Parallels®

Parallels Remote Application Server

Migration Tool for Citrix Virtual Apps and Desktops

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Parallels RAS

Parallels Remote Application Server (RAS) provides vendor independent virtual desktop and application delivery from a single platform. Accessible from anywhere with platform-specific clients and web enabled solutions, like the built-in Parallels Web Client, Parallels RAS allows you to publish remote desktops, applications, and documents, improving desktop manageability, security, and performance.

RAS extends Windows Remote Desktop Services by using a customized shell and virtual channel extensions. Parallels RAS supports all major hypervisors from Microsoft, VMware, and other vendors, including Hyperconverged solutions such as Nutanix and Scale Computing, and Cloud platforms and services such as Microsoft Azure, Azure Virtual Desktop, and Amazon Web Services, enabling the publishing of virtual desktops and applications to Parallels Client. The product includes powerful universal printing and scanning functionality, as well as resource-based load balancing and management features. With Parallels Device Manager feature for Parallels RAS you can also centrally manage user connections and PCs converted into thin clients using the free Parallels Client.

Migration Summary

Parallels RAS Migration Tool for Citrix Virtual Apps and Desktops (also referred to as RAS Migration Tool in this document) operates in two key steps.

The first is to export the configuration from the existing Citrix solution into a format that can be used in Parallels RAS.

The second is to import it into an existing Parallels RAS environment.

The application settings migrated include:

- Display Name
- Application Path
- Description
- Working Directory
- Start Menu Folder
- Command Line Executable
- Application Type
- Application Icon

The full process for using RAS Migration Tool is summarized below:



These steps are described further within this document.

Prerequisites

Parallels RAS Migration Tool for Citrix Virtual Apps and Desktops is available for the community from GitHub here: <u>https://github.com/Parallels/RAS-PowerShell/tree/Citrix-Virtual-Apps-and-Desktop-Migration-tool/Tools/Migration%20Tool%20for%20Citrix%20Virtual%20Apps%20and%20Desktops</u>

Citrix Virtual Apps and Desktops versions & components

- Citrix Virtual Apps and Desktops (CVAD) 1912 CU6 or later
- CVAD PowerShell cmdlets
- Microsoft PowerShell v5.1

Parallels RAS versions & components

- Parallels RAS 19 or later
- Parallels RAS PowerShell 19 or later
- Microsoft .Net Framework 4.5
- Microsoft PowerShell v5.1

Migration Steps

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Export Citrix configuration

The first part of the migration process creates an XML settings file of the applications configured within the Citrix Farm and converts the Citrix settings to the equivalent Parallels RAS settings.

The process makes use of the CVAD PowerShell cmdlets. The cmdlets are installed when Citrix Studio is installed and can also be installed directly from the installation media.

Run the following PowerShell command from a host that has access to a Citrix Delivery Controller to export these settings:

.\CVAD7xExport.ps1 -ddc [CitrixDeliveryControllerName] -folder [PathToOutputFolder]

Example:

.\CVAD7xExport.ps1 -ddc CTXDDC-01 -folder c:\temp\citrixexport

If the -ddc parameter is not specified, the script will assume it is being run from a delivery controller and attempt to connect to the local host. The file applications.xml is saved to the folder at the specified path.

Install Parallels RAS components

If you are installing a new Parallels RAS environment, follow the guidance below to install the management components.

Note: To install the Parallels RAS components, always refer to the documentation relevant for the version you are using.

- 1 Create the required components using a supported Windows operating system (check the Administrator's Guide for the version of Parallels RAS you are using here: <u>https://www.parallels.com/products/ras/resources/</u>.
- 2 Download the Parallels RAS installer from https://www.parallels.com/products/ras/download/links/.
- **3** Deploy Parallels RAS components following the installer steps.
- 4 Configure a Parallels RAS Farm and activate it using your license key (a trial can also be used).

