

Windows Server 2008 R2: Remote Desktop Services Component Architecture

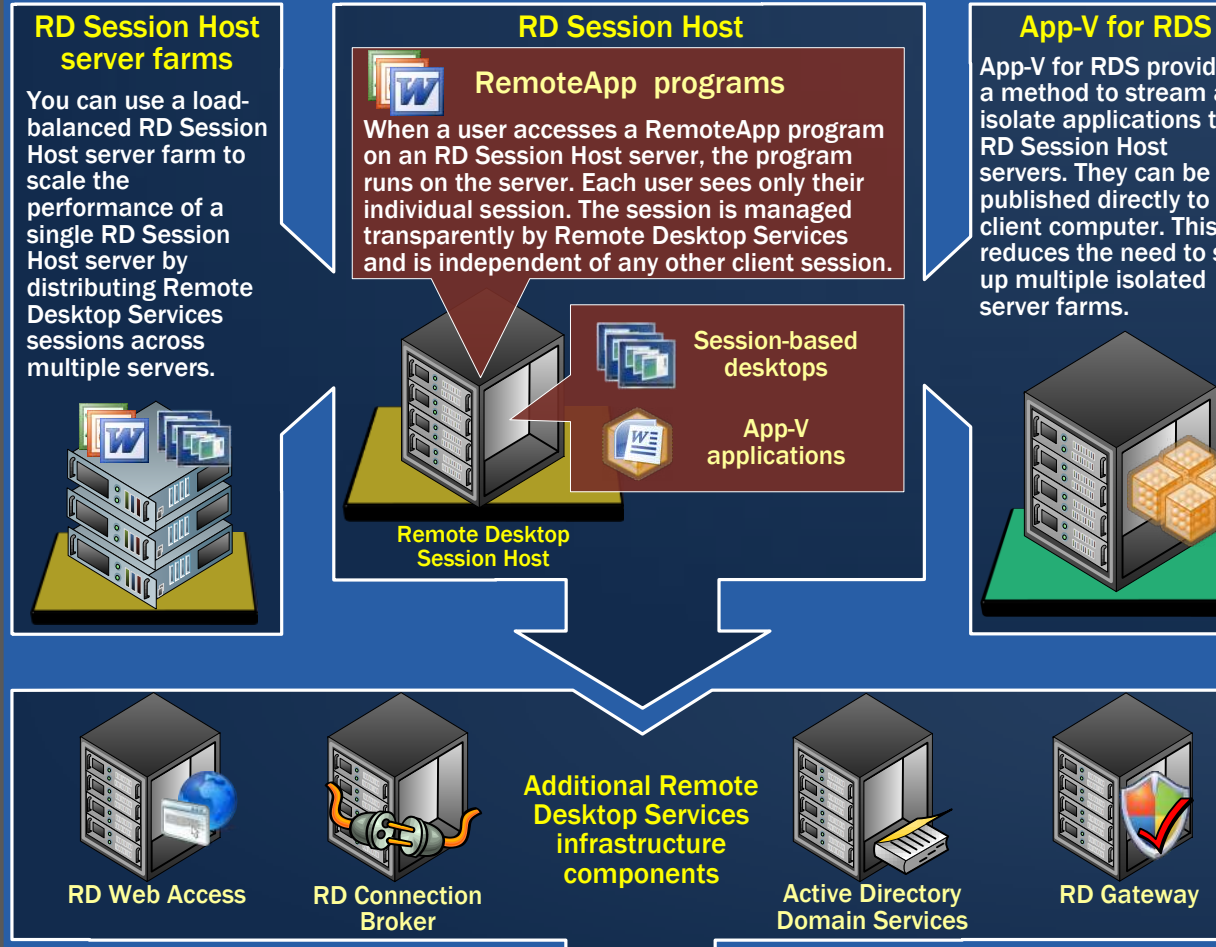
Acronyms

AD DS
Active Directory Domain Services
App-V
Application Virtualization
CAL
client access license
GPU
graphics processing unit
MSI
Microsoft Installer Package
RDC
Remote Desktop Connection
RDS
Remote Desktop Services
RDP
Remote Desktop Protocol
RD Connection Broker
Remote Desktop Connection Broker
RD Gateway
Remote Desktop Gateway
RD Session Host
Remote Desktop Session Host
RD Virtualization Host
Remote Desktop Virtualization Host
RD Web Access
Remote Desktop Web Access
ROI
Return On Investment
SP1
Service Pack 1
SCVMM
System Center Virtual Machine Manager
SSE2
Streaming SIMD Extensions 2
SLAT
Second-Level Address Translation
SSL
Secure Sockets Layer
VDI
Virtual Desktop Infrastructure
V-GPU
virtual graphics processing unit
VMM
Virtual Machine Manager

Windows Server 2008 R2
Remote Desktop Services

Remote Desktop Session Host

An RD Session Host server hosts Windows-based programs or the full Windows desktop for Remote Desktop Services clients. Users can connect to an RD Session Host server to run programs, to save files, and to use network resources on that server. Users can access an RD Session Host server by using RD Connection Broker, RD Web Access, or RemoteApp and Desktop Connection.



Session-based desktops delivery

An RD Session Host server can deliver a user desktop session to any designated user in the network.

