



Parallels Remote Application Server

Migration Tool for Citrix Virtual Apps and Desktops

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CHAPTER 1

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.

CHAPTER 2

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.

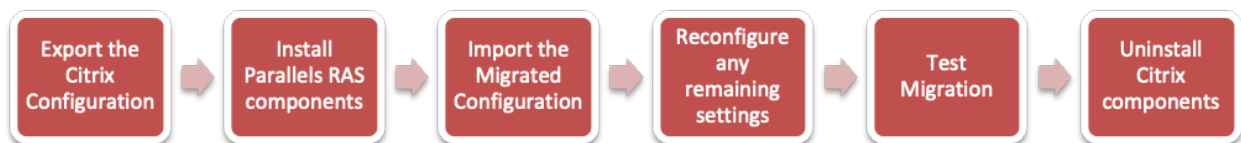
The first is to export the configuration from the existing Citrix solution into a format that can be used in Parallels RAS.

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.

CHAPTER 3

Prerequisites

Parallels RAS Migration Tool for Citrix Virtual Apps and Desktops is available for the community from GitHub here:

<https://github.com/Parallels/RAS-PowerShell/tree/Citrix-Virtual-Apps-and-Desktop-Migration-tool/Tools/Migration%20Tool%20for%20Citrix%20Virtual%20Apps%20and%20Desktops>.

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: <https://www.parallels.com/products/ras/resources/>).
- 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 groups. You should create a specific group for the imported hosts. This group 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 to 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

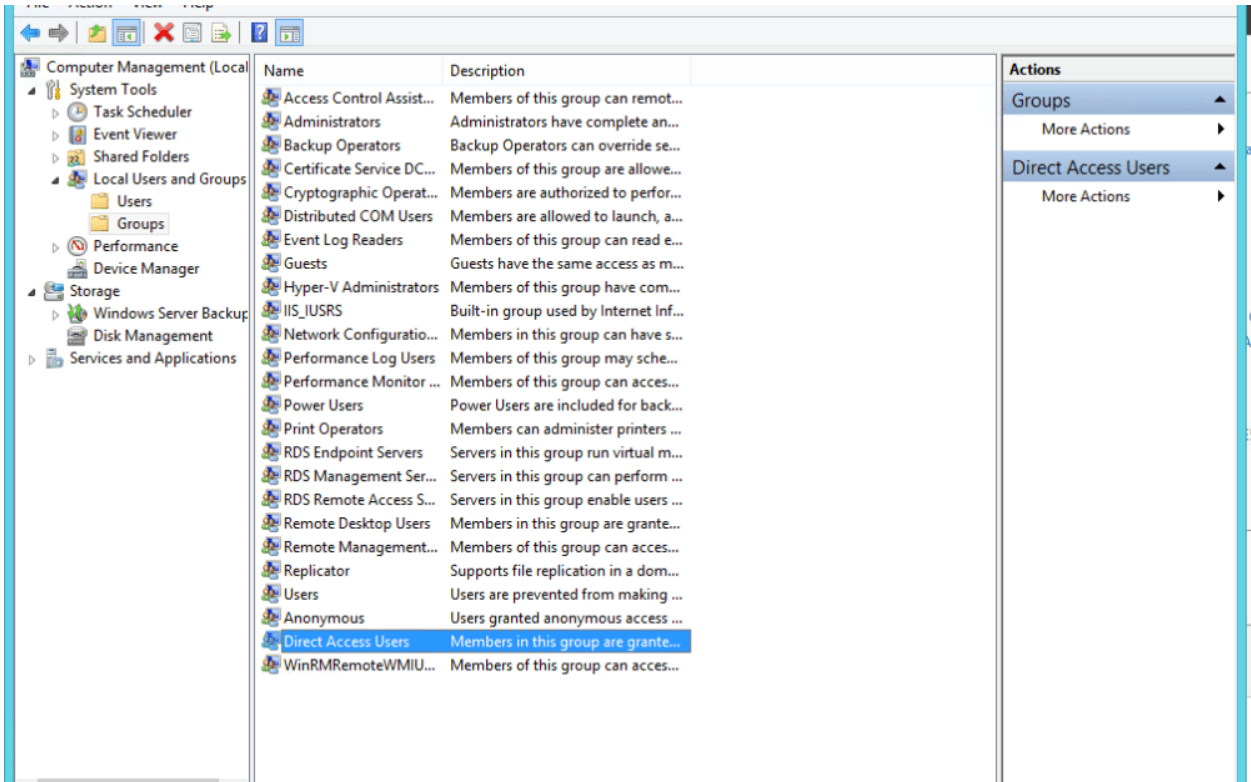
For this version of RAS Migration Tool, only application settings are imported into Parallels RAS. Features such as Zones and Server configuration are not configured. The published applications are placed in the Default Site within Parallels RAS and will be usable following import, providing the applications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

