



Increasing Security and Productivity in Server-Based Computing with Desktop Authority

A ScriptLogic Product Positioning Paper

Information in this document is provided in connection with ScriptLogic products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in the End User License Agreement for such products, ScriptLogic assumes no liability, and ScriptLogic disclaims any express or implied warranty, relating to the products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right.

ScriptLogic may make changes to this document or related product specifications and descriptions, at any time, without notice. ScriptLogic makes no warranty for the use of this document and assumes no responsibility for any errors that can appear in the document nor does it make a commitment to update the information contained in this document.

Copyright © 2007, ScriptLogic Corporation. All rights reserved.

Increasing Security and Productivity in Server-Based Computing with Desktop Authority

Many IT organizations choose to utilize either Microsoft Terminal Services or Citrix Presentation Server to increase the availability of applications throughout an enterprise. Deploying applications through Microsoft Terminal Services or Citrix® Presentation Server™ poses a number of challenges with regard to configuring the desktop and application environment for users. These challenges include handling the user's preferences and profiles, providing them with the right network resources (printers, file servers, email, intranet shortcuts, etc.), securing the environment to prevent unauthorized use, and ensuring optimal use of server hardware. The purpose of this paper is to show how these challenges are addressed by software from ScriptLogic Corporation.

Citrix® Presentation Server™ (formerly known as MetaFrame™) adds management, scalability, connectivity and performance enhancements to the core Terminal Services technology. However, the application deployment model remains the same – applications are installed onto Citrix Presentation Servers and their graphical interface is presented on end user devices via a low bandwidth protocol – ICA or RDP. For the purposes of this paper we will use Presentation Server as our example platform, but because our value-add solutions work on both Citrix Presentation Server and Terminal Services, understand that the examples within this whitepaper equally apply to a Terminal Services-based environment.

About ScriptLogic

ScriptLogic Corporation is a leading global provider of systems lifecycle management solutions for Microsoft Windows-based networks. ScriptLogic's award-winning suite of desktop, server, and Active Directory management products help empower network administrators to proactively save time, increase security, and maintain regulatory compliance. More than 19,500 customers use ScriptLogic solutions to manage approximately 4.8 million desktops and servers worldwide.

ScriptLogic Solutions

This paper focuses in on ScriptLogic’s award-winning desktop management solution, Desktop Authority, because it overcomes the challenges of application and published desktop deployment in a Terminal Services or Presentation Server environment. However, there are numerous other challenges faced by Terminal Services and Presentation Server administrators, and ScriptLogic has other solutions to tackle these challenges, as listed in Table 1.

ScriptLogic Solutions	Description and Relevance
Active Administrator	<ul style="list-style-type: none"> • Manage Group Policy lifecycles with offline editing, extended RSoP, rollback, history and change management • Store and audit all change events in Active Directory • Instant restore of Active Directory security and objects • Lock down and manage permissions and delegations
BridgeTrak Helpdesk	<ul style="list-style-type: none"> • Effectively manage user issues • Better maintain service level agreements • Raise user productivity
Enterprise Security Reporter Enterprise Security Reporter for SharePoint	<ul style="list-style-type: none"> • Agent-less, fast, comprehensive discovery and reporting for analyzing file security, group memberships and other security settings on Windows and SharePoint Servers
File System Auditor	<ul style="list-style-type: none"> • Audits, reports, and alerts Windows file server activity, showing who touched which files and folders, when, and on what server from a centralized console
Secure Copy	<ul style="list-style-type: none"> • Comprehensively automate the migration of data between Windows NT/2000/2003 servers without agents or scripts, not only copying files and folders, but also NTFS permissions, file shares, file share permissions, local users and groups, and compression settings
Security Explorer Security Explorer for SQL Server Security Explorer for SharePoint	<ul style="list-style-type: none"> • Simplify management of file, printer, share, registry, SQL database and SharePoint site permissions • Instantly restore NTFS, SQL and SharePoint permissions from backup • Centrally manage all services, service accounts and passwords

Table 1: ScriptLogic solutions that assist in a Terminal Services/Presentation Server environment

For information on these products, please contact your nearest ScriptLogic reseller or representative or visit www.scriptlogic.com.