RD Session Host configuration

- Configure Network Level Authentication for the RD Session Host server.
- Configure the Remote Desktop Users group to give users and groups permissions to remotely connect.
- Configure an RD Session Host server running Windows Server 2008 R2 to use at least one Remote Desktop license server.

Remote Desktop Connection client configuration
The RD Session Host server can be configured so that users connecting to a remote session can use some of the following functionality:

- Audio recording redirection
- Windows Aero experience
- Remote computer's audio and video playback redirection

RemoteApp programs delivery
RemoteApp enables administrators to make programs that are accessed remotely through an RD Session Host server appear as if they are running on the client computer. Instead of being presented to the user in the desktop of the RD Session Host server, the RemoteApp program is integrated with the client computer.

Client requirements for accessing RemoteApp programs

- To access RemoteApp programs, the client computer must be running at least RDC 6.1.
- To access RemoteApp programs, the client computer must be running either Windows 7, Windows Vista with SP1, or Windows XP with SP3.
- To access RemoteApp and Desktop Connection through the Start menu requires Windows 7.

Accessing RemoteApp programs
Users access RemoteApp programs in the following ways:

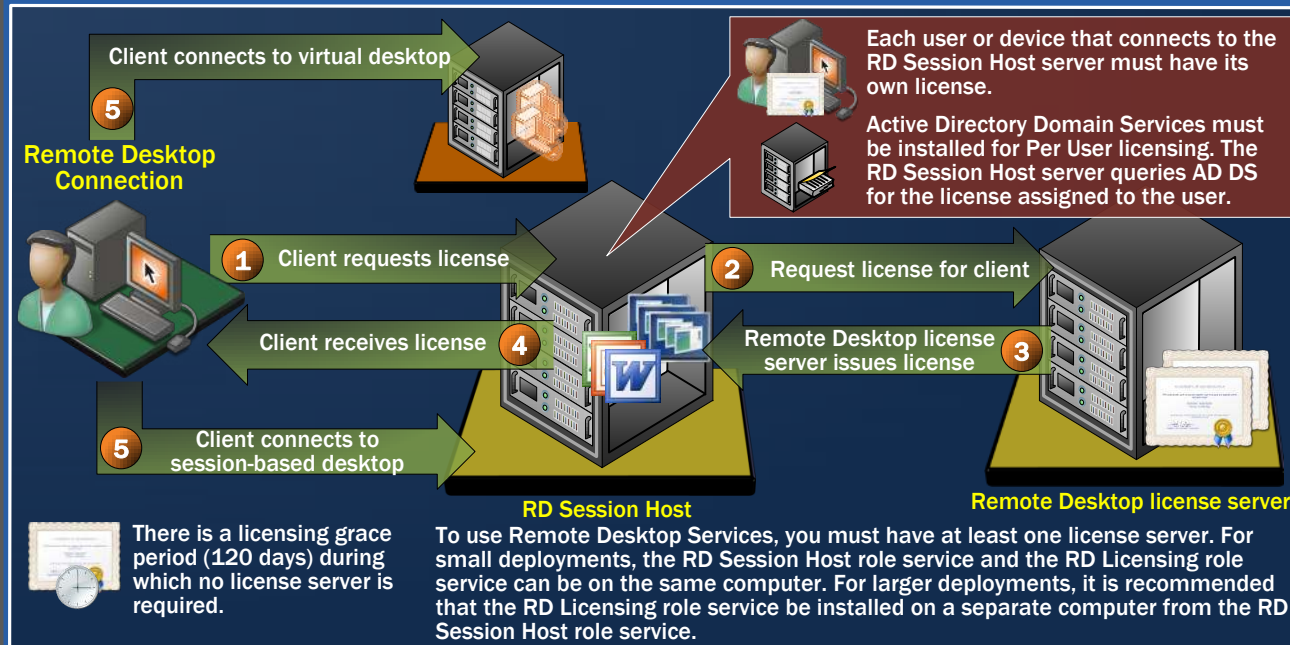
- Remote Desktop Protocol (.rdp) file
- RD Web Access Web portal
- RemoteApp And Desktop Connection by using the Windows 7 Start menu

