule for different days of the week.
- **New:** Control URL/Mail redirection for applications using Shell namespace objects.
- **New:** RAS system notification when a Tenant has unjoined the Tenant Broker.
- **New:** RAS system notification when a Secure Client Gateway in Tenant Broker cannot connect to a Tenant resource object.
- **Improved:** Extended support for multi-domain Active Directory environments for SAML SSO authentication.
- **Improved:** Support escape characters in Active Directory Distinguished Names fields when using SAML SSO authentication.
- **Improved:** Application launch time when using published Microsoft App-V applications.
- **Improved:** Usage of same SSL certificate in different RAS sites in the same RAS Farm.
- **Fixed:** Smart card logon does not work if server is also used for SAML authentication.
- **Fixed:** In certain scenarios, event notifications from RAS Agents may not be sent.
- **Fixed:** When using non-alphanumeric characters in SAML attribute names, a System Error is shown and RAS Enrollment Server Agent may experience a crash.
- **Fixed:** Session Idle time may show incorrect values.
- **Fixed:** HALB status may show as "Not Verified" after the master Publishing Agent temporarily goes down.
- **Fixed:** When using non-English operating systems and SAML authentication, session logon does not complete automatically.
- **Fixed:** When a user closes all published applications and session closes, the notification "The remote computer has ended the connection" is shown on the client side.
- **Fixed:** When using Remote PC as a VDI provider, session is not detected if user is already connected to the Remote PC Guest.
- **Known Issues:** SAML authentication in a multi-forest environment may fail.

HTML5 Gateway:

- **Improved:** Download from HTML5 portal may prompt to store file in Windows\System32 rather than in the user's Download folder.
- **Fixed:** When downloading files, extension may be replaced with 'txt'.

HALB v17.1.1.21748

- **Improved:** Broadcasting VRRP IP address periodically.

RAS PowerShell & REST API v17.1.1.21772

- **New PowerShell Cmdlets:**

- ◆ Get-GWDefaultSettings - Retrieves default settings used to configure a Secure Client Gateway.
- ◆ Set-GWDefaultSettings - Modifies default settings used to configure a Secure Client Gateway.
- ◆ Get-RASCertificate - Retrieves information about one or multiple certificates.
- ◆ New-RASCertificate - Creates a certificate by importing a Certificate/Pfx file, generating a self-signed certificate or generating a certificate request.
- ◆ Set-RASCertificate - Modifies the details of a certificate.
- ◆ RemoveRASCertificate - Removes a certificate.
- ◆ Invoke-RASExportCertificate - Exports a certificate to a file.
- **Improved:**
 - ◆ Invoke-Apply - Added the FullSync option for the cmdlet to return when all the RAS Publishing Agent have finished loaded the new settings.
- **Fixed PowerShell Cmdlets:**
 - ◆ Get-VDIGuest - Fixed filtering by VDI Template object.
 - ◆ Get-VM - Fixed getting by ID does not require SiteId
 - ◆ New REST API calls:
 - ◆ Ability to manage Secure Client Gateway default settings.
 - ◆ Ability to manage certificates.
 - ◆

Parallels Client (Windows) v17.1.1.21772

- **New:** Show progress information for lengthy drag & drop actions.
- **Fixed:** Some published applications may not have an icon on the Taskbar.
- **Fixed:** When using Webroot SecureAnywhere AntiVirus, the first character typed might not be sent to the remote session.
- **Fixed:** White-labeled client upgrade might lose shortcut on desktop.

Parallels Client (Linux) v17.1.1.21748

- **Fixed:** Text pasted in remote session might get corrupted.
- **Fixed:** Some application windows cannot be minimized.
- **Fixed:** Some published applications may not have an icon on the Taskbar.

Parallels Client (Mac) v17.1.1.21772

- **Improved:** Timezone redirection when using Internet Explorer.
- **Fixed:** Invalid credentials may result when using "Use pre Windows 2000 Login format" option.
- **Fixed:** Instability issues when using published resources on a multi-monitor.
- **Fixed:** Some published applications may not have an icon in the Dock.

Parallels Client (Chrome App) v17.1.1.21760

- **Fixed:** Some published applications may not have an icon on the Taskbar.

Reporting v17.1.1.21772

- **Improved:** .Net requirements message during installation.

RAS Performance Monitor v17.1.1.21772

- **Fixed:** Group filter not applied.
- **Fixed:** Data from RAS Agents to RAS Performance Monitor is not sent if RAS Farm or RAS Site name contains non-alphanumeric characters.

HTML5 Gateway:

- **Fixed:** In some scenarios, when using HTML5 Client on Google Chrome, download of files does not work as expected.
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Remote Application Server - Mobile Clients 17.1.0 (21727) - 5 February 2020

Parallels Client (iOS) v17.1.0-21727

- **New:** Compatibility with iPad® Multitasking capabilities supporting Split View and Slide Over.
- **New:** Dark Mode support introduced in iOS 13.
- **Improved:** Google Authenticator MFA registration process.
- **Improved:** Application detection within session to avoid unexpected session disconnections.
- **Improved:** Performance and stability.
- **Fixed:** Timezone redirection.
- **Fixed:** In some scenarios, when changing RAS connection mode during an active session, published applications or desktops may not launch.
- **Fixed:** In some scenarios, when using URL schema to launch published applications or desktops, Parallels Client may crash.
- **Fixed:** When "Additional Keys" is enabled, one-finger scroll does not work in RAS session.
- **Fixed:** Empty published folders do not appear in App Launcher.

