Parallels Remote Application Server

Migration Tool for Citrix XenApp 6.x

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CHAPTER 1

Prerequisites

Parallels RAS Citrix Migration Tool Download

The Parallels RAS Citrix migration tool is available for the community on Github at https://github.com/Parallels/RAS-PowerShell/tree/master/Tools/Citrix-RAS%20Migration

Citrix XenApp version & components

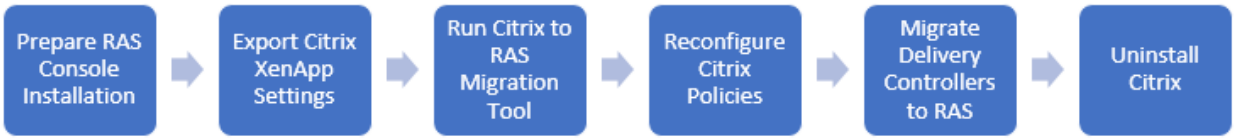
- Citrix XenApp 6.*
- XenApp SDK 6.* https://www.citrix.com/downloads/xenapp/sdks/powershell-sdk.html
- PowerShell v2

Parallels RAS version & components

- Parallels RAS PowerShell 16.5
- Microsoft .Net Framework 4.5
- Microsoft PowerShell v3

CHAPTER 2

Overall Migration Steps



Preparing a target RAS farm

1. Create a VM with Windows 2008 R2 or later.
2. Download the Parallels RAS installer from https://www.parallels.com/products/ras/download/links/
3. Deploy Parallels RAS components on a single host following installer steps.
4. Configure the Parallels RAS farm and activate it using your license key (trial can also be used).

CHAPTER 3

Migration Details

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Export Citrix XenApp Settings

Migration tool requires four XML settings files to operate. These are obtained using Citrix XenApp PowerShell SDK. Run the following commands to extract the settings:

```
Add-PSSnapin citrix.xenapp.commands # load Citrix PowerShell Cmdlets

# OPTIONAL export all farm settings. Used to add more information
# to the header of the generated script.
Get-XAFarm | Export-Clixml "./farm.xml"

# Export all application settings
Get-XAApplicationReport * | Export-Clixml "./applications.xml"

# Export all zone settings
Get-XAZone | Export-Clixml "./zones.xml"

# Export all server settings
Get-XAServer * | Export-Clixml "./servers.xml"

# Export all workergroup settings
Get-XAWorkerGroup | Export-Clixml "./workergroups.xml"
```

Running the Migration tool

1. Download Parallels RAS Citrix Migration Tool and move the exported settings into its directory.
2. Launch PowerShell and change current path to the Parallels RAS Citrix Migration Tool directory.
3. In the PowerShell console window, execute Run.ps1 script as shown below:

```
.\Run.ps1 -XmlPathWorkgroups ./workergroups.xml -XmlPathZones ./zones.xml -
XmlPathServers ./servers.xml -XmlPathApplications ./applications.xml -XmlPathFarm
./farm.xml
```

Running this script will generate a `MigrationScript.ps1` script along with the exported icons in the icons folder. `MigrationScript.ps1` can be then modified to your needs if required. If the script is going be executed on a different machine, the icons folder must be available too.

Migrating Citrix XenApp Settings to Parallels RAS

1. Execute the `MigrationScript.ps1` script and provide your RAS server hostname or IP address and credentials when prompted.
2. If the Parallels RAS version is supported, the migration will begin. Minimal supported version is 16.2.

Note: Icon support is available in v16.5 and above. Parallels RAS v16.2 does not support file extension filtering and setting of color depth through PowerShell.

