

The left side of the slide features a decorative design consisting of several vertical stripes of varying widths and shades of brown and tan. To the right of these stripes, there is a cluster of five solid brown circles of different sizes, arranged in a roughly vertical line that tapers towards the bottom.

WHAT'S NEW AND EXCITING WITH REMOTE DESKTOP SERVICES

JENNELLE CROTHERS

○ Who I Am

- Microsoft MVP for Windows Desktop Experience
- MCITP: Enterprise Administrator & MCITP: Enterprise Desktop Administrator 7
- Involved with PacITPros user group in San Francisco
- Blog: www.techbunny.com
- Twitter @jkc137

○ Who I Am Not

- I am not amazing at PowerPoint.
- I do not talk slowly.



ON THE AGENDA

- A brief history...
 - Windows Server 2003 Terminal Services
 - Windows Server 2008 Terminal Services
- What's new with Server 2008 R2 RDS
 - Features and Improvements
- Why use RDS?
- Application Virtualization for Terminal Services



TERMINAL SERVICES ON SERVER 2003



- Windows Server 2003 allowed user access to terminal services, but only the full desktop experience on the server.
 - This was often confusing for the users who were less computer-savvy.
- Required firewall to be open on port 3389.
- Screen resolution was limited to 1600x1200 and a specific monitor configuration on the client.
- Needed to add on 3rd party products, like Citrix Presentation Server, to allow users to only select the application they wanted, without being confused by the full desktop.



TERMINAL SERVICES ON SERVER 2008



- Support for higher resolution desktops and spanning of multiple monitors
 - Max resolution was increased to 4096x2048.
 - Limited monitor spanning (horizontal only)
- Plug and Play Device Redirection for Media Players and Cameras.
- Single Sign-On supported from Vista workstations.
- Printing enhanced with TS Easy Print
- Additions of TS RemoteApp, TS WebAccess, TS Gateway and TS Session Broker.



...THEN THE NAMES CHANGED!

 **Windows Server® 2008**
Terminal Services

TS RemoteApp™

TS Gateway

TS Session Broker

TS Web Access

TS Easy Print

 **Windows Server® 2008**
Remote Desktop Services

RemoteApp™

RD Gateway

RD Connection Broker

RemoteApp and Desktop
Web Access /
Connections

RD Easy Print



AND ONE MORE...

- That regular “Terminal Server” you’ve always had, it’s now called a....

Remote Desktop Session Host



REMOTE DESKTOP SERVICES ON SERVER 2008 R2



- True multi-monitor support
- Multimedia Redirection and improved Audio/Video synchronization
- Aero Glass support
- RemoteApp & Desktop Connections control panel provides seamless connections on Windows 7 – programs show in the start menu, system tray icons show status of connections.
- Single-Sign On – users won't be prompted extra times to authenticate to different machines in the farm.