Installing Parallels RAS Agents

If you are deploying the Parallels RAS Agents to existing VMs (either the current Citrix Virtual Delivery Agents (VDAs) for testing, or new hosts based on the same template image currently in use by the VDAs), you can follow the simple wizard-driven process described in the Parallels RAS Administrator's Guide (open the administrator's guide and look for "Add an RD Session Host."). Parallels RAS installs all the required agents and settings for you.

Part of the of the wizard-driven process allows you to assign hosts to host pools. You should create a specific host pool for the imported hosts. This host pool can be selected once the applications have been imported to ensure that the correct application is re-launched on the appropriate host.

As soon as the Parallels RAS Agents are installed on the target hosts and their status is verified, the hosts are ready to accept connections.

Import the migrated configuration into Parallels RAS

- 1 Place the applications.xml file into the folder where you placed the RAS Migration Tool files.
- 2 Launch PowerShell and navigate to the folder containing RAS Migration Tool.
- 3 In the PowerShell console window, execute the PrepareImport.ps1 script as shown below:
 - .\PrepareImport.ps1 -XmlPathApplications .\applications.xml
- 4 Running this script will generate an ImportToRas.ps1 script along with the application icons in an icons folder. ImportToRas.ps1 can be then modified to your needs if required. If the script is going be executed on a different host, the icons folder must be available there too.
- 5 From a host that has the Parallels RAS PowerShell component installed, place both the ImportToRas.ps1 script and the icons folder in the same location and run the script as shown below:

.\ImportToRas.ps1

6 Provide your Parallels RAS server (the Primary Connection Broker) hostname or IP address and administrator credentials when prompted.

The minimum supported Parallels RAS version is 19.0.

Reconfigure any remaining settings

For this version of RAS Migration Tool, only application settings are imported into Parallels RAS. Features such as Zones and Server configuration are not configured. The published applications are placed in the Default Site within Parallels RAS and will be usable following import, providing the applications are present on the VM in the same folder structure.

It is advisable to use a host pool to collate hosts of the same build together. This host pool can be selected by going to the **Publishing** category, selecting a published application, and switching to the **Publish From** tab.

Allow access to existing Citrix VDAs (optional test)

For a migration, we recommend that Parallels RAS is installed on a freshly built operating system. However, if you wish to test the Parallels RAS Agents in a non-production environment with hosts which are already acting as Citrix VDAs, some extra steps are needed to allow access to these hosts as Citrix restricts access to connections made by their broker by default. 1 Add non-admin users to the "Direct Access Users" group. When the Citrix VDA is installed on a machine, non-administrators can no longer remotely connect directly to the host without using the Citrix HDX Broker. A new local group called Direct Access Users is created on each VDA. Add your non-administrator users to this local group so they can connect directly to the machine.

| → → 2 → → → | ? | | | |
|--|---|--|--|---|
| E Computer Management (Local | Name | Description | Actions | |
| Computer Management (Local System Tools Task Scheduler Stark Scheduler Schared Folders Local Users and Groups Local Users Groups Performance Device Manager Storage Windows Server Backup Disk Management Services and Applications | Administrators Administrators Administrators Backup Operators Cryptographic Operat Cryptographic Operat Cryptographic Operat Event Log Readers Event Log Readers Event Log Readers Hyper-V Administrators Hyper-V Administrators Hyper-V Administrators Flipper-V Administrators Flipper-V Administrators Performance Log Users Performance Monitor Power Users Print Operators RDS Endpoint Servers | Description Members of this group can remot Administrators have complete an Backup Operators can override se Members of this group are allowe Members are authorized to perfor Members are allowed to launch, a Members of this group can read e Guests have the same access as m Members of this group can read e Built-in group used by Internet Inf Members of this group can have s Members of this group can have s Members of this group can acces Power Users are included for back Members can administer printers Servers in this group run virtual m | Actions Groups More Actions Direct Access Users More Actions | • |
| | RDS Management Ser RDS Remote Access S Remote Desktop Users Remote Management Replicator Users Anonymous Direct Access Users WinRMRemoteWMIU | Servers in this group can perform Servers in this group and lusers Members in this group can acces Supports file replication in a dom Users are prevented from making Users granted anonymous access Members in this group are grante Members of this group can acces | | |

2 Enable non-published applications to be launched

By default, Citrix limits the launching of applications to those initiated by the Citrix HDX Broker. A Group Policy setting can be changed to alter this. This can be set from Citrix Studio itself. 1. Open Citrix Studio and navigate to **Policies**. On the top right, select **Create Policy**.