Remote Desktop Connection client

Remote Desktop Licensing

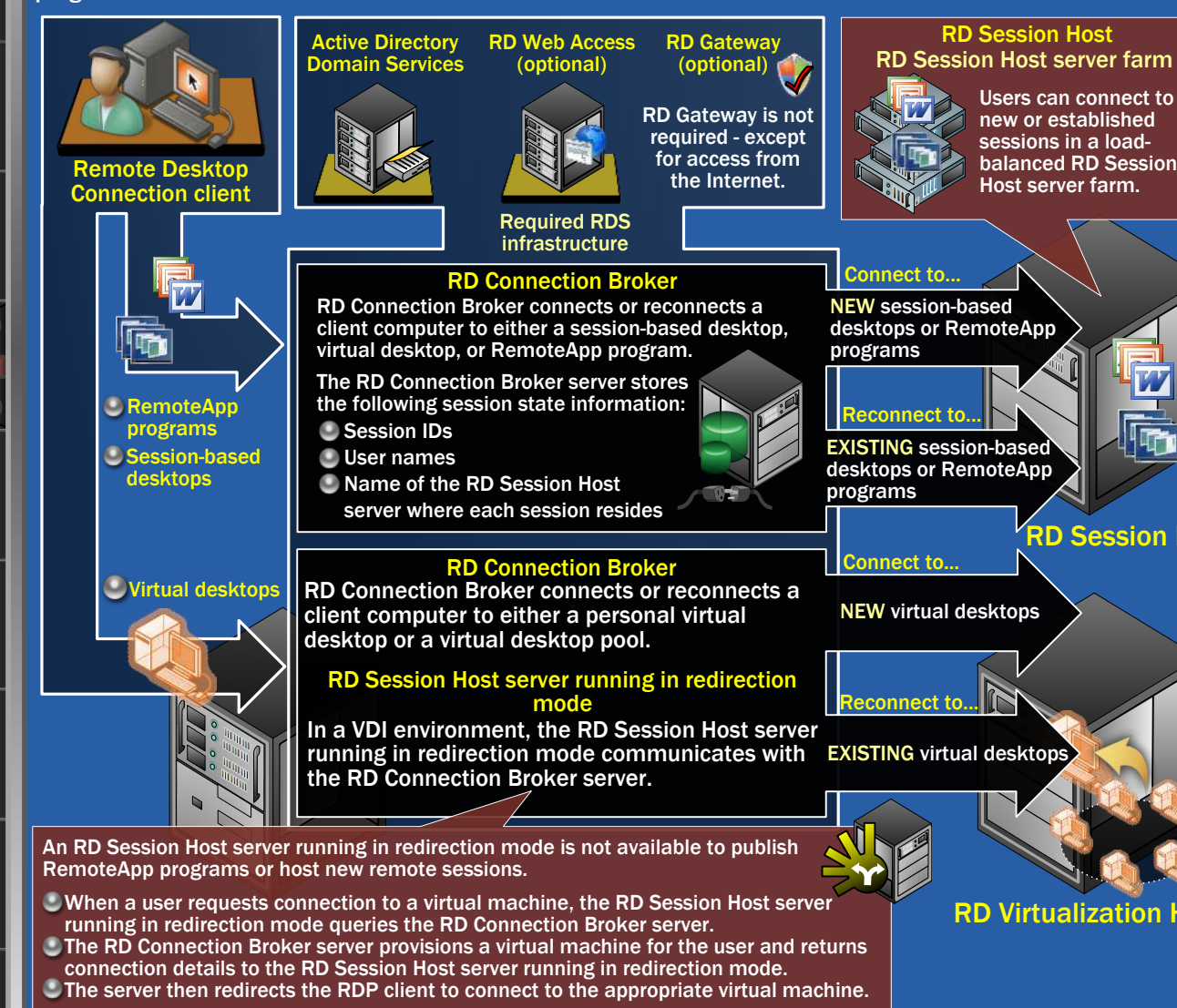
Remote Desktop Licensing manages the Remote Desktop Services client access licenses and VDI Suite licenses that are required for each device or user to connect to session-based desktops, RemoteApp programs, or virtual desktops.

When a client connects to an RD Session Host server, the RD Session Host server determines if a license is needed. The RD Session Host server then requests an RDS CAL or VDI Suite license from a Remote Desktop license server on behalf of the client. If an appropriate license is available from a license server, the RDS CAL or VDI Suite license is issued to the client, and the client will be able to connect to the session-based desktop, RemoteApp program, or virtual desktop.