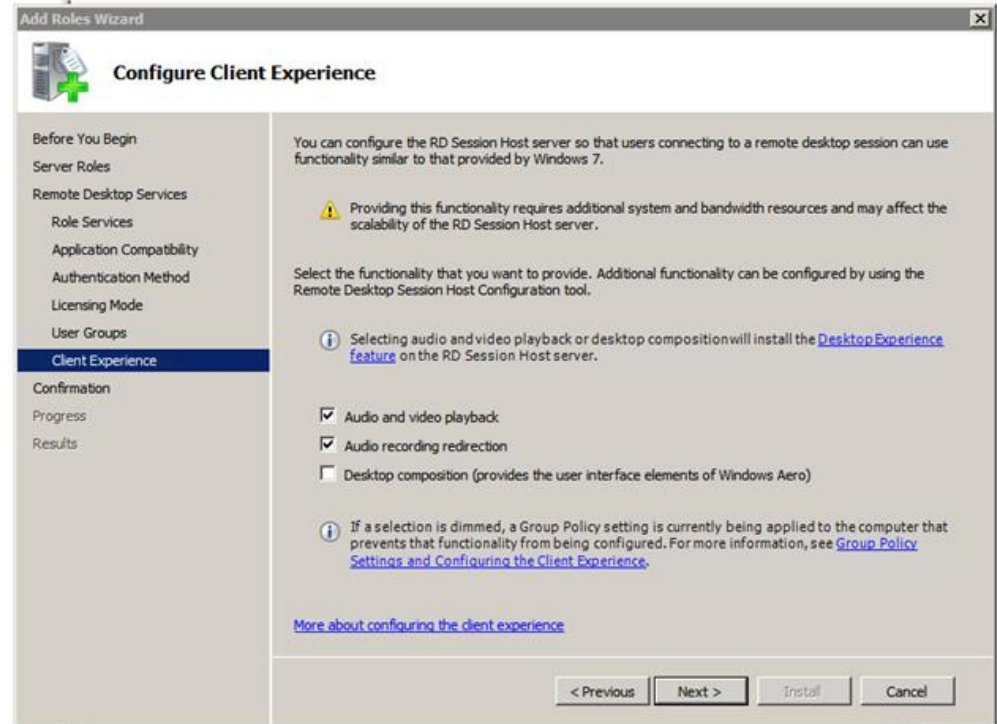
MULTI-MONITOR SUPPORT IMPROVEMENTS

- Up to 16 monitors, in almost any size, resolution or layout.
- No more issues with windows and splash screens opening between monitors or maximizing across them
- Fully configurable by administrator
 - Admin can limit the number of supported monitors if needed
- Supported in Remote Desktop and RemoteApp
- Client must be using RDP 7.0



MULTIMEDIA REDIRECTION

- If the client supports multimedia redirection, it will receive the original compressed multimedia stream from the server and decode it locally for display.
- Saves server resources as the server no longer spends its CPU resources decoding the video content and sending it in bitmap form over RDP.
- Select the “Audio and video playback” check box on the Configure Client Experience page on the Session Host settings.
- Client machines need to be running RDP 7.0



MULTIMEDIA FORMATS

- WMA, WMV, MP3, DivX, etc., and DirectShow for MPEG-1, MPEG-2
- Most audio and video content played back through Windows Media Player will be redirected as long as the client has the decoder to decode the content.
- If the decoders are not present on the client then content will be rendered on the server using the server's CPU/GPU resources (host side rendering).
- DRM-protected content will not be redirected.



A BIT MORE ABOUT RDC 7.0

- RDC 7.0 will ensure that when *connecting to* Windows 7 and Windows Server 2008 R2 from an XP or Vista machine you are able to take advantage of the advanced features such as Media Player Redirection, multi-monitor support, etc.
- RDC 7.0 will not allow you to access improved features when connecting to Server 2003, XP or Vista.



SOME THINGS ARE JUST BETTER WITH WINDOWS 7

○ **Aero Glass**

- Terminal Services in Windows Server 2008 did not support Aero Glass remoting for sessions.

○ **Language Bar** - RemoteApp allows users to use their docked Language Bar with their RemoteApp applications just like they do with the local ones.

- Previously users had to resort to the floating Language bar.

**Only available when using
Windows 7 with RDP 7.0**



SINGLE SIGN ON

- Single Sign-On means using the credentials of the currently logged on user (default credentials) to log on to a remote computer.
- Server 2008 TS Web Access required multiple logons to access applications. **Ouch!**
- With Forms Based Authentication (FBA), users will now have to enter credentials only once in the login page of RD Web Access



PLATFORM & MANAGEMENT IMPROVEMENTS

- MSI Compatibility – per-user install settings are correctly propagated, no need to use “install mode” so users can stay logged on during installs.
- PowerShell Provider – almost all RDS admin tasks can be scripted.
- Profile Improvements – cache quotas remove the need to delete profiles at logoff, which then speeds logon times and prevents exhaustion of disk space.