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|--|---|---|--|--------------------|---------------------------------------|------------------|---|
| Console Root | cimur | | | | · · · · · · · · · · · · · · · · · · · | Actions | |
| Gibic Studio (KenApp Granth | CIRIX | | | | | Policies | |
| Machine Catalogs | Policies Tempiates Comparison Modelling | | | | | Create Policy | |
| AppOisks | Policies | | | | | View | • |
| Applications | - Chickey | | | | | i Rafresh | |
| Policies | Pulkies | Holland | | | | 🚰 Help | |
| A D Configuration | 1 Delbert | | Create Policy | | | Unfiltered | - |
| Administration | | | | | | Ide Policy | |
| Heating | | | | | 1 | Disable Policy | |
| 2 Licensing | | Studio | Select settings | | | Seve as Template | |
| StoreFront App-V Publish | | | (All Versions) * All Settings * | م | | Help | |
| 12 AppDNA | | | Settings: 0 selected | View selected only | | | |
| Zones Citrix StoreFront | | Settings Users and Machines Summary | Active Directory actions Computer setting - Profile Management/Log settings Not Configured (Default Dirabled) | Setest | | | |
| | | | Active write back Computer setting - Profile Management/Basic settings Not Configured (Default Disabled) | Select | | | |
| | | | Advance warning frequency interval Computer setting - Connector for Configuration Manager 2012 Not Configured (Default 01:00:00) | later | | | |
| | | | Advance warning message box body text Computer setting - Connector for Configuration Manager 2012 Nat Configured (Default (TIMESTAMP) | and . | | | |
| | | | Please save your work. The system will go offline for maintenant | sce in (TIMELEFT) | | | |
| | | | Advance warning message box title Computer setting - Connector for Configuration Manager 2012 Not Configured (Default: Upcoming Maintenance) | 200x1 | | | |
| | | | Advance warning time period Computer setting - Connector for Configuration Manager 2012 | Send _ | | | |
| | | | Back and | Cancel | | | |
| | | | | | | | |

- 2. In the **Search** field at the top, enter **Launching of non-published programs during client connection** and select this policy.
- 3. Chose **Enabled**.

| | Edit Setting |
|----|--|
| La | unching of non-published programs during client connection |
| 0 | Enabled If a custom client connection specifies an arbitrary program, it will run on farm servers Disabled Only published applications and published desktops can be run |
| • | Applies to the following VDA versions Virtual Delivery Agent: 7.0 Server OS, 7.1 Server OS, 7.5 Server OS, 7.6 Server OS, 7.7 Server OS, 7.8 Server OS, 7.9 Server OS, 7.11 Server OS Description Specifies whether to launch initial applications or published applications through ICA or RDP on the server. By default, only published applications are allowed to launch. |
| | OK Cancel |

4. Name the Policy and select **Enable Policy**.

| Studio | Summary View a summary of | the settings you configure | d and provide a name for | your new policy. | |
|---|---|----------------------------|--|------------------|--|
| Settings Users and Machines Summary | Policy name: Er Description: | nable Non-Citrix Users | | Enable policy | |
| | Settings configured: 1 Launching of non-published progr User setting - ICA Enabled (Default: Disabled) | | Assigned to: user and machine objects The settings are applied to all objects in the site. | | |
| | | | | | |
| | | | | | |

5. Ensure the Policy takes precedence by selecting **Higher Policy** on the right-hand side. Then either wait until Group Policy updates or force the Policy to update by running gpudate /force.