About Desktop Authority

Desktop Authority is a comprehensive desktop management solution that provides centralized configuration, inventory, support and security of Windows-based clients. Its family of solutions provides comprehensive management of the physical desktop throughout the desktop lifecycle. The Desktop Authority family of solutions includes:

- **Desktop Authority Image Center** – This imaging solution centralizes the capture, management, editing, and deployment of Windows OS images.
- **Desktop Authority MSI Studio** – This application packaging solution creates, edits, and validates MSI application installers and MST transform files.
- **Desktop Authority** – This is the foundation for the management of the desktop throughout the lifecycle once deployed by Image Center. This solution empowers the IT professional to configure, manage, secure, inventory, and support

Summary of Desktop Authority Benefits

In addition to Desktop Authority's management of the physical desktop throughout its lifecycle, Desktop Authority also has features specific to thin client sessions bringing management value to thin client environments. Table 2 lists some of the benefits gained by utilizing Desktop Authority in a thin client environment.

Benefit	Examples
Eliminate roaming profiles	<ul style="list-style-type: none"> • Faster logons as Desktop Authority removes the need to download profiles • No more corrupt profiles resulting in lost user settings • Easily change user settings without editing template profiles
Stop hand-coding logon scripts	<ul style="list-style-type: none"> • Simple graphical UI takes care of all configuration
Auto-create Outlook profiles at logon	<ul style="list-style-type: none"> • Reduce setup time for load-balanced server farms • Standardize storage of Personal Folders, Address Books, Archives • Automatically connect users to multiple mailboxes
Connect to nearest printer(s)	<ul style="list-style-type: none"> • Connect resources at logon based on client IP or MAC address, group membership, OU, site and any other combination of criteria
Lock down Shortcuts and the Start Menu on Published Desktops	<ul style="list-style-type: none"> • Manage application shortcuts on published desktops based on user criteria • Control the user's environment to optimize use of server farms • Secure and lock down the user's Windows environment
Remote Management of desktop computers and Presentation Server	<ul style="list-style-type: none"> • Remote Management of a user's Windows desktop computer, in addition to the remote control or "shadowing" capability provided in Terminal Services for published desktops and applications
Controlled deployment of Presentation Server clients (ICA Clients)	<ul style="list-style-type: none"> • Desktop Authority provides software distribution functionality with Validation Logic rules controlling the deployment. This makes a compelling solution to any software deployment problem

Table 2: List of Desktop Authority Benefits to Thin Client Environments

The remainder of this paper provides detail on each of the benefits listed in Table 2.

Solution Detail

Example 1: Eliminate the need for Roaming Profiles

Background

Roaming Profiles store user configuration settings for printers, desktop icons, favorites, application preferences, security settings, Internet preferences and so on. Typically the IT Administrator creates a “template” user, logs on as that user, sets up the configuration, copies that configuration to a central location and then configures users to use copies of that template profile. Using Roaming Profiles in this way has a number of drawbacks:

1. In a Citrix environment, user sessions are sometimes reset without a proper logoff, causing Roaming Profiles to become corrupted and resulting in lost user settings.
2. Profiles often grow to hundreds of megabytes in size, and so downloading the profile can result in slow logons.
3. Once a user has been given a copy of the template profile they typically add their own settings. If something in the IT infrastructure changes (e.g. a new file server or printer is added) then hand-coded logon scripts are required to change settings for users who already have Roaming Profiles, or else the administrator has to wipe their existing profile and give them a new one, destroying their personal settings.

The Desktop Authority Solution

Desktop Authority has the ability to configure everything that would normally be set through a roaming profile at logon time, but without using a roaming profile. Even more significantly, Desktop Authority gives the administrator such a high level of control that a user can log on to different desktops and Terminal Services sessions with the same logon account and receive a totally different Windows environment appropriate to their location or device. Achieving this with roaming profiles is impossible without a huge amount of complicated logon scripting.