PROFILE QUOTAS

- Limits the size of the overall roaming profile cache (located in %systemdrive%\users directory)
 - Computer Configuration\Administrative Templates\Windows Components\Terminal Services\Terminal Server\Profiles\Limit the size of the entire roaming user profile cache.
- If the size of the profile cache exceeds the configured size, RDS deletes the least recently used copies of roaming profiles until the overall cache goes below the quota.



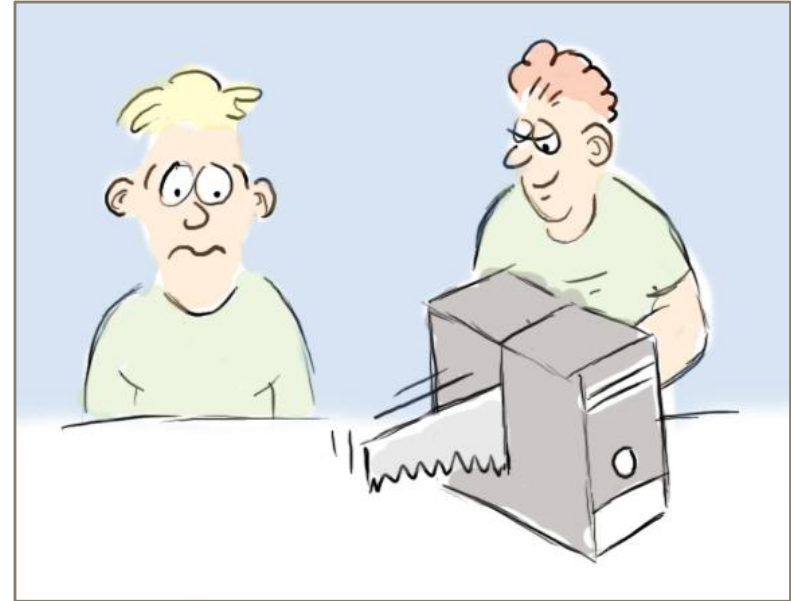
PROFILE CONSIDERATIONS

- For RDS farms, centrally store roaming profiles so user experience is the same regardless of the server.
- Use folder redirection to reduce the amount of data in any one profile (roaming or local)
- Consider turning on asynchronous Group Policy processing
 - It can take 2 to 3 logons for new policy settings to take effect, but will speed logon times.



FAIR SHARE CPU SCHEDULING

- Scheduling mechanism fairly distributes CPU cycles across sessions
- Dynamically distributes cycles based on number of active sessions and their load
- Applied at kernel level



WHY USE RDS?

- Remote Desktop Services enables flexible work scenarios such as hot-desking and work from home.
- Helps enables greater IT flexibility by providing a secure connection for mobile users to access the data, applications and desktop environments
- Remote Desktop Services helps organizations keep critical intellectual property highly secure.
- RDS can help with deployment of applications on desktops where it wouldn't normally run, due to low resources.



The left side of the slide features a decorative vertical stripe composed of several thin, parallel lines in shades of light brown and beige. To the right of these stripes, there is a cluster of five solid dark brown circles of varying sizes, arranged in a roughly vertical line that tapers towards the bottom.