Parallels Client (Android) v17.1.0-21727

- **New:** Samsung DeX support enhancing users' mobility and productivity, using external monitor or TV, PC or Mac along with external mouse and keyboard for a rich desktop-like experience when using Parallels RAS.
 - **Improved:** Google Authenticator MFA registration process.
 - **Improved:** Application detection within session to avoid unexpected session disconnections.
 - **Improved:** Performance and stability.
 - **Fixed:** Timezone redirection.
 - **Fixed:** In some scenarios, when changing RAS connection mode during an active session, published applications or desktops may not launch.
 - **Fixed:** In some scenarios, when using URL schema to launch published applications or desktops, Parallels Client may crash.
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Remote Application Server 17.1.0 (21679) - 23 January 2020

RAS Core Version 17.1.0.2 (21679)

- **Fixed:** High memory usage on RAS Secure Client Gateway.
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Remote Application Server 17.1.0 (21676) - 10 January 2020

RAS Core v17.1.0-21676

- **Fixed:** Using Microsoft Azure as a VDI provider, Template creation might fail due to lack of Zone-redundant storage (ZRS) availability in some regions.
- **Fixed:** Smartcard logon on RDSH and/or VDI fails when Enrollment Servers are added.
- **Fixed:** Previous versions of Secure Client Gateway installed on Windows Server installed in Server Core, might fail to upgrade to RAS 17.1.
- **Fixed:** In some scenarios, VDI Appliance might fail to connect to VMware vCenter Server 6.7.
- **Fixed:** SAML related log files are not included in the send support request from the RAS console.
- **Fixed:** Automatically adding Firewall rules during remote installation of Enrollment Servers fails to open the required ports.
- **Fixed:** Publishing Agent service may get stuck if the service is restarted after managing a client device.
- **Fixed:** In some scenarios, using the HTML5 portal Favorites may cause a crash in the secondary Publishing Agent/s.

HTML5 Gateway:

- **Fixed:** Opening a published application or desktop in a new browser tab may result in constant tab refreshing.
- **Fixed:** CSV files downloaded with wrong extension through HTML5 Client using Google Chrome.

RAS PowerShell:

- **Fixed:** Online help documentation links.

Remote Application Server 17.1.0 (21669) - 10 December 2019

RAS Core version 17.1.0-21669

- **New:** Multi-tenant architecture with the introduction of Tenant Broker providing the ability to use shared RAS Secure Client Gateways and HALBs.
- **New:** Added support for SAML 2.0 Single sign-on (SSO) authentication.
- **New:** Centralized SSL Certificate Management of SSL certificates on RAS Secure Client Gateways and HALBs.
- **New:** Added support of AWS Elastic Load Balancer (ELB) to be used as a front-end load balancer.
- **New:** Added support of Network Load Balancer which is needed to split HTTP and RDP traffic on alternative port or hostname.
- **New:** Web cookie customization.
- **New:** VDI: Added support for RDSH and VDI provisioning on Microsoft Azure as a new cloud VDI provider.
- **New:** VDI: Ability to specify a flexible naming pattern for Desktops created from a Template.
- **New:** VDI: Added extended information about VDI sessions in RAS console.
- **New:** VDI: Ability to provision RDSH from a template on Scale Computing HC3.
- **New:** VDI: Ability to manage VDI guests belonging to a particular VDI pool or template on Desktops tab in RAS console.
- **Improved:** Error message on attempt to log into Parallels MyAccount with Personal account.
- **Improved:** Security improvement in RAS Console and Publishing Agent communication.
- **Improved:** Use of fully qualified domain names (FQDN) for internal RAS components' communication.
- **Improved:** HSTS max age was updated.
- **Improved:** Default value for RAS Gateways Tunneling Policies was set to none.
- **Improved:** VDI: High availability for VDI Agents running side by side with Publishing Agents.
- **Improved:** VDI: Performance of enumerating, sorting and filtering VMs on Microsoft Hyper-V Failover Cluster.
- **Fixed:** Redirect of URLs using Shell namespace objects.

- **Fixed:** Publishing Agent service may crash after upgrade.
- **Fixed:** Guest Agents may not become verified if the preferred Publishing Agent was changed while VDI host is unchecked in RAS console.
- **Fixed:** Use of fully qualified domain names (FQDN) to prevent multiple registrations of the same RD Session Host in Farm.
- **Fixed:** VDI Guest agents may not become verified if Publishing Agent was restarted.
- **Fixed:** Radius attributes are not sent, when "Forward the first password to Windows Authentication provider" setting is enabled.
- **Fixed:** Client device state may be shown incorrectly in RAS console.
- **Fixed:** QuickBooks 2020 application may crash.
- **Fixed:** In some scenarios, Single Sign-On may not work for RAS console.
- **Fixed:** Persistent Desktop assignment issues.
- **Fixed:** VDI Desktop may not launch if RAS Secure Client Gateway and VDI Agent report to different Publishing Agents.

HTML5 Gateway:

- **Improved:** Original hostname in URL is preserved when redirecting to RAS Secure Client Gateway.
- **Improved:** Security improvements.
- **Fixed:** Keyboard pop up in the mobile browsers.
- **Fixed:** Downloading files from HTML5 client on Safari adds .txt extension.

Known Issues:

- **SAML:** Smartcard Logon on RDSH/ VDI Desktops not working when Enrollment Servers are added.
- **VDI:** RAS Template may not exit Maintenance mode on a successful finish of Template Test Wizard on Microsoft Hyper-V Failover Cluster.
- **VDI:** Guest VMs listing may fail on VMware vCenter if VDI Agent runs in VDI Appliance.

HALB v17.1.0-21669

- **Fixed:** In certain scenarios, when using HALBs, HTML5 Client Portal landing page could take longer to load.

RAS PowerShell and REST API v17.1.0-21669

- **New PowerShell Cmdlets:**
 - ◆ Get-RASCustomPermission - Retrieves the permissions of a RAS Custom administrator account.
 - ◆ Set-RASCustomPermission - Updates the permissions of a RAS Custom administrator account.
 - ◆ Get-RASPowerPermission - Retrieves the permissions of a RAS Power administrator account.
 - ◆ Set-RASPowerPermission - Updates the permissions of a RAS Power administrator account.
 - ◆ Get-RASAdminSession - Retrieves the details of RAS administrator sessions.
 - ◆ Invoke-RASAdminSessionCmd - Sends a command to RAS administrator session (Cmds: Logoff).
 - ◆ Set-VDIPersistentGuest - Assigns a persistent user to VDI Desktop.
 - ◆ Get-RDSession - Retrieves the details of RDP sessions from RD Session Hosts and VDI Desktops.
 - ◆ Get-2FAExcludeGWIPList - Retrieves the list of excluded RAS Secure Client Gateway IP addresses.
 - ◆ Get-2FAExcludeIPLList - Retrieves the list of excluded client IP addresses.
 - ◆ Get-2FAExcludeMACList - Retrieves the list of excluded client MAC addresses.
 - ◆ Get-2FARadiusAttribute - Retrieves the Radius attribute list.
 - ◆ Get-PubAppFileExt - Retrieves the file extensions for the specified published resource.
 - ◆ Get-PubRDSAppServerAttr - Retrieves the attribute settings of published resource.