Test migration

As soon as the Parallels RAS Agents are installed on the target hosts and their status is verified, the servers are ready to host RDP connections. The Agent state can be verified within the Parallels RAS Console, where the host will have a status of **OK**.

Using Parallels Client, connect to the Parallels RAS Secure Gateway and open one of the migrated applications to test.

Providing the applications are present on the host in the same folder structure as there were in the CVAD configuration, the published applications should now launch within Parallels RAS.

Citrix Studio console before migration

| Citrix Studio | | | | | | - 0 × |
|---|--|--|---|--|---|---|
| | | | | | | |
| Console Root | oim IV | | | | CT1 | Actions |
| Citrix Studio (DefaultSi Search | CITRIX | | Search | ų | Saved searches | Applications |
| Citrix Studio (DefaultS) Search Machine Catalogs Applications Policies Configuration Administrators Controllers Controllers StoreFront ApplNA Zones Citrix StoreFront | ITTT Show all | Name Coogle Chrome Concepted Notepad Windows Administ WordPad | Description this is a description | Source Master Image Master Image Master Image Master Image | Sta En: En: En: En: | te Section Applications te Section Applications Create Application Group View Create Application Group Create Folder Windows Administrative Tools Properties Properties Duplicate Application Duplicate Application Manage Tags Select Delete |
| | Details - Windows Adminis Details Groups Session Application Name (for administrator): Name (for user): Description: Folder (for user): Folder (for user): Visibility: Ignore user's home zone: | trative Tools Administrators Windows Administrativ Windows Administrativ - - - - - - - - - - - - - | re Tools Applicati re Tools Comman Working Redirecte Tags: elivery Maximun | on Path: d line arguments: directory: d file types: o concurrent instances per user: | C:\Windows\system32\ /name Microsoft.Admir - - Unlimited Unlimited | Co |

| Publishing > Window | vs Administrative Tools | | |
|--|---|--|---|
| Publishing > Window Site Infrastructure Sessions Publishing Monitoring Site settings Help and Support | vs Administrative Tools Publishing + C Search C Search C Google Chrome id: 57 C Microsoft Edge id: 58 Notepad id: 59 Windows Administrative Tools id: 60 WordPad id: 61 | Windows Admin Search Overview Publish from Application Filtering Routing Shortcuts File extensions License Display | nistrative Tools id: 60 Edit Application Target C:\Windows\system32\control.exe Start in Status Enabled Publish from All servers in the site. Local filters This published resource is available to everyone |
| Farm Settings | | | License Disabled session sharing Disabled Concurrent licenses Unlimited Single instance per user Disabled Shortcuts |

Parallels RAS Management Portal after migration

Uninstalling Citrix components

In general, uninstalling Citrix components should be carried out via the standard Windows tools. For more information Citrix documentation should be referenced. At the time of writing this documentation can be found here:

https://docs.citrix.com/en-us/citrix-virtual-apps-desktops/install-configure/remove.html.

Chapter 5

Migration Components Summary

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Migrated components

The migrated application settings migrated:

- Display Name
- Application Path
- Description
- Working Directory
- Start Menu Folder
- Command Line Executable
- Application Type
- Application Icon

PowerShell scripts that are required by RAS Migration Tool

CVAD7xExport.ps1 PrepareImport.ps1 RASMigrationEngine.ps1

Utilities.ps1

ImportToRas.ps1

This script exports the cont

This is the startup script for

This is the engine that drive ImportToRAS.ps1.

This is a utility script which required by PrepareImpo

This script is created by run the configuration into Paral

Components to be considered for migration in the future versions of RAS Migration Tool

- Applications
 - Create Shortcut on Desktop
 - Create Shortcut in Start Folder
 - Application User limits
 - File Type Association
- Zones
- Servers
- Delivery Groups
- Machine Catalogs
- Load Balancing Policies
- Load Evaluators
- Policies

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