**LET'S CHECK OUT SOME OF THE
ROLES!**

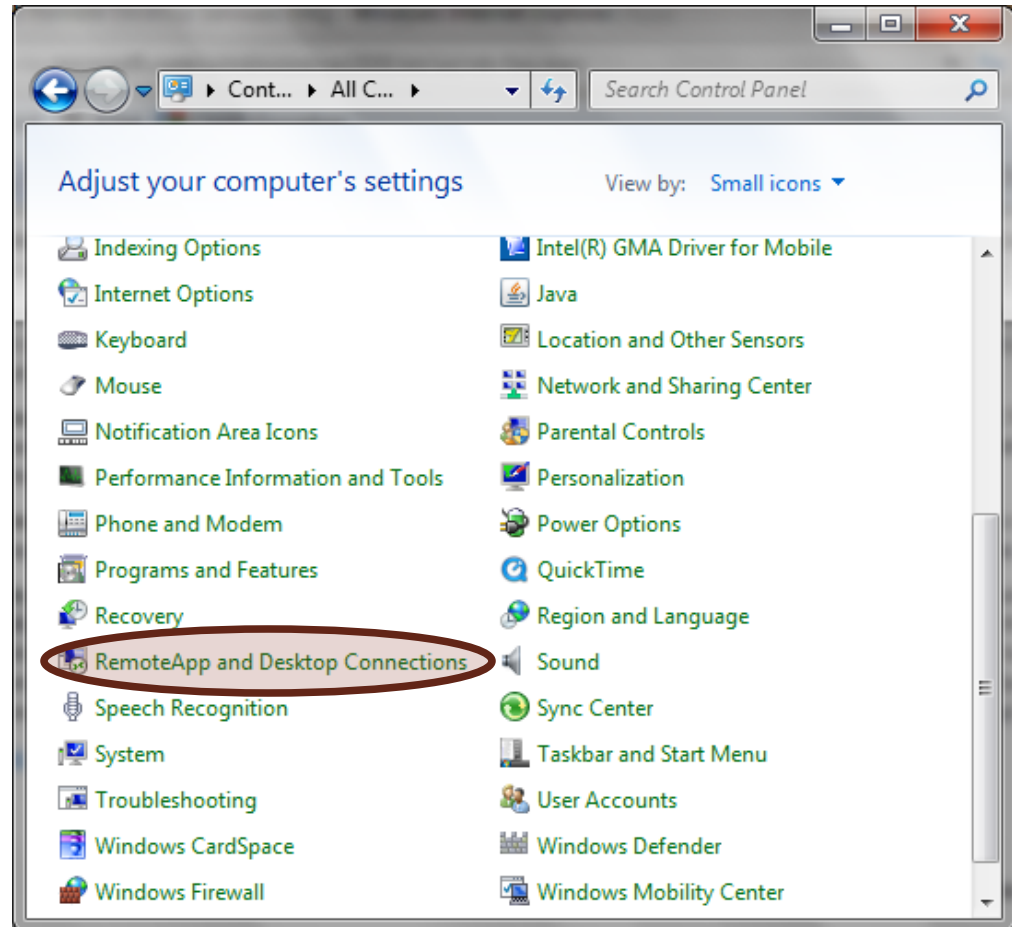
REMOTEAPP

- RemoteApp programs are accessed through RDS but appear to run locally on the client machine.
- Multiple applications share the same RDS session.
- Requirements:
 - Clients must be either Server 2008, 2008 R2, XP SP3, Vista SP1 or Windows 7
 - Must be running RDC 6.1 or higher
 - Internet Explorer required for Active-X.
 - RDS Web Access must be used to access the RemoteApp programs on Vista or XP or you can deploy RDP files. Windows 7 can connect seamlessly to applications.