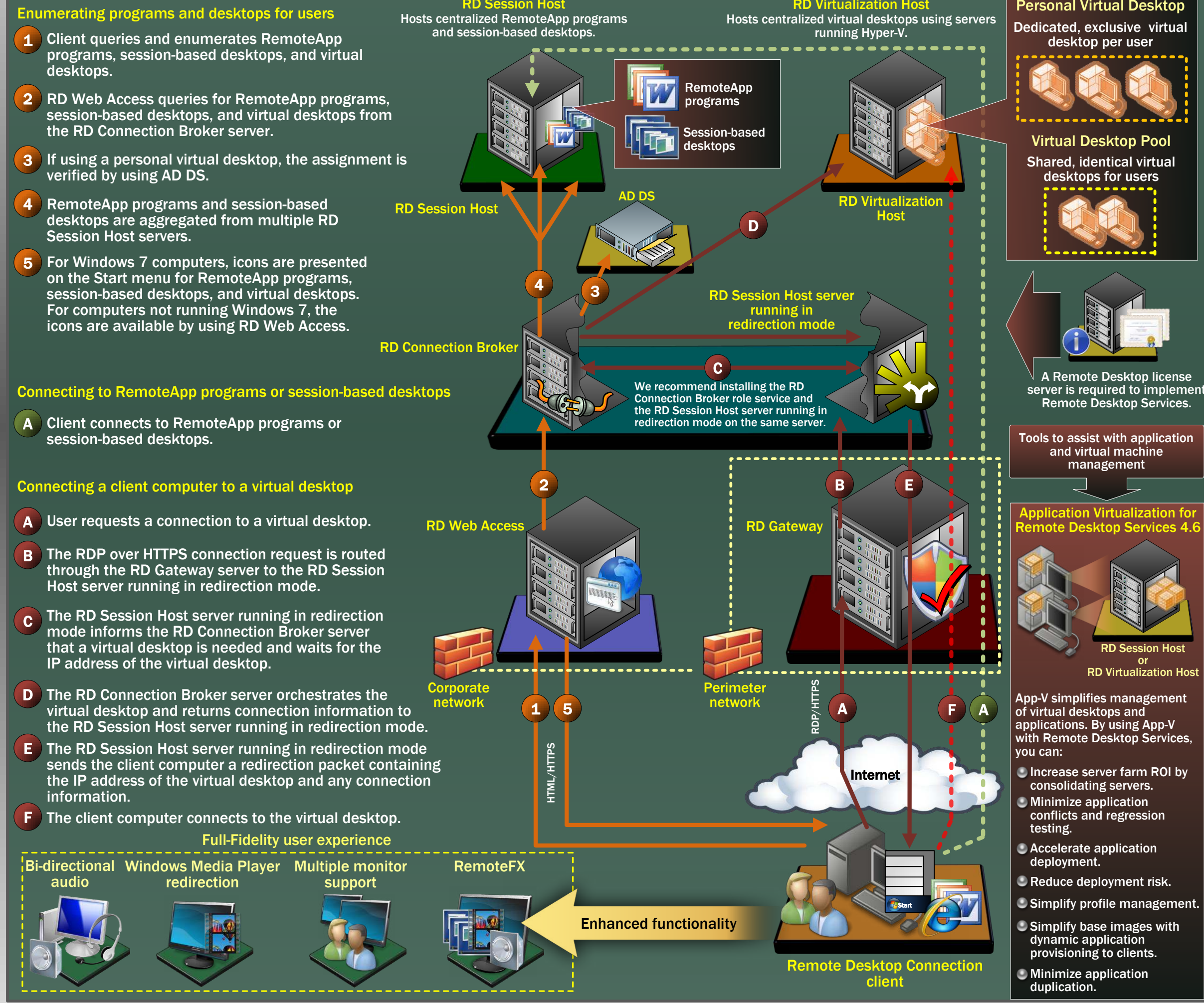
Remote Desktop Connection Broker

Remote Desktop Connection Broker provides a single, personalized, and aggregated view of RemoteApp programs, session-based desktops, and virtual desktops to users. RD Connection Broker supports load balancing and reconnection to existing sessions on virtual desktops, session-based desktops, and RemoteApp programs.



Remote Desktop Services Architecture

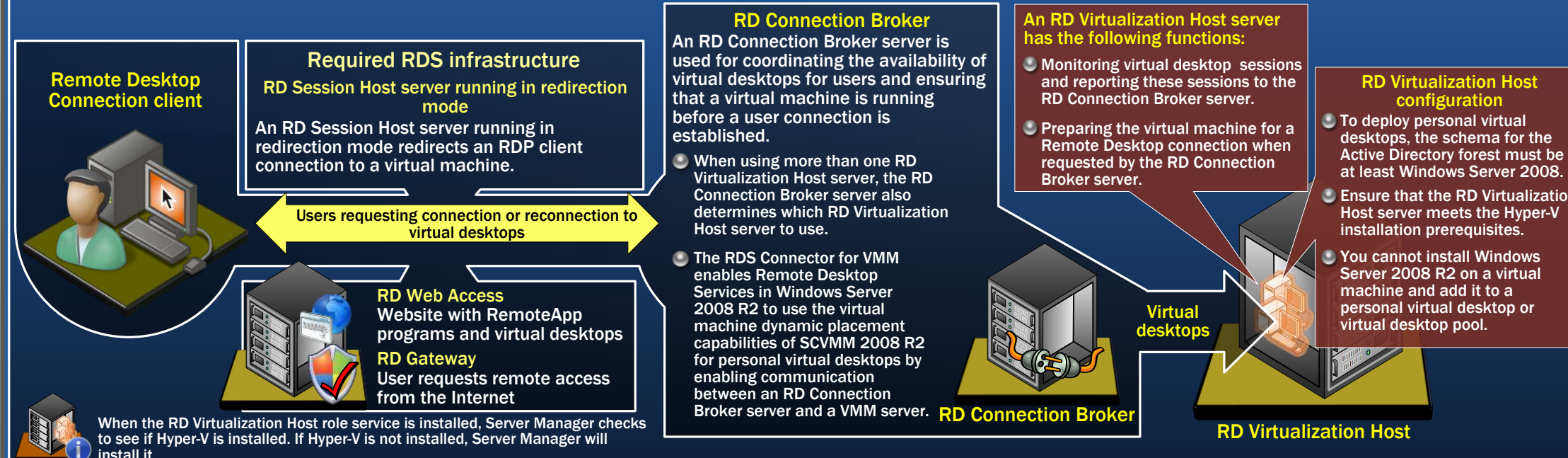
Remote Desktop Services provides a virtualization platform for accelerating and extending desktop and application deployments from the data center to any device. It provides an extensible platform for a Virtual Desktop Infrastructure.



Remote Desktop Virtualization Host

Understanding Remote Desktop Virtualization Host

Remote Desktop Virtualization Host is a new Remote Desktop Services role service included with Windows Server 2008 R2. RD Virtualization Host integrates with Hyper-V to provide virtual machines that can be used as personal virtual desktops or virtual desktop pools. User accounts can be assigned a unique personal virtual desktop or be redirected to a virtual desktop pool where a virtual desktop is dynamically assigned. RD Virtualization Host is an essential component to the VDI solution offered by Microsoft.