- ◆ Get-PubItemUserFilter - Retrieves the list of filtered user accounts for the published resource.
- ◆ Get-PubItemClientFilter - Retrieves the list of filtered client device names for the published resource.
- ◆ Get-PubItemIPFilter - Retrieves the list of filtered client IP address for the published resource.
- ◆ Get-PubItemMACFilter - Retrieves the list of filtered client MAC address for the published resource.
- ◆ Get-PubItemGWFilter - Retrieves the list of filtered RAS Secure Client Gateway IP addresses for the published resource.
- ◆ Get-RASPrintingAutoInstallFont - Retrieves the RAS Universal Printing Auto install fonts settings.
- ◆ Get-VDIPoolMember - Retrieves the details of VDI pool member from the specified VDI pool.
- ◆ Get-VDITemplateLicenseKey - Retrieves the list of Windows license keys for the RAS Template.
- **Fixed PowerShell Cmdlets:**
 - ◆ Set-PubItemUserFilter - fixed the command's behavior for a published VDI template.
- **New REST API calls:**
 - ◆ Ability to manage RD Sessions centrally or from hosts objects.
 - ◆ Ability to manage Printing and Scanning preferences in RD sessions.
 - ◆ Ability to configure connection settings.
 - ◆ Ability to manage Admin sessions.
 - ◆ Ability to manage RAS Administrator permissions.
 - ◆ Ability to manage published items.

Parallels Client (Windows) 17.1.0-21669

- **New:** Added support for Server to Client drag and drop to complete bi-directional drag and drop capability.
- **Improved:** Improved description of Google Authenticator MFA registration process.
- **Fixed:** Published application may get stuck in a reconnecting state if display settings are changed.
- **Fixed:** Unattended installation of RAS Single Sign-On Service.
- **Fixed:** Kiosk mode may not work properly on Windows 10.
- **Fixed:** "Delete source file(s) after attach" option may not enable an actual file removal.

Parallels Client (Linux) 17.1.0-21669

- **Improved:** Improved description of Google Authenticator MFA registration process.
- **Improved:** Authentication dialog box appearance when using multi-factor authentication.

Parallels Client (Mac) 17.1.0-21669

- **New:** Added support for Server to Client drag and drop to complete bi-directional drag and drop capability.
- **Improved:** Improved description of Google Authenticator MFA registration process.
- **Improved:** Security improvements.

Parallels Client (Chrome App) 17.1.0-21669

- **Improved:** Ability to enable work area background to replace the black background with a predefined Parallels provided background.
- **Improved:** Improved description of Google Authenticator MFA registration process

RAS Reporting Service 17.1.0-21669

- **New:** Added support of Microsoft SQL Server 2017 & 2019.
- **New:** Added support of Microsoft SQL Reporting Services (SSRS) 2017 & 2019.

Remote Application Server - 17.0.2 - Mobile Clients - 19 December 2019

Parallels Client (iOS) v17.0.2-21514

- **New:** Ability to connect via Tenant Broker in a multi-tenant architecture, using shared RAS Secure Client Gateways and HALBs.
- **New:** Ability to use a configurable Web cookie name required by AWS ELB or other third-party load balancers.

Parallels Client (Android) v17.0.2-21513

- **New:** Ability to connect via Tenant Broker in a multi-tenant architecture, using shared RAS Secure Client Gateways and HALBs.
- **New:** Ability to use a configurable Web cookie name required by AWS ELB or other third-party load balancers.

Parallels Client for Mac Version 17.0.1.3 (21490) - 4 November 2019

- **Fixed:** Security improvements.

Remote Application Server 17.0.1.2 (21486) - 23 October 2019

RAS Version 17.0.1.2 (21486) - 23 October 2019

- **Improved:** Optimize connections from Parallels Clients v17.1 and newer.
- **Fixed:** In some scenarios, client crashes on Igel devices upon connection.

Parallels Client for Mac Version 17.0.1.2 (21481) - 18 October 2019

- **Fixed:** Drive redirection on macOS 10.15

Remote Application Server v17.0.1.1 (21479) - 03 October 2019

RAS Core v17.0.1-21479

- **Fixed:** One of the published applications crashes in some scenarios when 'Use Remoteapps if available' option is not used
- **Fixed:** Remote PC agent can not be installed remotely
- **Fixed:** RAS Management Console freezes when "Apply" button is pressed after an update in some environments with MFA enabled
- **Fixed:** OTP dialog window of SecureAuth MFA is slow in some environments