CHAPTER 4

Citrix Policies and Testing RAS Side-by-Side

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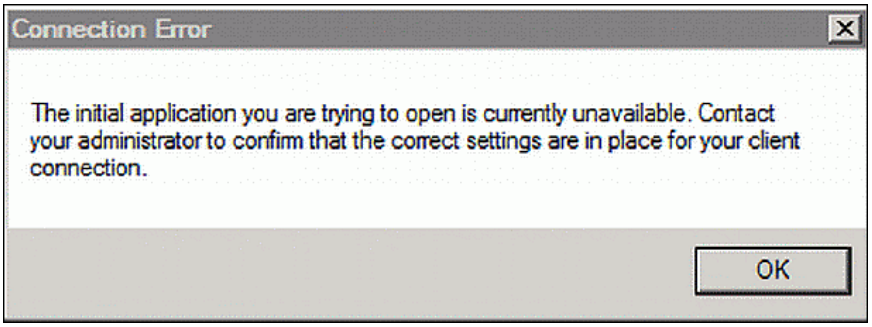
Installing RAS Agents

To install Parallels RAS Agents:

1. Open the Parallels RAS Console.
2. Click **Upgrade all agents** from the **Tasks** menu.
3. Select the hosts you want to push the RAS RD Session Host Agent to.
4. Click **OK** to start the installation process.

As soon as RAS RD Session Hosts Agents are installed on the target hosts and their status is verified, the servers are ready to host RDP connections.

Using Parallels Client, connect to the RAS Secure Client Gateway and open one of the migrated applications. In a few Citrix deployments RDP connection is not allowed. There are a couple of necessary steps needed to correct this issue causing this error:



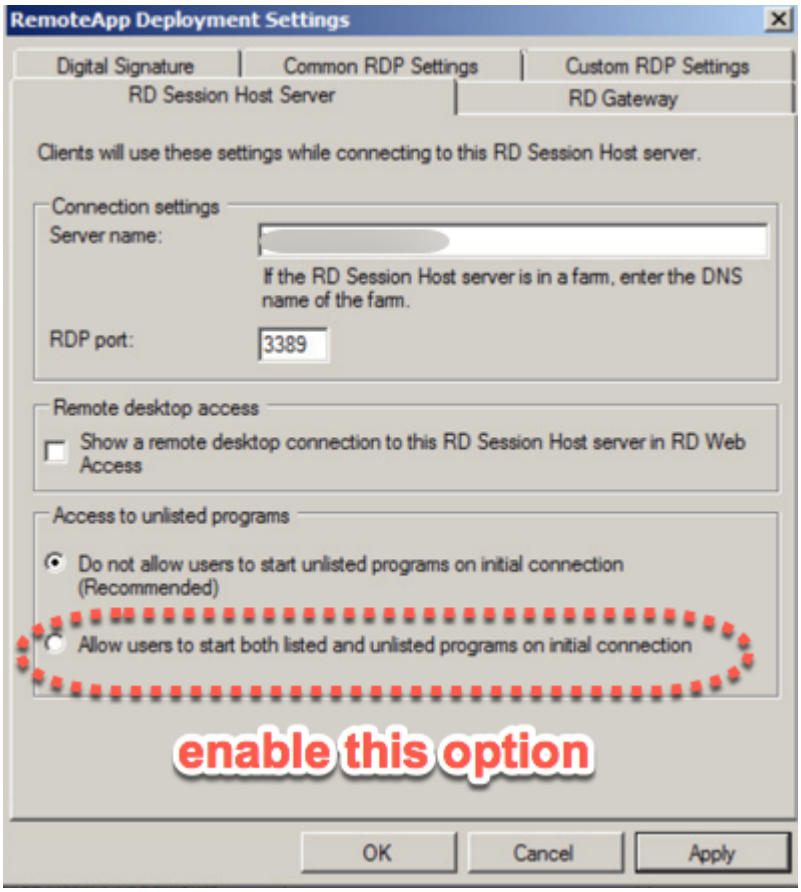
RDS Settings in Windows Server 2008

1. Navigate to the **Administrative Tools**, and then **Remote Desktop Services** and start the RemoteApp Manager.
2. In the **Actions** pane of RemoteApp Manager, click **RD Session Host Server Settings** or in the **Overview** pane, beside RDP Settings, click **Change**. For the latter method you have to select the **RD Session Host Server** tab in the **RemoteApp Deployment Settings** dialog box.
3. To enable the RDP client to launch applications, select the **Allow users to start both listed and unlisted programs on initial connection**, click **OK**.