It is advisable to use a group to collate hosts of the same build together. This group 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.

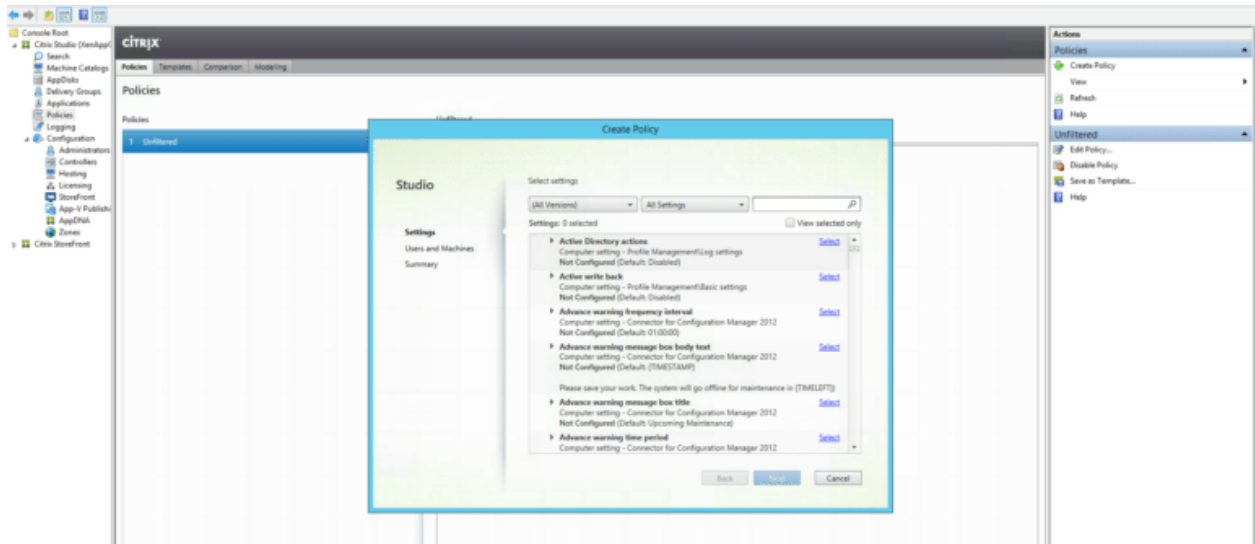
- 1 Add non-admin users to the "Direct Access Users" group. When the Citrix VDA is installed on a machine, non-administrators can no longer remotely connect directly to the host without using the Citrix HDX Broker. A new local group called Direct Access Users is created on each VDA. Add your non-administrator users to this local group so they can connect directly to the machine.