Steps to eliminate roaming profiles with Desktop Authority:

1. Set all users to use local profiles
2. Use Desktop Authority to set up all users at logon time: drive mappings, printers, shell folders, Office file locations, Outlook data files and mail profiles, desktop preferences, Internet Explorer, registry keys, INI files and much, much more...
3. Use Validation Logic to choose which settings apply to which users and computers, using over 20 Validation Types to select from. For example, you could set users in the “Accounts” group to automatically map their S: drive to the ACCOUNTING\$ file share. You can use Validation Logic to apply any setting to any combination of Validation Types, e.g. for users in the “Accounting” group with a particular file in their home directory, or for Terminal Services sessions running on client names beginning with “SALES”.

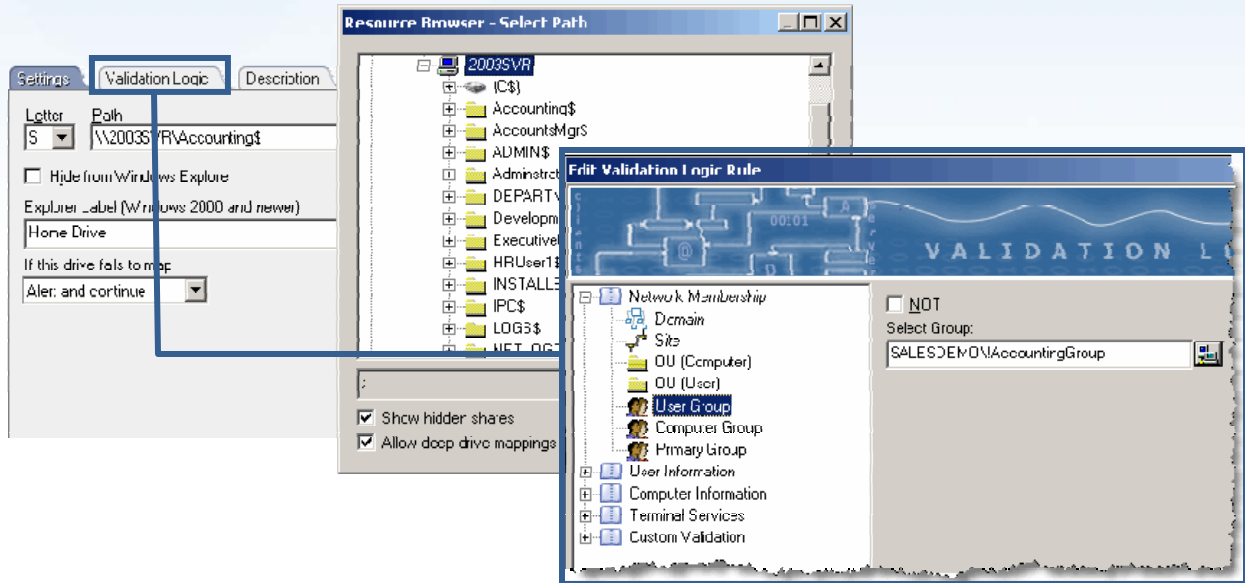


Figure 1: Configure every aspect of the user's desktop with granular control, eliminating the need for roaming profiles

4. If something changes in the IT infrastructure, e.g. a new file server requires different default Office file locations, then simply change the setting for affected users using Desktop Authority and all users will get the new setting when they next log on
5. Finally, to ensure that user preferences stored in HKEY_CURRENT_USER persist between user sessions, regedit.exe can be used with Desktop Authority's "Application Launcher" function to capture registry keys in a flat file in the user's home directory which is then used to restore those keys when they next log on. This allows the administrator to determine which settings and preferences should persist between sessions, and which are mandated centrally. It also simplifies the situation where different applications are supplied to the user from different servers, since only those registry keys related to the application in question are stored and recovered when the user accesses it.

Desktop Authority configures all desktop and application settings for a user at logon time, eliminating the need for Roaming Profiles and the pain caused when they become corrupted, and dramatically simplifying the ongoing need to push new configuration settings into the user's environment.