Note that if you select this option, users can start any program remotely from a .rdp file on initial connection. In the **Access to unlisted programs** sections, the following two options are available:

- **Do not allow users to start unlisted programs on initial connection** (Recommended by Microsoft).

- **Allow users to start both listed and unlisted programs on initial connection** (Suggested for testing applications with RDP Client)



Changing the Default Unfiltered User Policy Settings for ICA in the Management Console

To change the default unfiltered User policy settings for ICA in the console, complete the following procedure:

1. Select **Policies**.
2. Activate the **User** tab (you notice the default unfiltered policy).
3. To access the default policy settings, activate the **Settings** tab in the lower pane.
4. Click **ICA** on the **Categories** window.

Allowing Non-administrative Users to Connect to the Server Desktop

To allow non-administrative users to connect to the server desktop, complete the following procedure:

1. Click the **Add** link for starting the Desktop Launches.
2. Select **Allowed**.
3. Click **OK**.

Allowing Non-administrative Users to Start Any Application During Client Connection Select Enabled

To allow non-administrative users to start any application during client connection, complete the following procedure:

1. Click the **Add** link for Launching of non-published programs during client connection.
2. Click **Enabled**.
3. Click **OK**.

Returning the Settings to the Default Configuration

To return these settings to the default configuration, click the **Remove** link for the appropriate setting.

CHAPTER 5

Migrating RDS (XenApp Delivery Controller) Host Servers to RAS

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Uninstalling Citrix Components

Refer to the following document for more details on how to remove Citrix XenApp 6.5:

https://www.parallels.com/fileadmin/docs/ras/resources/WP_MigrationfromCitrix_EN_A4.pdf

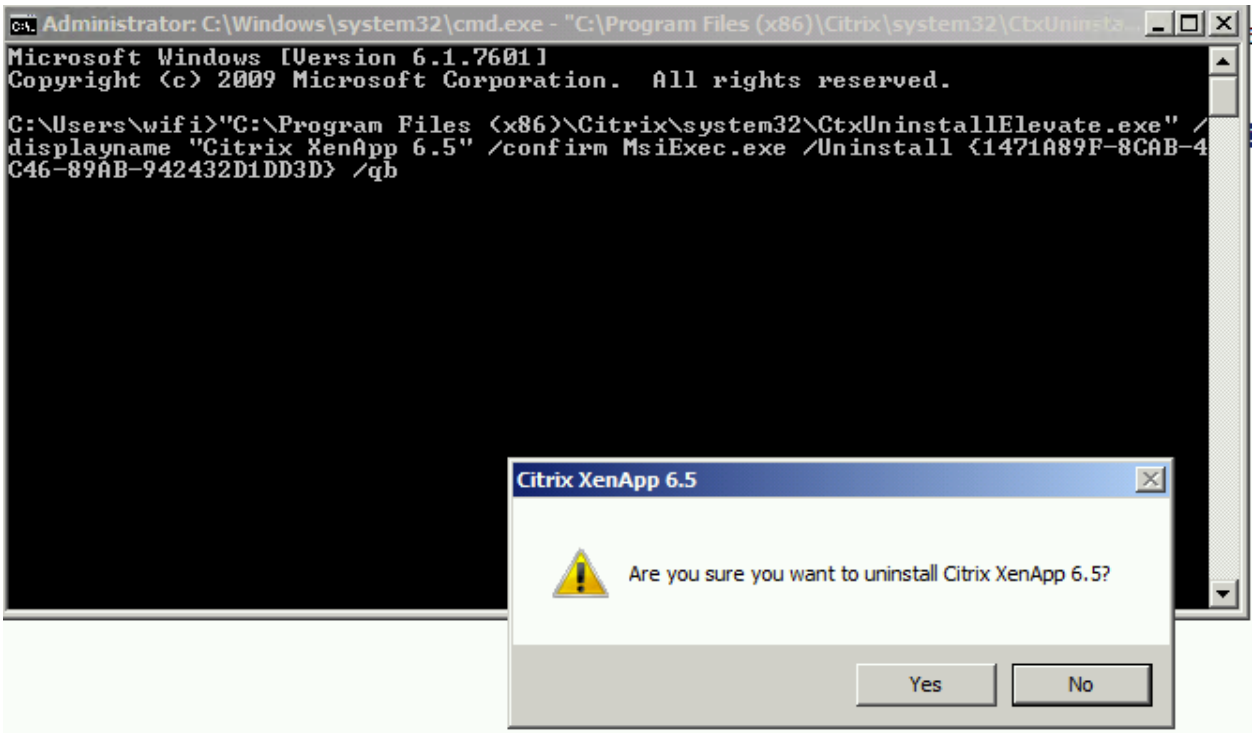
In case of issues you can:

When you have XenApp installation files on your XenApp server or attached media:

1. Start `cmd` with administrative privileges.
2. Switch to the appropriate directory, e.g. D:\XenApp Server\w2k8x64
3. Execute the following command:

```
msiexec /x mps.msi ctx_mf_force_subsystem_uninstall=yes
```

4 You should get a prompt window. Click **Yes** and go through the uninstaller and reboot when it prompts you.



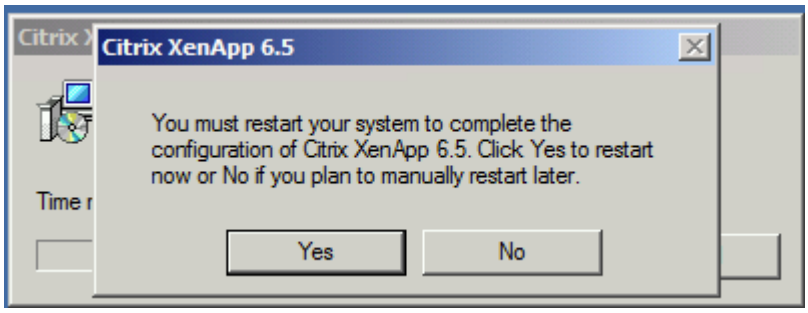
If you don't have XenApp installation files on your XenApp server or media:

1 Disable IMA service and reboot the host.

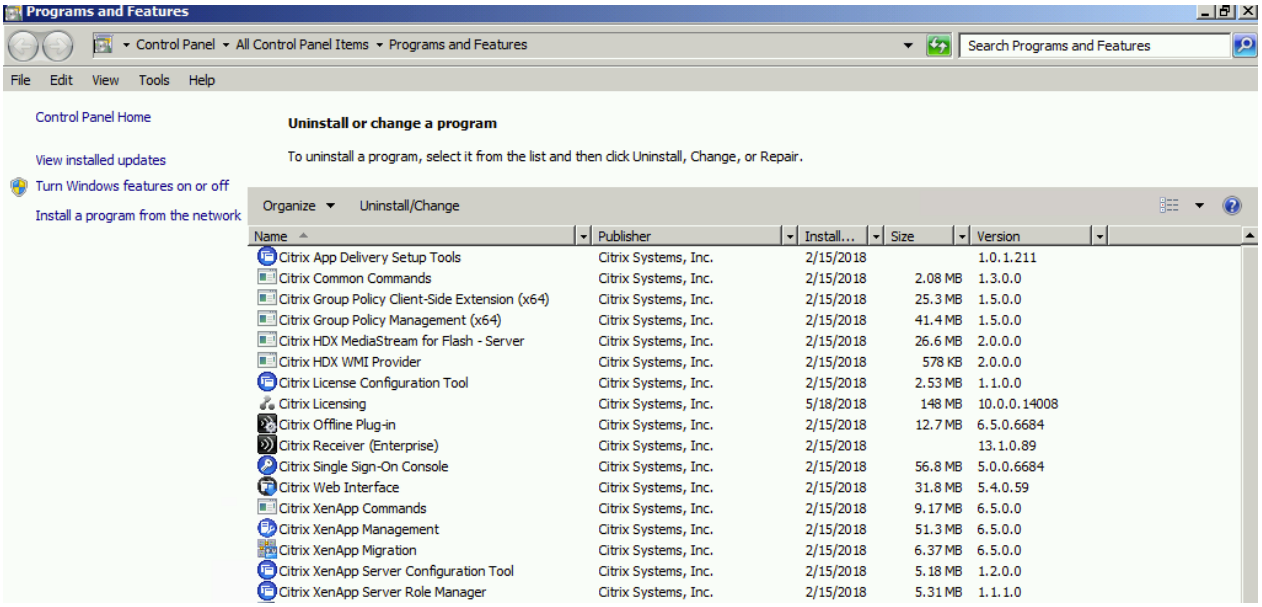
2 Run Regedit and find "UninstallString" key under [HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\Microsoft\Windows\CurrentVersion\Uninstall\Citrix XenApp 6.x] and use its value, e.g. C:\Program Files (x86)\Citrix\system32\CtxUninstallElevate.exe /displayname "Citrix XenApp 6.x" /confirm MsiExec.exe /Uninstall {1471A89F-8CAB-4C46-89AB-942432D1DD3D} /qb