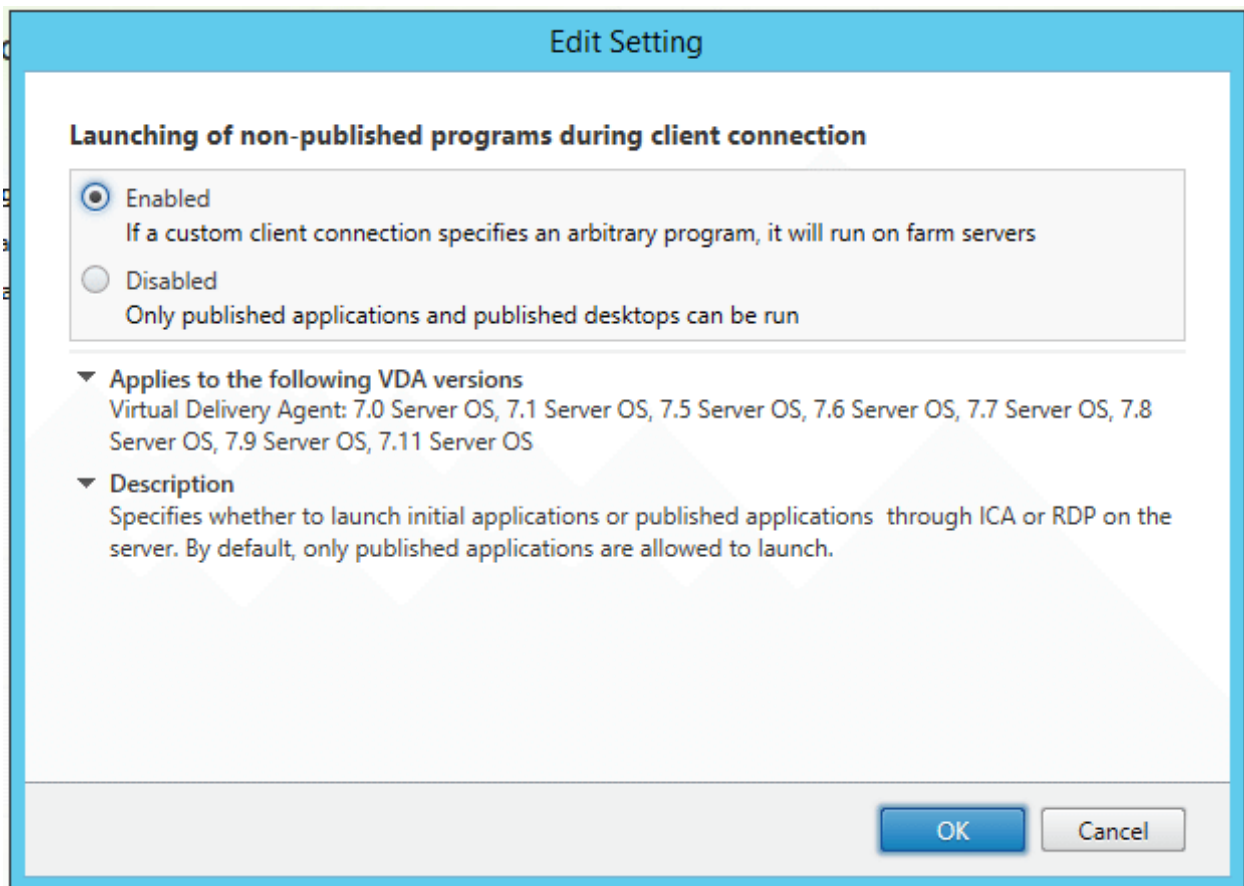
- 2 Enable non-published applications to be launched

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.