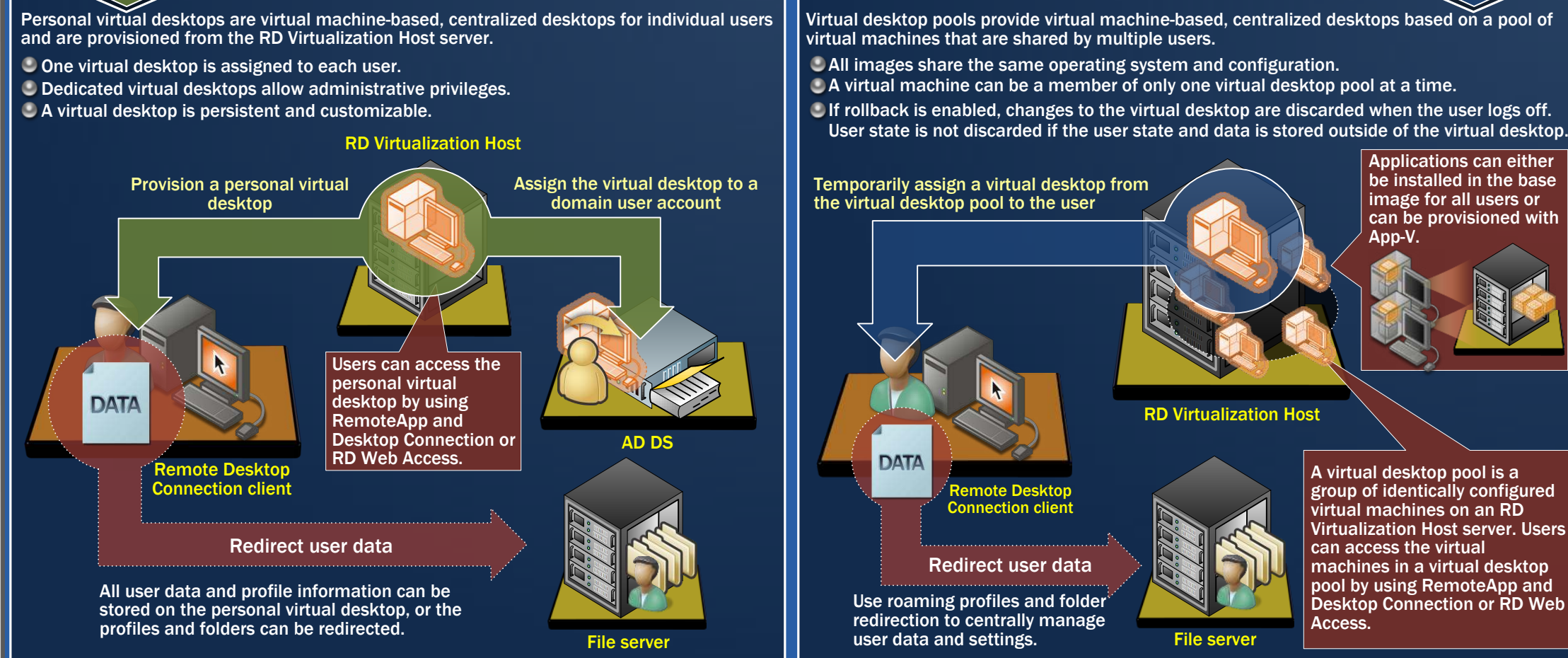
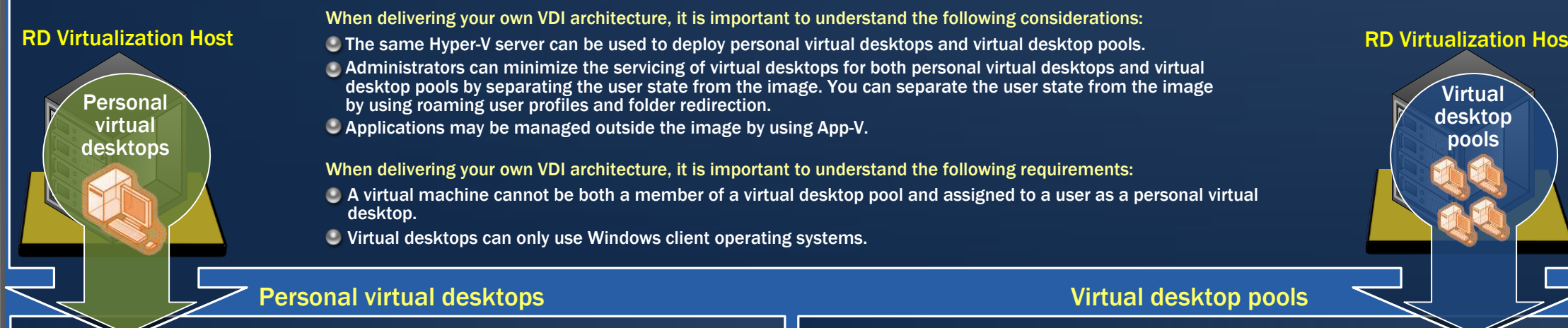


Personal virtual desktops
When delivering your own VDI architecture, it is important to understand the following considerations:

- The same Hyper-V server can be used to deploy personal virtual desktops and virtual desktop pools.
- Administrators can minimize the servicing of virtual desktops for both personal virtual desktops and virtual desktop pools by separating the user state from the image. You can separate the user state from the image by using roaming user profiles and folder redirection.
- Applications may be managed outside the image by using App-V.