3 Add quotation marks to C:\Program Files (x86)\Citrix\system32\CtxUninstallElevate.exe and in cmd started with admin privileges command looks: "C:\Program Files (x86)\Citrix\system32\CtxUninstallElevate.exe" /displayname "Citrix XenApp 6.x" /confirm MsiExec.exe /Uninstall {1471A89F-8CAB-4C46-89AB-942432D1DD3D} /qb

4 You should get a prompt window. Click **Yes** and go through the uninstaller and reboot when it prompts you.



After the reboot, you still need to uninstall other components but an RDP connection should be possible:



Fix RDP-TCP Listener

Sometimes, uninstalling of Citrix components leads to a broken RDP listener. Follow this article to fix it: https://kb.parallels.com/en/123673

CHAPTER 6

Appendix A – Definitions

XenApp	Parallels RAS
Farm	Farm
Zone - A zone is a grouping of XenApp servers that communicate with a common data collector. In large farms with multiple zones, each zone has a server designated as its data collector. Data collectors in farms with more than one zone function as communication gateways with the other zone data collectors. All farms have at least one zone, even small ones. The fewest number of zones should be implemented, with one being optimal. Multiple zones are necessary only in large farms that span WANs.	Site
Worker Group - Worker groups are collections of XenApp servers, residing in the same farm, that are managed as a single unit. When using worker groups, consider the following: • A farm server can belong to multiple worker groups. • A worker group can include any number of XenApp servers or none at all. • Only servers that belong to the same XenApp farm are included in a worker group.	RD Session Host Group Since 16.x 1:many server:group membership dropped
Worker	RD Session host Server OS VDI Desktop OS VDI
Remote Desktop Services (RDS) or Terminal Services machine	Server OS machine, RDSH
Zone and Data Collector - A data collector is a server that hosts an in-memory database that maintains dynamic information about the servers in the zone, such as server loads, session status, published applications, users connected, and license usage. Data collectors receive incremental data updates and queries from servers within the zone. Data collectors relay information to all other data collectors in the farm. The data collector maintains all load and session information for the servers in its zone.	Publishing Agent

Appendix A – Definitions

Delivery Services Console	Parallels RAS Console
Published applications	Published applications
Data store (SQL 2008 Express or elder and later, Oracle 11g	Database
Load Evaluator	Server Defaults (max sessions) and Load balancing rules
Administrator	Administrator

CHAPTER 7

Appendix B - Components Difference

The transition to RAS also means some features available in XenApp 6.x and previous versions may be implemented differently or may require you to substitute other features, components, or tools to achieve the same goals.