Remote Application Server v17.0 (21475) - 02 September 2019

- Improved: Increased the limit of connections to one RDSH server to 1000.
 - Improved: REST API documentation is updated with the information about required parameters.
 - Improved: Error message about an attempt to activate the farm with malformed license key is more descriptive.
 - Improved: Russian localization of UI.
 - Improved: "Successful login using RADIUS" message displayed on pre-logon screen removed.
 - Improved: Add checks to HALB configuration to ensure that virtual IP assigned cannot be the same of any devices used and vice versa
-
- Fixed: It's not possible to publish Virtual Desktop if there are no RDSH servers registered in the farm.
 - Fixed: Turbo.net applications cannot be started in some scenarios.
 - Fixed: Printing from published application does not work after session reconnect if RDSH server was reinstalled remotely prior to that.
 - Fixed: New servers for RDSH/VDI group are not requested in some scenarios under high load.
 - Fixed: Switching preferred PA of VDI host in some scenarios leads to "Not Verified" state of VDI guest VMs and errors in logs.
 - Fixed: Firewall rules can be deleted on remote upgrade of Publishing Agents or RDSH agents causing agents to be not verified.
 - Fixed: Clicking Help in Site Defaults for the Publishing Page causes crash of RAS management console application.
 - Fixed: Disconnect, Log off, Send message actions called in process manager cause no action.
 - Fixed: Hyper-V Cluster VMs live migration causes guest VM to go offline if it's located on Cluster Shared Volumes.
 - Fixed: RAS management console crashes on Test Template Wizard completion in some scenarios.
 - Fixed: VDI - When vCenter based VDI host is registered in RAS Farm using limitation to resource pool, RAS template VM appears as "Not Verified" or "Not Exist" after the restart of VDI agent.
 - Fixed: Promotion of secondary Publishing Agent to master Publishing Agent could fail in some scenarios.
 - Fixed: VDI - after the controller is rebooted, VDI status of VDI guest VM is reported as "Not Verified" even though guest VM is available and able to accept users' connections.
 - Fixed: On direct upgrade from RAS 16.2.1 or 16.2.2 or 16.2.3 to RAS 17.0 names of published items' in the RAS management console can be lost.
 - Fixed: Publishing applications of type "Installed Applications", will not be published under the selected folder, instead are published in the root folder.
 - Fixed: VDI - VDI guests are not recreated when using VMware ESXi or vCenter and dedicated VDI agent (VDI appliance).
 - Fixed: RAS management console - Sites tab returns "Failed due to insufficient permissions" when the custom admin doesn't have modify permissions on the current site.
 - Fixed: When a standby Publishing Agent is promoted to master, promotion works as expected but the Publishing Agent is still marked as standby.
 - Fixed: Power Admin without Allow Session Management permissions can see list of sessions in status information page.
 - Fixed: Grace period is not activated when usage count exceeds the licensed amount for prepaid licenses.
 - Fixed: VDI - user name disappears if session state changes to disconnected on the Desktop Tab in RAS management console.
 - Fixed: VMs created from the template of RDSH type can be shown in Desktops tab of RAS management console.
 - Fixed: VDI - in some scenarios persistent assignment of VM to user can be lost if VM is not used for several hours.
 - Fixed: Publishing Agent crashes in some scenarios when the farm includes 3 Publishing Agents and there is VDI used in this farm.
 - Fixed: RAS management console might crash on making a persistent assignment while desktops list is being populated.
 - Fixed: VDI - Upgrade Template would create new VMs rather than create existing VMs in some scenarios in multi Publishing Agents environments.
 - Fixed: RAS management console throws an error "Failed to process VDI action ..." when changing properties of the VDI hosts based on Microsoft Hyper-V.

- Fixed: License information loading could fail in some scenarios in virtual environments (when node is up but network interface driver is not yet operational).
- Fixed: Browsing of domains in Connection category of RAS management console does not work in some scenarios.
- Fixed: VDI - Desktop disappears from 'Desktops' tab and 'Template guest vms list' right after creation in some scenarios when Citrix XenServer. Guest VM stays untouched.
- Fixed: VDI - 2 guests from different VDI pools or from VDI template and VDI pool cannot be assigned to the same user.
- Fixed: Windows start menu icon overlays Parallels Logo in desktop replacement mode.
- Fixed: VDI - Guest VMs created from RDSH template can still be added to VDI pool when "All guest VMs from host" rule is used.
- Fixed: VDI - Guest VMs which are set up to shutdown on disconnect are turned off even after subsequent connections in some scenarios.
- Fixed: Redirection of 'Generic / Text Only' printer fails in some environments with error message in log file devredir.log "Failed to open printer 'Generic / Text Only' for ras-user-1 by Parallels' (Access is denied. [0x00000005])".
- Fixed: VDI - User is not removed from local admins group without recreation of VM when "Template properties > Security > Local admin permissions > Launch desktop > Verify user added to group" is set.
- Fixed: Registration of DualShield Server from RAS management console returns an error when the RAS management console runs on Windows 10 or Windows Server 2019.
- Fixed: VDI - VMware vCenter might fail to be registered in the RAS Farm when resource pools are used.
- Fixed: Printer 'Samsung Network PC Fax' cannot be redirected.
- Fixed: Disabled servers generate a warning message in log when RAS Farm settings are changed.
- Fixed: VDI - some of guest VMs return "Failed to create" during mass recreate (on operations with more than hundred VMs).
- Fixed: For some applications icon in a taskbar immediately disappears right after starting the application it. This leads to inability to restore the application after being minimized.
- Fixed: The policy "Add RAS Connection Automatically when starting web or shortcut items" does not work in some scenarios.
- Fixed: Report ID of "System report" is not shown in some scenarios.
- Fixed: Template VM does not exit from maintenance mode in some scenarios when Microsoft Hyper-V is used.
- Known issue: A schedule set to "disable" VDI host cannot be cancelled when secondary Publishing agent is the preferred VDI host.
- Known issue: On Citrix Hypervisor guest might not be allowed to start after a conversion back from VDI template. One may need to make a full copy of such a guest to make it runnable.

HTML5 Gateway:

- New: QR code support for Google Authenticator.
- Improved: Multi factor authentication dialog window clearly displays Radius server messages.
- Improved: The size of the QR code for Google Authentication increased for better readability.
- Improved: Size of the RSA key for self signed certificate is of 2048 bit length by default.
- Fixed: Summer Time correction is not applied.
- Fixed: Changing the active directory password via HTML5Gateway on Internet Explorer 11 is not possible.
- Fixed: When switching published desktop to full-screen, re-logon may fail due to incorrect domain details in some environments. This occurs in cases where "Force clients to use NetBIOS credentials" option is enabled.
- Fixed: Maximized application window restores to normal size in HTML5 client when user switches to the Application launcher and back.

RAS Web Console

- Improved: Installation of RAS Web Admin Service now checks for KB2999226 being installed on Windows Server 2012 (which is necessary for RAS Web Admin Service to start).
- Fixed: Several URLs lead to empty pages in some scenarios.
- Fixed: Server Active Sessions link of Servers Virtual Desktops page shows VDI host information instead of guest information.
- Fixed: Values equal to zero are clickable under Server in Site view.
- Fixed: Incorrect license usage information is shown to users who do not have permissions to access license usage information.