Virtual desktop pools
When delivering your own VDI architecture, it is important to understand the following requirements:

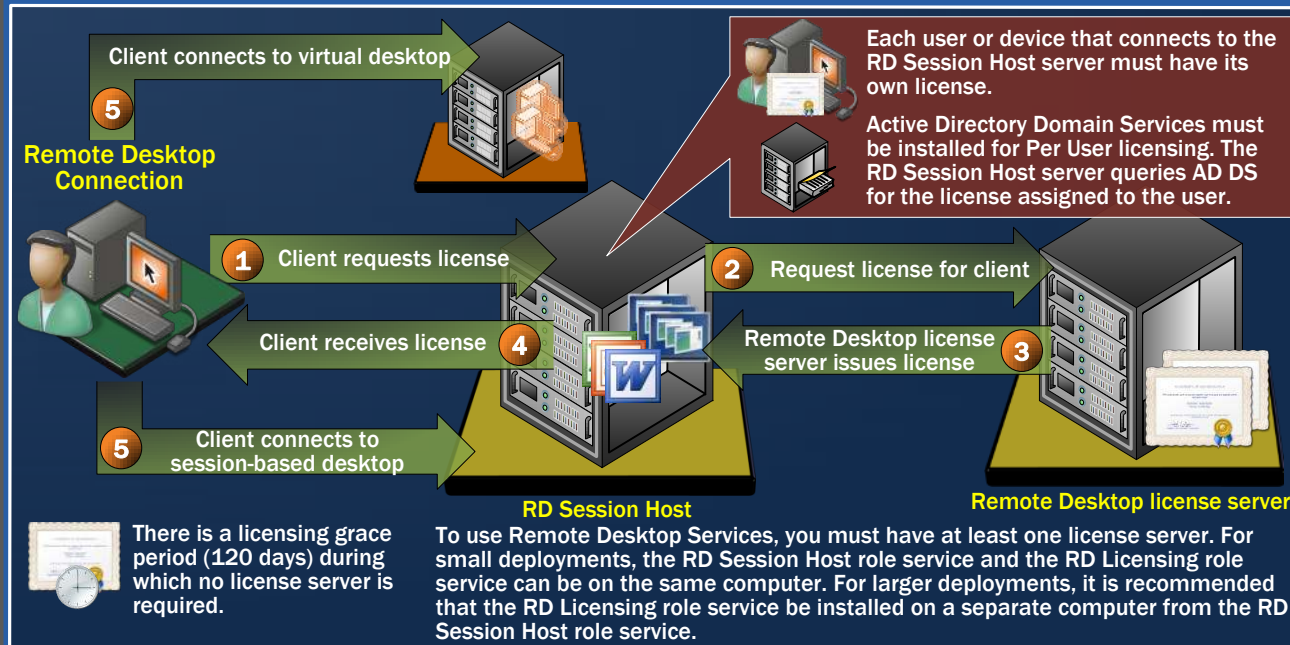
- A virtual machine cannot be both a member of a virtual desktop pool and assigned to a user as a personal virtual desktop.
- Virtual desktops can only use Windows client operating systems.