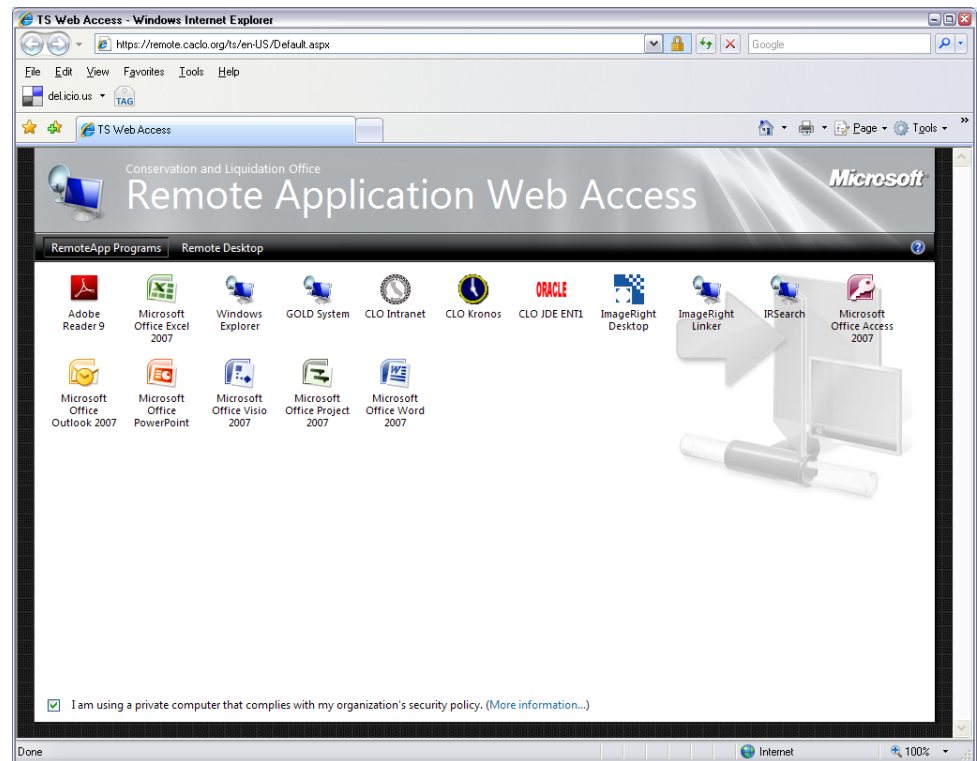
REMOTEAPP & DESKTOP CONNECTIONS

- Located in the Windows 7 control panel.
- Once created, they are automatically kept up-to-date with changes to applications on the server.
- Applications appear in the start menu.



REMOTEAPP & DESKTOP WEB ACCESS

- Simplify application and desktop deployment by making those resources available to clients from a web page or a SharePoint portal.
- Also allows access to full terminal services desktop if the user has access rights.
- Applications can be filtered to specific users with 2008 R2.