HALB v17.0.1-21472

- Improved: Linux kernel updated to the version 3.16.0-9-amd64.
- Fixed: HALB does not send logs to RAS management console on request from the console.
- Fixed: Certificate errors are shown in clients when SSL offloading mode is configured.

RAS PowerShell and REST API v17.0.1-21475

- Improved: PS - Set-RASAgentLogLevel help improved.
- Improved: PS - Set-VDIGuestsDefaultSettings improved processing of invalid input.
- Fixed: PS - Set-RDSScheduleDisable parameters check.
- Fixed: PS - All Get commands using filter parameters with string should not be case sensitive.
- Fixed: PS - In Get-RASLBSettings RepLB changed to Replicate.
- Fixed: PS - Get/Set-RASLBSettings added missing Enable CPU load balancer.
- Fixed: PS - Get-RASNotification, type Licence changed to License.
- Fixed: REST API - Set-Site.
- Fixed: PS - Get-SiteStatus returns no permissions for sites which admin actually has permissions to.

Parallels Client (Windows) v17.0.1-21472

- New: Added an ability to override credentials for all connections in an exported settings file using command line arguments.
- Fixed: Shortcuts on the desktop (and in start menu) are not cleared when "Create shortcuts configured on server" is switched off and the listing is refreshed.
- Fixed: Published desktop may launch in background of other previously opened maximized windows when "Always ask for credentials when starting applications" option is checked.
- Fixed: Installing Parallels Client for Windows from generated Parallels Client package creates '.Ink' icon on desktop.
- Fixed: Settings from .2xc file are not imported when installing Parallels Client for Windows using command prompt.
- Fixed: Context menu is sometimes opened on right click after swapping mouse buttons.

Parallels Client (Linux) v17.0.1-21474

- Improved: Multi factor authentication dialog window clearly displays Radius server messages.
- Fixed: Parallels Client does not redirect parallel port (LPT) properly on Ubuntu 16.04.
- Fixed: Remote desktop window has no icon in the taskbar.
- Fixed: SSO rpm package cannot be installed.
- Fixed: When the published application is started, remote screen can be seen together with it some scenarios.
- Fixed: Automatically created shortcuts to published applications might not be displayed correctly on a Linux desktop.
- Fixed: Disconnect command might not disconnect a remote session.
- Fixed: Published applications cannot be launched from a command line if only application name is specified in the parameters.

Parallels Client (Mac) v17.0.1-21472

- Improved: Multi factor authentication dialog window clearly displays Radius server messages.
- Improved: Localization of UI.
- Fixed: SmartCard certificates are not copied to Certificates Store for some smartcard readers models.
- Fixed: SmartCard authentication error followed by removal of the card from the reader causes crash of the client application.
- Fixed: Drag and drop fails in some scenarios when it's being used for several applications in one session.

Parallels Client (iOS) v17.0.1-21448

- Improved: Multi factor authentication dialog window clearly displays Radius server messages.
- Fixed: Parallels Client doesn't provide options for selecting type of RADIUS OTP challenge.
- Fixed: Parallels Client can show the content of another application or login screen belonging to the user while waiting for desktop timeout set in global policies.
- Fixed: Dumbo mouse cursor locks up after several switches of applications in some scenarios.
- Fixed: RTF formatting is not kept when copying text in an RTF format from published application session to local text editor.

Parallels Client (Android) v17.0.1-21448

- New: Added support of 64-bit architecture for ARM based devices.
- Improved: Multi factor authentication dialog window clearly displays Radius server messages.
- Fixed: RAS connection fails when VPN is used on Android 7 and Android 8 based devices.
- Fixed: In some scenarios a published application can not be started using Parallels Client for Android.

Parallels Client (Chrome App) v17.0.1-21472

- Fixed: Summer Time correction is not applied.

RAS Performance Monitor v17.0.1-21472

- ♦ Fixed: Installation of RAS Performance Monitor to the folder different from default fails.

RAS Reporting 17.0.1 (21474) -

- Minor fixes
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Remote Application Server v17.0.0.1 (21291) - 8 July 2019

RAS Core 17.0.0.1 (21291)

- Fixed: In some scenarios "Object is locked" error may be encountered in the RAS Console after upgrade from previous versions
- Fixed: RAS Console could crash in some situations when refreshing list of VDI desktops
- Fixed: In some scenarios redirected printers could remain offline after session reconnect

Parallels Client for Mac Version 17.0.0 (21290)

- Improved: Backward compatibility with RAS version 16.5 and earlier.
-

Remote Application Server v17.0 (21289) - 18 June 2019

RAS Core v17.0.0.21289

- New: RDSH features:
 - ♦ Added support for Windows Server 2019.
 - ♦ Added support for RDSH Group settings.
- New: VDI features:
 - ♦ Simplified management of pools and publishing from VDI desktops. The mandatory <Default> pool was removed and any usage of it was migrated to fully configurable pools. When publishing from a VDI guest you now can select between "Any Guest VM from a pool" or a "Specific RAS template". Pool membership was also simplified, where now all pool members must be of the same type.
 - ♦ VMWare - added support for linux-based vCenter appliance.
 - ♦ Template wizard caches the settings entered for future use. These settings are cached in the user profile.
 - ♦ You can now view and manage the processes running on VDI desktops from the Session management area.
 - ♦ You can now shadow VDI desktops.
 - ♦ Added support for Windows Server 2019 Hyper-V.
 - ♦ Added support for Scale Computing HC3 as a VDI Host type.
 - ♦ Added ability to dynamically and temporarily provision the membership for both "local administrators" and "remote desktop users" groups on log on which is removed on log out.
 - ♦ Ability to create a number of Desktops from a template.
 - ♦ Default settings which can be inherited in templates or static guests.
 - ♦ Ability to a resource pool for VM enumeration when using VMware vCenter.
 - ♦ Ability to cancel a server disabled state set from a schedule.
 - ♦ Ability to set actions like shutdown or recreate to be taken after a guest VM has logged off or disconnected.
- New: PIN-code support in RAS Single Sign On when enabled in RAS Console.
- New: RAS Console features:
 - ♦ Added various links to tools which can be deployed on each host. Tools are the following: Remote Desktop, Computer Management, Services Management, Event Viewer, Shared Folders, Windows PowerShell, Ipconfig, Ping, Netstat, Reboot, Shutdown