XenApp	**Parallels RAS**
Session prelaunch	Not available
Session linger configured with policy settings	Session linger is configured by Defaults.
Support for unauthenticated (anonymous) users provided by granting rights to anonymous user when setting the properties of published applications.	Not available
Local host cache permits a worker servers to function even when a connection to the data store is not available	Not applicable
Application streaming	App-V or Turbo
Web Interface	RAS HTML5 Gateway (or former Web Portal)
SmartAuditor to record on-screen activity of a user's session.	Not available
Configuration Logging to log all session activities from an administrative perspective.	Audit
Power and Capacity Management to help reduce power consumption and manage server capacity.	Not available
Secure ICA encryption below 128-bit: In releases earlier than 7.x, Secure ICA could encrypt client connections for basic, 40-bit, 56-bit, and 128-bit encryption.	Yes, RDP over SSL or DTLS
Secure Gateway: In releases earlier than 7.x, Secure Gateway was an option to provide secure connections between the server and user devices.	Yes
Shadowing users	Yes
Flash v1 Redirection	Not available
Local Text Echo: This feature was used with earlier Windows application technologies to accelerate the display of input text on user devices on high latency connections.	Not available
Single Sign-on component (aka Password Manager)	Not available
Oracle database support	Not required

Health Monitoring and Recovery (HMR): In releases earlier than 7.x, HMR could run tests on the servers in a server farm to monitor their state and discover any health risks.	RAS Agents status and RAS Notifications to run a script.
Custom ICA files: Custom ICA files were used to enable direct connection from user devices (with the ICA file) to a specific machine.	RAS .2xc file
Management Pack for System Center Operations Manager (SCOM) 2007	Not available
CNAME function: The CNAME function enabled by default. Deployments depending on CNAME records for FQDN rerouting and the use of NETBIOS names might fail.	Supported
Launching of non-published programs during client connection: Citrix policy setting specified whether to launch initial applications or published applications through ICA or RDP on the server.	Not available
Desktop launches: In XA 6.x this Citrix policy setting specified whether non-administrative users can connect to a desktop session.	Parallels RAS uses RDSH servers'settings or Defaults.
Colour depth	Supported
COM Port Mapping LPT Port Mapping	Single setting for both

CHAPTER 8

Migration Components

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Migrated Components

Citrix XenApp	Parallels RAS
Zones	Sites (Partial)
Server	RDS hosts
Worker Groups	RDS groups
Applications	Published applications

Components That are Not Migrated

Citrix XenApp	Parallels RAS
Administrator	Different permissions schema
Load Balancing Policies	Not Available
Load Evaluators	Not Available
Policies	Not Available

Migration Process of Sites (Zones)

This version only migrates the first site that appears in the `zones.xml` file, with the site name updated. This is because it is not possible to resolve under which zone certain components reside. For example, a workgroup can have multiple farm servers that belong to different zones, similarly, applications being published from worker groups have no way of knowing to which zone they belong.

Migration Process of Servers

The servers are migrated to RAS as RD Session Hosts set with the primary site.

Migration Process of Application Folders

The folder structure for Administrative folder and Client Application folders are merged. To make a distinction, Administrative folders are marked as `Use for administrative purpose`.

Migration Process of Applications

All settings that are available to Parallels RAS in xml settings were migrated.

Migration Process of Worker Groups

Citrix XenApp worker groups are adjusted to the Parallels RAS RD Session Host Groups structure due to their differences.

Property	**Status**
Name	Migrated
Description	Migrated
Application Type	Migrated
Command Line	Migrated
Working directory	Migrated
Servers	Migrated
Groups	Migrated

User Filtering	Migrated
Shortcut presentation	Migrated
File types	Migrated (16.5)
License limits	Migrated
Printer settings	Migrated
Color	Migrated (16.5)
Resolution	Migrated
Start up settings	Migrated
App state	Migrated

Key differences

- Citirx XenApp allows sharing servers between 2 or more workgroups (Not allowed in Parallels RAS v16.5) Solving this problem required to extract servers that are common to two or more groups into their own server group. Such servers are extracted into a group prefixed `GRP_<servername>`. This adaptation allows to have a similar configuration on RAS for RDS Groups. Also note, that OUs, and AD groups are prefixed with `OU_<oiGUID>` and `ADG_<groupName>` respectively.
- Ctirix XenApp worker groups are not bound to zones. This makes it difficult to have a 1:1 mapping to Parallels RAS. In this version of migration tool the issue is solved by using the first zone name that appears in the `zones.xml` file. Everything is migrated under one zone.