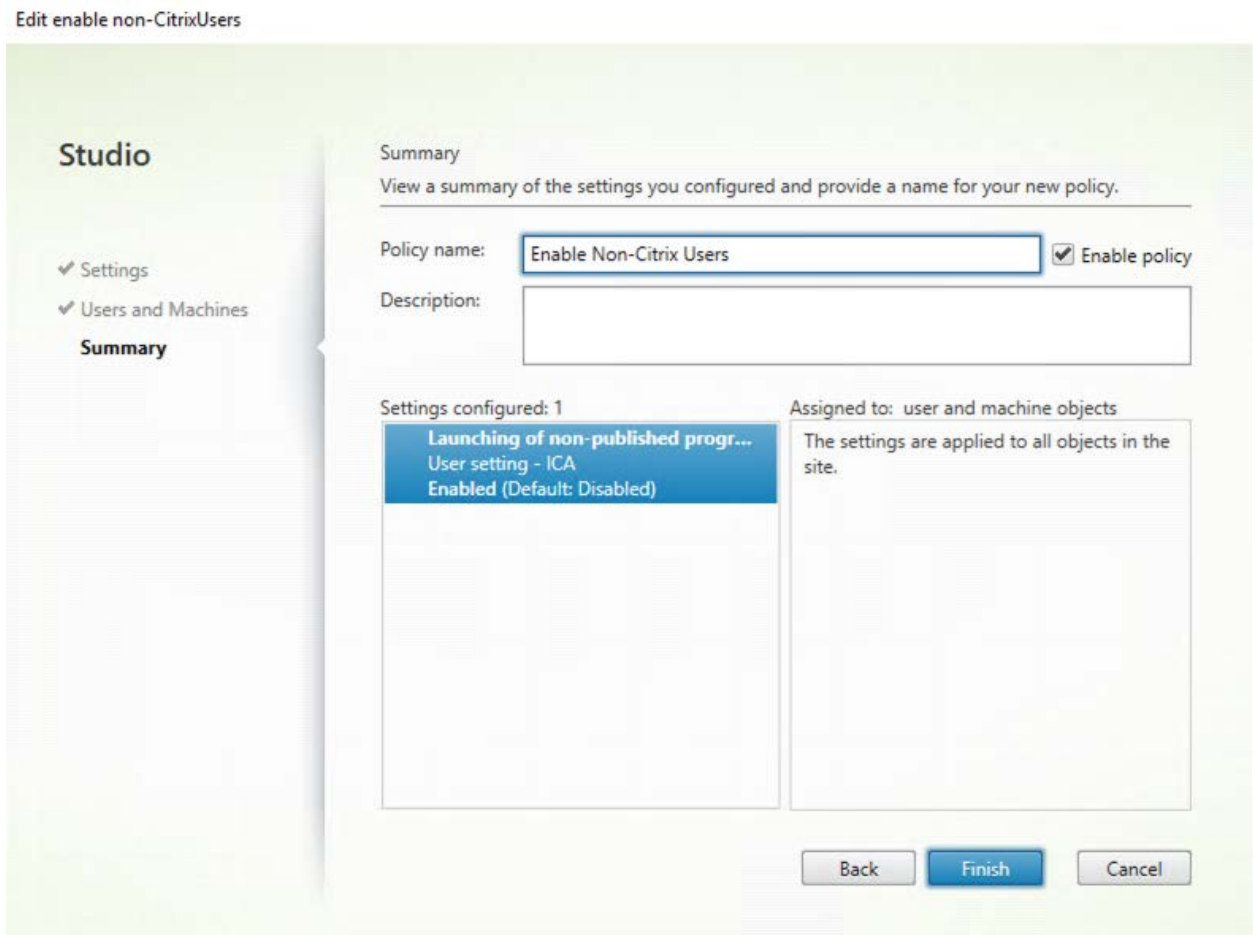
1. Open Citrix Studio and navigate to **Policies**. On the top right, select **Create Policy**.



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



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



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 `gpupdate /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.