- ◆ Added a full range of permissions for custom administrators. Permissions can be set by object type or directly on an object.
- ◆ Option to automatically size columns in a list to fit on the screen. All positions are persisted for next use.
- ◆ Ability to quickly switch between different farms.
- ◆ Ability to run multiple instances of the RAS console on the same machine.
- ◆ Ability to increase the area of the publishing tree component.
- ◆ Introduced Desktop page in the VDI section which supersedes the Persistent page allowing the administrator to fully control the desktops created.
- ◆ Ability to control sessions when the licensing server master Publishing Agent is not running.
- ◆ Policies can now be applied to a specific Active Directory computers object or computers which are members in a Active Directory group.
- ◆ Ability to start an application on a mobile device as maximized.
- New: Security - Added configurable HSTS settings for RAS Secure Proxy gateways.
- New: Security - Added Goggle Authentication as a new 2nd level authentication provider.
- New: Universal Printing - Add option to retain printers after the user logs out. This speeds up printer redirection if the user reconnects to the same server.
- New: Logging - You can now set log level to verbose. You can also set the duration for which the log level remains at extended or verbose level.
- New: Logging - You can now enable logging on specific VDI Host running on the same agent. Log level can be set to different levels per each VDI Host.
- Improved: Policies - If Authentication is set to use smart cards, then the smart card redirection is automatically set in the policy.
- Improved: Invitation email - You can now customize the invitation email text without any restrictions.
- Improved: Device Manager - allow multiple devices to be moved into a group.
- Improved: Second level authentication - Dualshield provider now can be used with a multi domain environment.
- Improved: Radius - Added more attributes to the global vendor dictionary.
- Improved: Shadowing - Added an ability to specify different credentials from the ones currently using the machine.
- Improved: Themes - Showing the short URL for a theme when available. The short URL format is also used in the send invitation email.
- Improved: When installing or upgrading multiple agents from the console, prompt for new credentials is shown after an attempt is made with the provided credentials. This is to overcome situations where a different account exists with the same credentials on different domains.
- Improved: Increased the security level when Gateway cipher strength is set to High.
- Improved: RDSH Scheduler notification message title can now be changed.
- Improved: Log rotation mechanism now keeps more archives.
- Improved: Display a progress window when application is waiting for printers or drives to be redirected, or when initialising app-v before starting.
- Improved: Ability to deploy and manage RAS VDI desktops in different subnets.
- Improved: Ability to manage large VDI environments by improving the performance to enumerate, sort and filter VMs.
- Improved: Agent states on all pages are the actual runtime state. If you check an agent for troubleshooting, the agent state is not changed.
- Improved: Fixed an issue when dragging a window would produce artifacts.
- Improved: Validating of MAC address when adding a remote PC inside a VDI Host.
- Improved: Logs collecting from a standalone RAS console.
- Improved: Allow a non-standard MAC to be configured in the 2nd level authentication exclusion list and client policies criteria to allow addition of mobile devices.
- Improved: Error message when trying to clone a VM from a template with a static IP.
- Improved: Effective access window could not match the actual access of the user.
- Dropped: Removed the option "Always require user credentials for application list". Authentication is mandatory to list the published items.
- Fixed: Replication of remote windows not showing on the Windows task bar.
- Fixed: Possibility to activate an incorrect window when using Universal Scanning.
- Fixed: SSO not working if password is changed during a Windows session.
- Fixed: Possible error while printing using DYMO LabelWriter 450 Turbo.

- Fixed: Possible crash if licensing information is invalid or corrupt.
- Fixed: An RDSH session could be reported twice in the session management window.
- Known Issues: In case of using RAS VDI Appliance with VMware ESXi or vCenter host, VDI desktop might fail to recreate.
- Known issues: In case of using Citrix VDI host type, VDI desktop might not appear on Desktop page after creation.

- **HTML5 Gateway:**

- ◆ New: Added connection timeout. This option can be set by the end user or pushed via a RAS client policy.
- ◆ New: Added the connection banner control. This option can be pushed via a RAS client policy.
- ◆ New: Added "Show desktop if application is not started" control. This option can be pushed via a RAS client policy.
- ◆ New: You can now customize the login title text showed when the user is logging in. Special variables can be used to shown the Farm, Site and Theme in use.
- ◆ New: Added password requirements information while user is changing the password.
- ◆ Improved: Using the new color schemes you can now change every component color.
- ◆ Fixed: Web fonts were downloaded from Parallels website or from the HTML5 gateway. Parallels website is not used anymore.
- ◆ Fixed: Universal Printer adds an extra blank page if server-side print preferences are used.
- ◆ Fixed: Incorrect password used when starting a native session after password is changed.
- ◆ Fixed: URL redirection policies are not being recognized.

HALB v17.0.0.21282

- Improved: Performance when connecting via HALB and RDP UDP packets are enabled.

RAS PowerShell v17.0.0.21289

- New: The RAS PowerShell API can now be used by RAS administrators who do not have root permissions.
- New Commands:
 - ◆ Send-RASSupportRequest - Sends an email to Parallels RAS support with logs and other information attached or saves the logs and info as a zip file in a specified location.
 - ◆ Add-PubRDSAppServerAttr - Adds the server attributes for a 'Published RDS Application'.
 - ◆ Set-PubRDSAppServerAttr - Updates the server attributes of a 'Published RDS Application'.
 - ◆ Remove-PubRDSAppServerAttr - Removes the server attributes of a 'Published RDS Application'.
 - ◆ New-RASNotificationEvent - Adds a new RAS Notification event.
 - ◆ Set-RASNotificationEvent - Updates a RAS Notification event.
 - ◆ Get-RASNotificationEvent - Retrieve details of RAS Notification events.
 - ◆ Remove-RASNotificationEvent - Removes a RAS Notification event.
 - ◆ New-RASNotificationResource - Adds a new RAS Notification resource.
 - ◆ Set-RASNotificationResource - updates a RAS Notification resource.
 - ◆ Get-RASNotificationResource - Retrieve details of RAS Notification resources.
 - ◆ Remove-RASNotificationResource - Remove a RAS Notification resource.
 - ◆ Get-RASNotification - Retrieve details of RAS Notifications (events + resources).
 - ◆ Remove-RASNotification - Removes a RAS Notifications.
 - ◆ Get-RASNotificationDefaults - Retrieve details of RAS Notifications defaults.
 - ◆ Set-RASNotificationDefaults - Updates RAS Notifications defaults.
 - ◆ New-RASNotificationScript - Add a new RAS Notification script.
 - ◆ Get-RASNotificationScript - Retrieve details of RAS Notification scripts.
 - ◆ Set-RASNotificationScript - Update a RAS Notification script.
 - ◆ Remove-RASNotificationScript - Remove a RAS Notification script.
 - ◆ New-VDIPool - Add a new VDI Pool.
 - ◆ Get-VDIPool - Retrieve details of VDI Pools.
 - ◆ Set-VDIPool - Updates a VDI Pool.
 - ◆ Remove-VDIPool - Remove a VDI Pool.