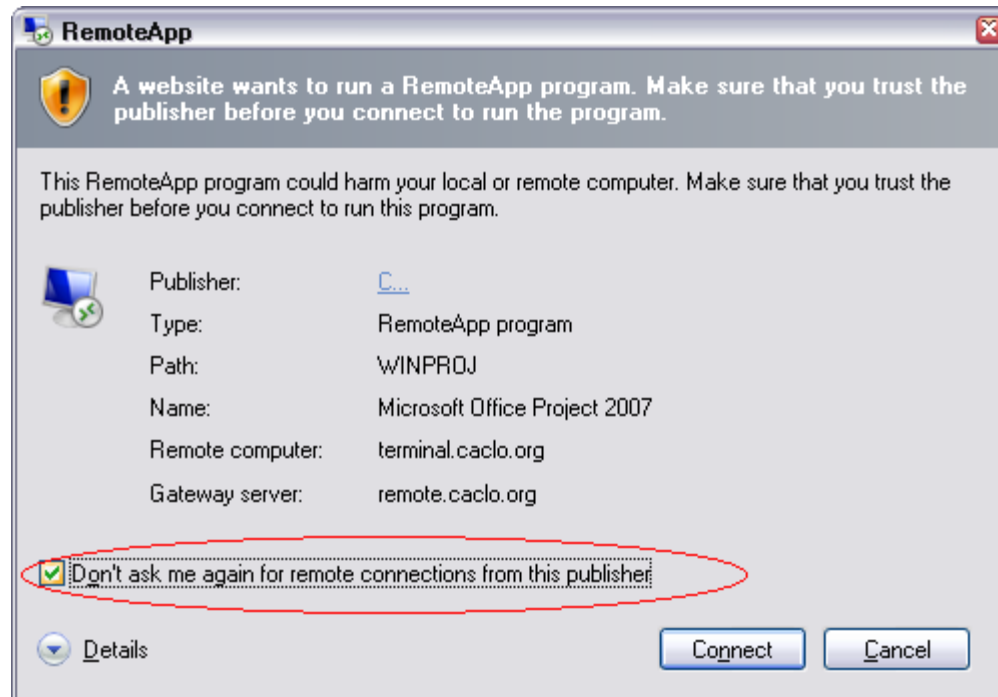
REMOTEAPP WEB ACCESS CAVEATS

- RDP 6.1 does not support Mac.
- On Server 2008 TS, users must authenticate twice to access their applications.
- RDP files need to be signed.
- XP SP3 supports the necessary TS ActiveX components, but they are disabled in IE 7 for enhanced security.



THAT UNSIGNED RDP THING...

The RDP files need to be signed to prevent another few clicks for the user.



THAT XP SP 3 THING...

Client machines will have to have the following keys in the registry removed to activate the Add-On:

- HKCU\Software\Microsoft\Windows\CurrentVersion\Ext\Settings\{7390f3d8-0439-4c05-91e3-cf5cb290c3d0}
- HKCU\Software\Microsoft\Windows\CurrentVersion\Ext\Settings\{4eb89ff4-7f78-4a0f-8b8d-2bf02e94e4b2}



REMOTE DESKTOP GATEWAY



REMOTE DESKTOP GATEWAY

- RD Gateway uses RDP over HTTPS to establish a secure connection between remote users and the RD Session Host.
- No VPN required.
- No need to open port 3389. Uses port 443 instead.
- Policies can be configured to limit who can connect, what they can connect to, if device or disk redirection is allowed or if smart card authentication is required.
- RD Gateway can also be integrated with NAP for additional security.
- An externally trusted SSL certificate is required for the gateway server.

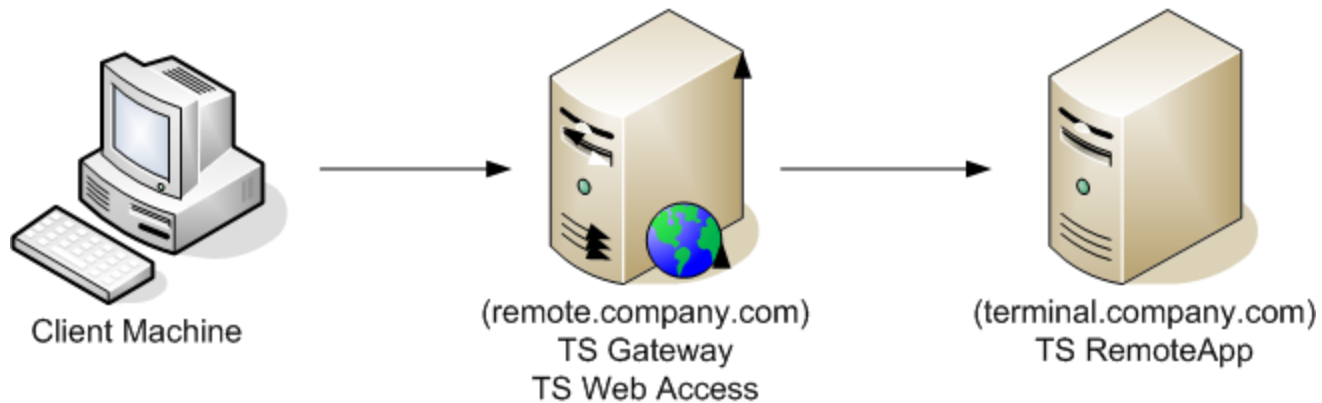


RD GATEWAY IMPROVEMENTS IN R2

- **Silent Session Re-Authentication** – can run periodic user authentication and authorization on all live sessions to ensure changes to a user profile is enforced.
- **Idle & Session Timeout** – better flexibility in disconnecting idle sessions or limiting connection times.
- **Consent Signing** – allows for users to consent to legal terms & conditions before connecting.
- **Administrative Messaging** – allows for broadcast messages to users before maintenance or upgrades.