Remote Desktop Licensing

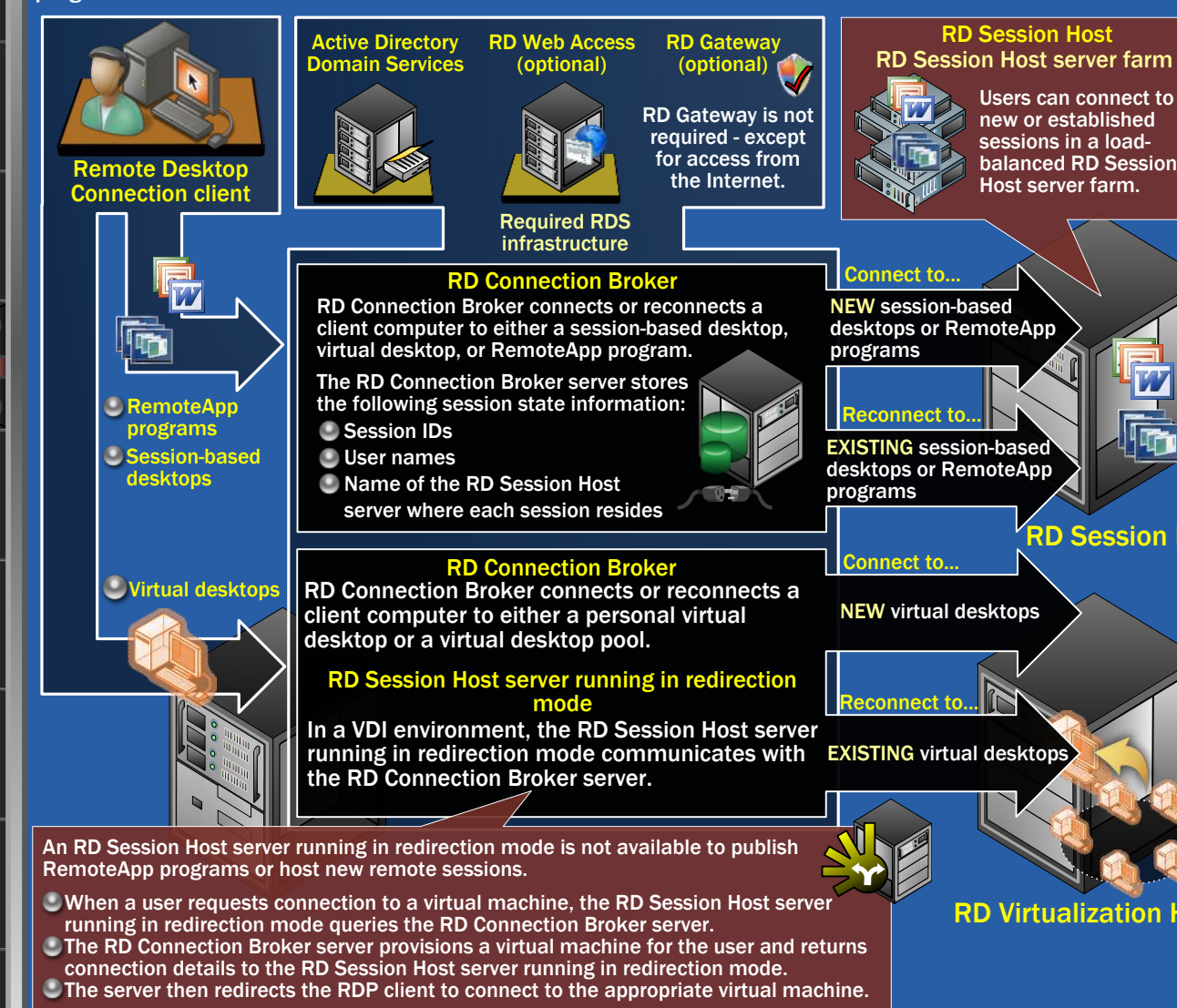
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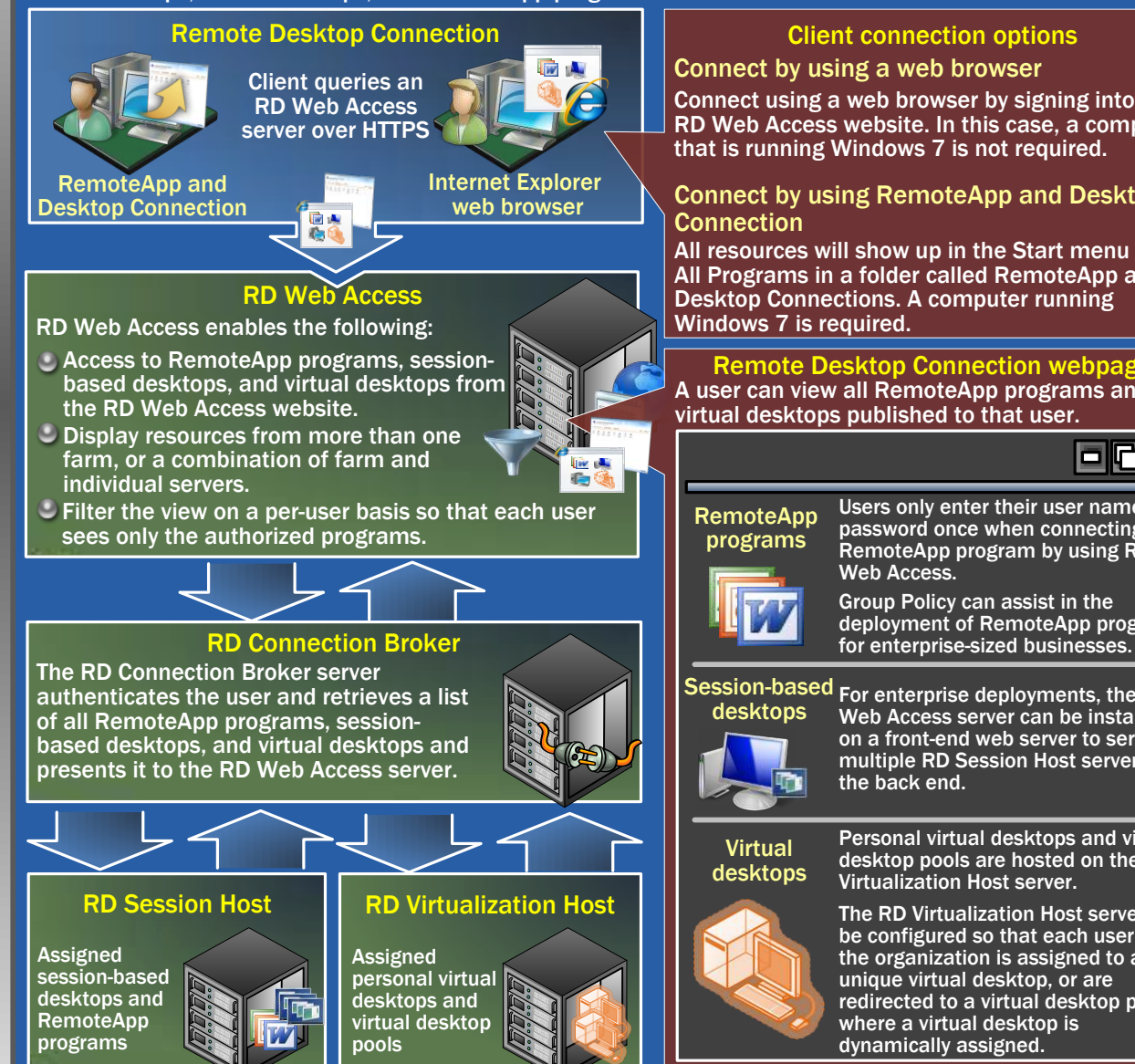
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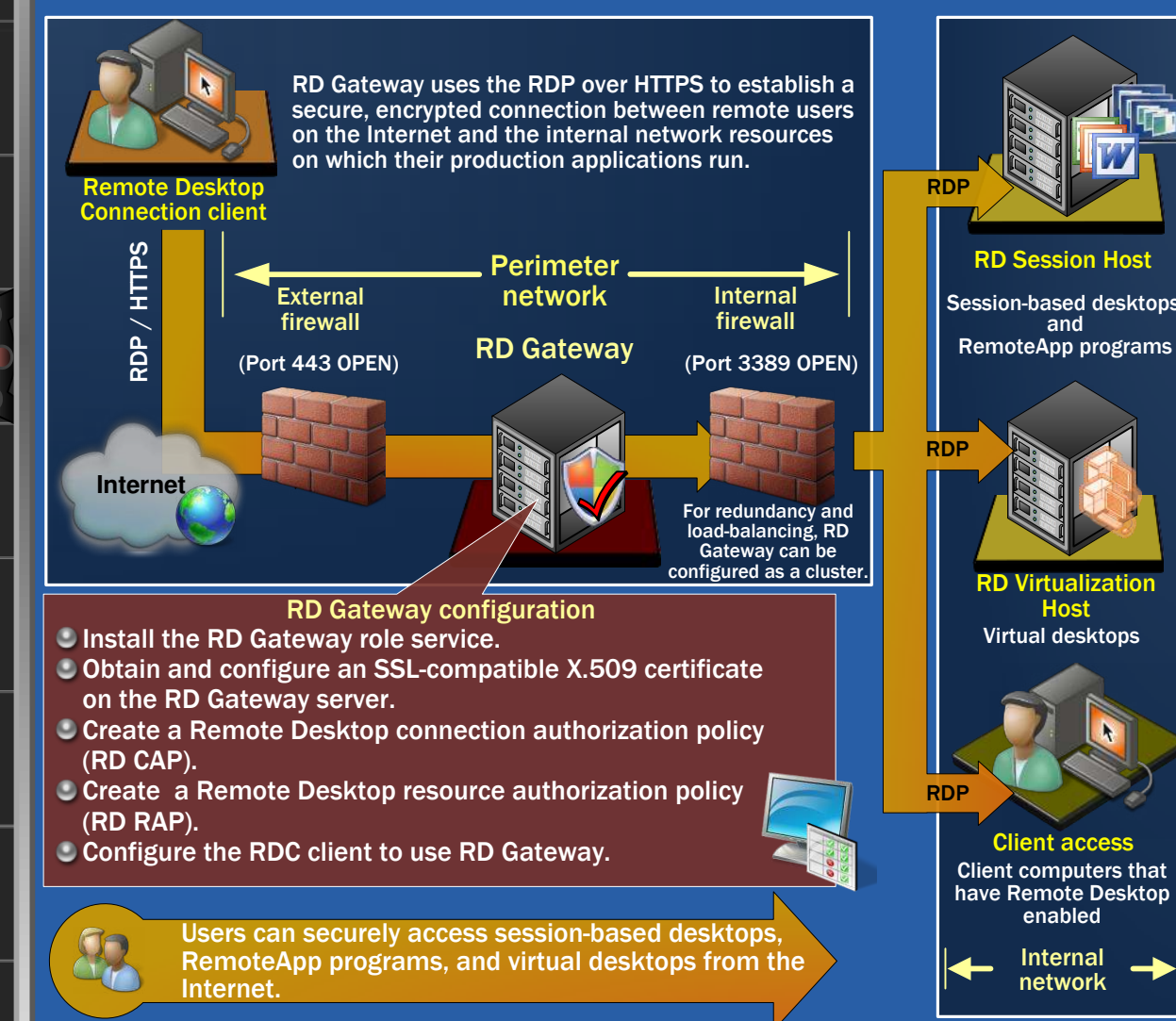
Remote Desktop Web Access

A Remote Desktop Web Access server provides users with a customizable web portal for accessing session-based desktops, virtual desktops, and RemoteApp programs.



Remote Desktop Gateway

The Remote Desktop Gateway role service in Windows Server 2008 R2 enables compatible devices to securely connect over the Internet to RD Session Host servers or RD Virtualization Host servers behind a corporate firewall. Network resources can be any authorized session-based desktops, RemoteApp programs, or virtual desktops.



Microsoft RemoteFX

Microsoft RemoteFX delivers a rich user experience for VDI by using graphics processing units that are present on the server and shared across multiple virtual desktops.

RemoteFX contains the following elements:

- Host-side V-GPU rendering and capture for 3D
- Improved encode/decode within RDP
- Generic USB redirection
- Improved encode/decode that improves efficiency and user experience
- Ultra-thin client support
- RemoteFX support requirements:
- Optional dedicated RemoteFX encode hardware
- SSE2-capable processor in the RD Session Host server