- ◆ Add-VDIPoolMember - Add a new VDI Pool member.
- ◆ Remove-VDIPoolMember - Remove a VDI Pool member.
- ◆ Invoke-VDIProcessCmd - Sends an VDI process command (Cmds: Kill).
- Improved Commands:
 - The default -ErrorAction parameter was changed to 'Continue' (before it was considered as 'Stop').
 - A number of parameters have been renamed to match members in the returned objects. Old parameters are kept as aliases.
 - Set-RASAgentLogLevel - Support arbitrary duration when setting log level (For: Verbose and Extended).
 - New-RDSScheduleDisable - Ability to add "MessageTitle" for RDS Scheduler Notifications.
 - Set-RDSScheduleDisable - Ability to update "MessageTitle" for RDS Scheduler Notifications.
 - New-RDSScheduleReboot - Ability to add "MessageTitle" for RDS Scheduler Notifications.
 - Set-RDSScheduleReboot - Ability to update "MessageTitle" for RDS Scheduler Notifications.
 - Set-PubDefaultSettings - Ability to enable/disable 'StartMaximized' option (new option).
 - Set-PubRDSApp - Ability to enable/disable 'StartMaximized' option (new option).
 - Invoke-VDITemplateCmd - A new command 'CreateGuests' was added to create new template guests.
 - Set-2FASetting - Ability to set TOTP settings (new option).
 - Set-GW - Ability to enable/disable 'EnableHSTS' option.
 - Invoke-PAPromoteToMaster - Ability to pass PAUsername and PAPassword.
 - Set-PubRDSApp - Ability to set Target, StartIn and Parameters per server.
 - RASPrintingSettings - Ability to update "PrinterRetention" for Universal Printing.
 - New-RASSession - Ability to connect to a secondary PA for PAPromotion reasons using the Force parameter.
 - Set-RDSDefaultSettings - Ability to add the AutoPreferredPA in the RDS Default Settings.
 - New-RDSGroup and Set-RDSGroup
 - ◆ Added Agent Settings and ability to inherit them from default Agent Settings.
 - ◆ Added Printer Settings and ability to inherit them from default Printer Settings.
 - ◆ Added UPD Settings and ability to inherit them from default UPD Settings.
 - ◆ Added Desktop Access Settings and ability to inherit them from default Desktop Access Settings.
 - Add-RDSGroupMember and Remove-RDSGroupMember - Ability to add and remove RDS by IDs.
 - Get-RDSGroupMember - Ability to retrieve RDS by RDSGroup ID.
 - Get-SiteStatus - Ability to get Site Status by Site ID.
 - Set-VDIGuest
 - ◆ Added VDI Action Settings and ability to inherit them from default VDI Action Settings (replaced DisconnectMode, ConnectionTimeout, OnDisconnectTimeout, EndSessionTimeout).
 - ◆ Added VDI Security Settings and ability to inherit them from default VDI Security Settings.
 - Set-VDIGuestDefaultSettings
 - ◆ Added Default VDI Action Settings (SessionResetTimeoutSec SessionResetTimeout SessionAction PerformAction PerformActionAfterSec).
 - ◆ Added Default VDI Security Settings (IsUsersGrantedRDPermissions GroupType).
 - Set-VDITemplate
 - ◆ Added VDI Action Settings and ability to inherit them from default VDI Action Settings.
 - ◆ Added VDI Security Settings and ability to inherit them from default VDI Security Settings.
 - Invoke-VDITemplateCmd - Ability to create a number of guest VMs from a specific template.
 - Dropped Commands / Parameters
 - ◆ Set-RASAuthSetting - Removed the "Require Credentials" option for the product.
 - ◆ Set-VDISettings - Removed "EnableServerGuests" option and its always enabled.

RAS REST API v17.0.0.21289

- New: REST Api as part of the Parallels RAS Web Admin Service
- Session
 - ◆ Log on and Log off
- License
 - ◆ Activate, Deactivate, Retrieve Information
- Site
 - ◆ List, Create, Get, Update, Delete
 - ◆ List Status, Get Status
- PA
 - ◆ List, Create, Get, Update, Delete

- ◆ List Status, Get Status
- ◆ Update Priority and Promote
- GW
 - ◆ List, Create, Get, Update, Delete
 - ◆ Upload a Certificate and Private Key file
 - ◆ List Status, Get Status
- RDS
 - ◆ List, Create, Get, Update, Delete
 - ◆ List Status, Get Status
 - ◆ List process by Site ID, by Server ID and by Server & Session, Get process
 - ◆ List Session Status by Server, Get Session Status
- RDSDefaultSettings
 - ◆ Get, Update
- RDSGroups
 - ◆ List, Create, Get, Update, Delete
 - ◆ List Members, Add Member, Delete Member
- PubRDSApps
 - ◆ List, Create, Get, Update, Delete
 - ◆ Add and Delete Client, GW, IP, MAC and User filters
 - ◆ Create, Update and Delete File Extensions
 - ◆ Create, Update and Delete Server Attribute
- PubRDSDesktops
 - ◆ List, Create, Get, Update, Delete
 - ◆ Add and Delete Client, GW, IP, MAC and User filters
- PubFolders
 - ◆ List, Create, Get, Update, Delete
 - ◆ Add and Delete Client, GW, IP, MAC and User filters
- PubItemOSFilter
 - ◆ Update Client OS filter
- PubItems
 - ◆ List, Get, Delete
 - ◆ Update and Download Icon
- PubDefaultSettings
 - ◆ Get, Update
- Settings
 - ◆ Apply
 - ◆ Export, Import
- WebService
 - ◆ Version