BASIC GATEWAY SETUP DIAGRAM



- The TS Gateway machine has an external IP address with the firewall open for SSL
- The TS Web Access is installed on the same machine as the Gateway
- The TS RemoteApp server has all the published applications installed



RD CONNECTION BROKER

- Support for load balancing and seamless user reconnect among Remote Desktop Servers located within a single farm
- The ability to combine RemoteApp sources from different RDS host servers that may potentially be housing different RemoteApp programs.
- The connection broker will support two kinds of virtual desktops within the VDI scenario - persistent or pooled VMs.



REMOTE DESKTOP VIRTUALIZATION HOST

- A new feature which serves requests for virtual desktops running in virtual machines on Hyper-V.
- When serving a VM-based request, an associated RDVH will automatically start an intended VM, if the VM is not already running.
- A user will always be prompted for credentials when accessing a virtual desktop.
- Provides tools to enable a complete Virtual Desktop Infrastructure when combined with other Microsoft technologies.



RD EASY PRINT

- Uses the client-side print driver to enable fast and reliable printing to a local or network-attached printer.
- End users can more productively work from remote locations.
- Behavior can be controlled using Group Policies.
- It's still possible to install drivers locally on the server and use alternate drivers for printers that don't work properly with Easy Print.



GPOs FOR EASY PRINT

- **Use TS Easy Print Printer Driver First** – only if the Easy Print driver isn't available will it look for a driver on the server.
 - Disabling this will not disable Easy Print, but the server will only use Easy Print if a print driver is not available.
- **Do Not Allow Printer Redirection** – users will not be able to redirect print jobs to their local printers.
- **Specify TS Fallback Printer Driver Behavior** – if the TS server can't find a matching driver, it should attempt to use an alternate drivers.
 - Disabled by Default
 - HP Deskjet 500, HP Deskjet 500c, HP LaserJet 4/4M PS, HP Color LaserJet 5/5M PS.
- **Redirect Only the Default Client Printer**
- **Do Not Set A Default Client Printer To Be The Default Printer In A Session**



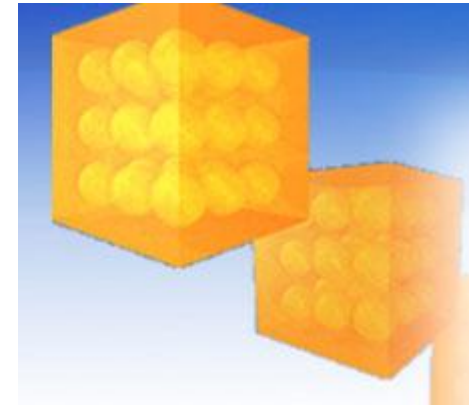
WHO CAN BENEFIT FROM RDS?

- Task Workers – employees who need a limited set of applications or who work in a location where a thick client may not be necessary, like a retail store or factory.
- Roaming or Shift Workers – allows for workstation sharing as the experience is the same at each desktop.
- Mobile Workers – secure access to corporate resources without a VPN.
- Disaster Scenarios – quickly allows access for workers who may not be able to come to the office due to environmental disruptions, transportation strikes, flu pandemics, etc.



APP-V ON TERMINAL SERVICES

- Virtualizing applications to RDS users allows you to share farm resources dynamically without having to install the same applications on every server.
- Eliminates the need to silo applications that conflict with others onto different servers.
- Eliminates the need to install user applications on terminal servers, period.
- Part of the MDOP subscription.



RESOURCES

- Blogs

- RDS (TS) Team Blog - blogs.msdn.com/rds

- Whitepapers

- TS Gateway Step-By-Step Guide

- Books

- Windows Server 2008 Terminal Services Resource Kit
by Christa Anderson



QUESTIONS?



Jennelle Crothers
www.techbunny.com
jennelle@techbunny.com
Twitter: @jkc137