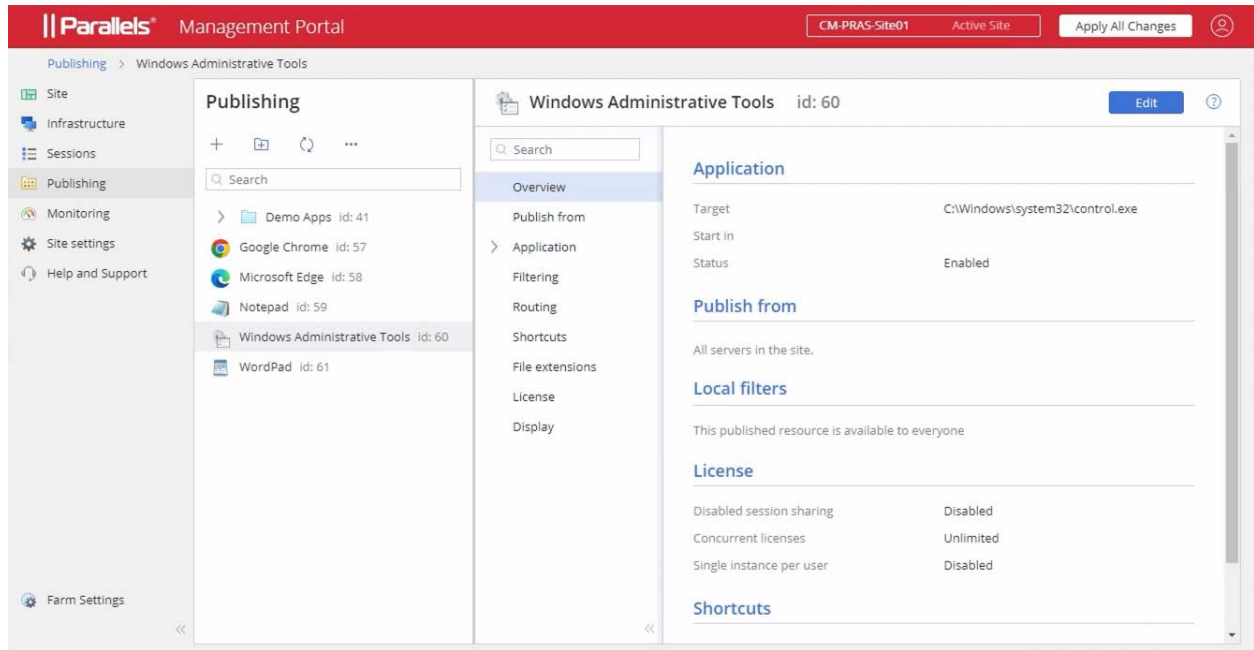
Citrix Studio console before migration

The screenshot displays the Citrix Studio console interface. On the left is a navigation tree with categories like Machine Catalogs, AppDisks, Delivery Groups, Applications, Policies, Logging, Configuration, Administrators, Controllers, Hosting, Licensing, StoreFront, App-V Publishi, AppDNA, and Zones. The main pane shows a table of applications under the 'Applications' folder. The 'Windows Administrative Tools' application is selected, and its details are shown in the bottom pane. On the right, there are 'Actions' and 'Selection' panels with various management options.

Name	Description	Source	State
Google Chrome		Master Image	Enabled
Microsoft Edge		Master Image	Enabled
Notepad	this is a description	Master Image	Enabled
Windows Administrative Tools		Master Image	Enabled
WordPad		Master Image	Enabled

Details - Windows Administrative Tools			
Application			
Name (for administrator):	Windows Administrative Tools	Application Path:	C:\Windows\system32\co...
Name (for user):	Windows Administrative Tools	Command line arguments:	/name Microsoft.Administ...
Description:	-	Working directory:	-
Folder (for administrators):	-	Redirected file types:	-
Folder (for user):	-	Tags:	-
Visibility:	Users inherited from Delivery...	Maximum concurrent instances:	Unlimited
Ignore user's home zone:	No	Maximum instances per user:	Unlimited

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

<code>CVAD7xExport.ps1</code>	This script exports the configuration from the Citrix Virtual Apps and Desktops environment into XML format.
<code>PrepareImport.ps1</code>	This is the startup script for import that uses the XML file produced by <code>CVAD7xExport.ps1</code> .
<code>RASMigrationEngine.ps1</code>	This is the engine that drives the conversion of the exported XML file from <code>PrepareImport.ps1</code> to <code>ImportToRAS.ps1</code> .
<code>Utilities.ps1</code>	This is a utility script which contains all the OU/AD resolution functions, Table creation, and Logs. This is required by <code>PrepareImport.ps1</code> .

`ImportToRas.ps1`

This script is created by running `PrepareImport.ps1` and is used for the final step of the process to import the configuration into Parallels RAS.

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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