RAS Web Console v17.0.0.21289

- New: Help desk Web Console

Parallels Client (Windows) v17.0.0.21282

- New: Session pre-launch. A session is prepared ahead of time when the user is expected to start working.
- New: Support for Google Authenticator registration by using QR code.
- New: PIN-code support in RAS Single Sign On.
- New: Persist Desktop sessions placement. If you use any RAS published desktop or any standard RDP desktop, the next time you start it, it will show on the monitor and exact position where you had it running.
- New: When white labelling the RAS Windows client you can add a custom menu action which will deploy an application or a web URL when selected by the end user.
- Improved: Desktop replacement - Added Power actions and Machine settings menu items to the Application menu as well. Prior to this version this actions were available only from the Start button.
- Improved: Clearing of RAS session cache in case of a machine reboot.
- Improved: Icon wrapping when sizing launcher window.
- Fixed: SSO not working if password is changed during windows session.

- Fixed: Possible long delay when scanning using a TWAIN driver.
- Fixed: Multiple connections to the same farm using different credentials, with a policy on the farm to change some connection settings, can result in overwriting the credentials for all connections.
- Fixed: Mouse pointer can disappear in a published desktop when high DPI is in use.

Parallels Client (Linux) v17.0.0.21282

- New: Added password requirements information while user is changing the password.
- New: Client reports counters for monitoring startup performance of applications and sessions.
- New: Add reconnection support. This option can be set by the end user or pushed via a RAS client policy.
- New: Support for Google Authenticator registration by using QR code.
- Improved: Client disconnect detection by the added heartbeat protocol.
- Improved: Suppress starting the same application if the user clicks multiple times on the application icon.
- Fixed: Possible crash when starting an RDP connection.
- Fixed: Possible crash when recording audio in a remote session
- Fixed: Possible crash when launching a published application over a bad network.
- Fixed: Client not recognizing printing redirection policy.
- Fixed: Some smart card readers might not be redirected.
- Fixed: Remote applications icons might not appear in Taskbar
- Known Issues: Authentication with smart card might not work when connecting to a RAS farm.

Parallels Client (Mac) v17.0.0.21282

- New: Support for Google Authenticator registration by using QR code.
- New: Client reports counters for monitoring startup performance of applications and sessions.
- New: Drive redirection confirmation window.
- Improved: Client disconnect detection by the added heartbeat protocol.
- Improved: Ability to suppress user confirmations when redirecting local drives.
- Improved: Dark mode support on macOS 10.14 Mojave
- Fixed: Unable to restore minimized application using CMD+M or Windows Minimize menu item.
- Fixed: Client crashes when using specific smart card readers.
- Fixed: Client might redirect wrong trays for specific printers (e.g. HP 1217NF MFP, HP 1212NF MFP)
- Fixed: Launching published applications via URL schema doesn't show local drives redirection confirmation dialog.
- Fixed: A full screen remote session might not reconnect after Mac is resumed from sleep
- Fixed: Remote application icon might appear blank in Dock when the application is minimized
- Fixed: SSL certificates from a redirected smart card might not be transferred to a remote session

Parallels Client (iOS) v17.0.0.21239

- New: Added connection timeout. This option can be set by the end user or pushed via a RAS client policy.
- New: Add reconnection support. This option can be set by the end user or pushed via a RAS client policy.
- New: Added "Show desktop if application is not started" control. This option can be pushed via a RAS client policy.
- New: Client reports counters for monitoring startup performance of applications and sessions.
- Improved: Client disconnect detection by the added heartbeat protocol.
- Fixed: Color depth might be set incorrectly for a remote session
- Fixed: Possible crash when a published app is launches via 3D touch.
- Fixed: Dumbo mouse might get stuck in a remote session.
- Fixed: Modifier keys might be sent incorrectly from a PC keyboard.
- Fixed: If PC keyboard mode is enforced via policy, it can still be turned off by a user.

Parallels Client (Android) v17.0.0-21239

- New: Supports native x86-64 builds.
- New: Added connection timeout. This option can be set by the end user or pushed via a RAS client policy.
- New: Added "Show desktop if application is not started" control. This option can be pushed via a RAS client policy.

- New: Added support for a backup connection. This option can be set by the end user or pushed via a RAS client policy.
- New: Client reports counters for monitoring startup performance of applications and sessions.
- Improved: Client disconnect detection by the added heartbeat protocol.
- Fixed: Custom portrait resolution is not applied correctly to a remote session.
- Fixed: If PC keyboard mode is enforced via policy, it can still be turned off by a user.
- Fixed: PC keyboard layout is still sent to a remote session after PC keyboard is turned off.

Parallels Client (Chrome App) v17.0.0.21282

- New: Enabled bidirectional audio (use of microphone) when using accelerated (native) mode.
- New: Added ability to map the Windows key to a shortcut key.
- Improved: Client disconnect detection by the added heartbeat protocol.
- Improved: Japanese keyboard support.

Reporting v17.0.0.21282

- New: User application usage report.
- New: Group application usage report.
- New: Gateway tunnelled sessions report.
- New: Administrator can now enable custom reports from the RAS console. When this is done a new folder on the Microsoft SSRS is created and a sample report is added. The administrator can now modify or add custom reports.
- New: An application is included when installing the RAS Reporting service through which the administrator can view and mask all information related to a particular user.

RAS Performance Monitor v17.0.0.21282

- New: Added RDSH Group information which can be used to filter and view only the servers assigned to a particular group.
- Improved: If you configure RAS Performance Monitor on multiple farms, you can now distinguish the site of each farm since the name tag is now "Farm - Site". Please note that when upgrading to this version, the current data is backed up due to changes in the database schema.