Example 2: Eliminate the need for hand-written logon scripts

Background

Another method of setting up a user's desktop configuration is through the use of logon scripts. Logon scripts can also be used to configure registry settings and INI files for applications that were not designed to run in the Citrix Presentation Server/Terminal Services "multi-user" environment. Logon scripts are generally hand-coded and are used in conjunction with other utilities, requiring skills such as DOS-based batch file programming. Writing, testing and maintaining hand-coded logon scripts is time-consuming and responsibilities cannot be easily transferred between administrators.

The Desktop Authority Solution

Desktop Authority's intuitive graphical UI replaces hand-written batch files with point-and-click usability.

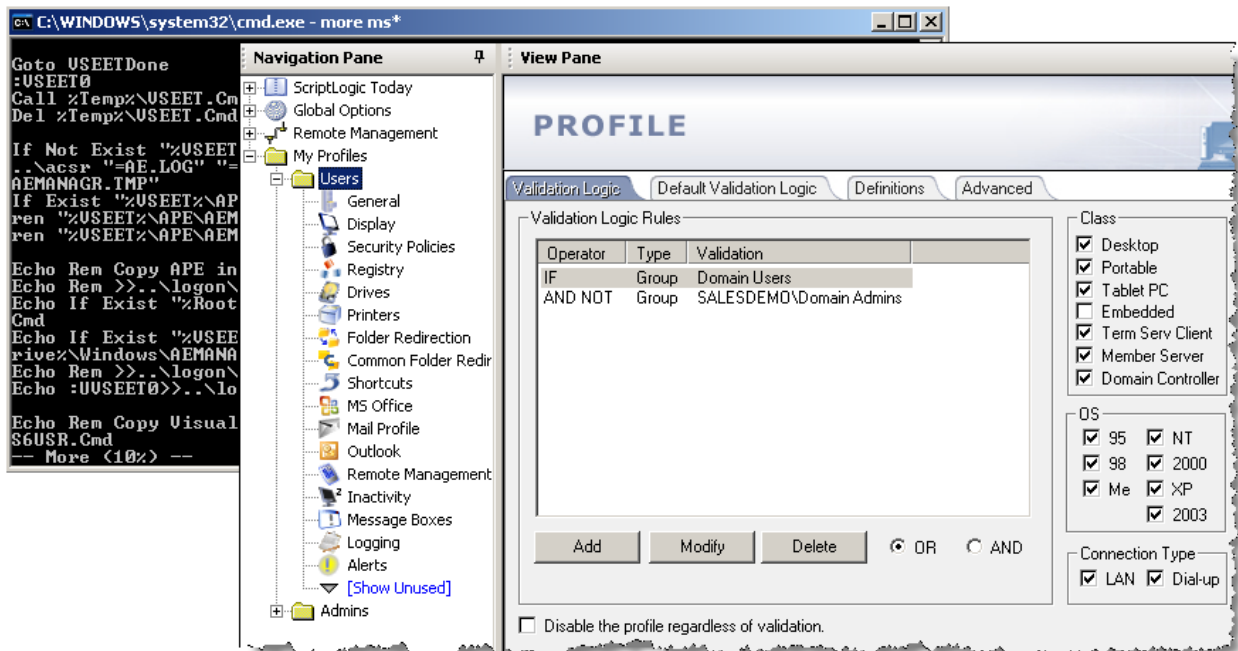


Figure 2: Replace hand-coded logon scripts with an easy-to-use GUI

In addition, Desktop Authority goes way beyond what can be achieved with simple logon scripts by providing:

1. ScriptLogic's uniquely powerful "Validation Logic" technology filters which settings are applied to which users and computers using 20 different types of criteria that can be combined with other criteria using Boolean logic (AND/OR/NOT).
2. Ability to run applications and perform operations with administrator privileges

Desktop Authority saves countless hours of administrator time by providing an all-in-one graphical approach to desktop configuration, replacing lengthy high-maintenance logon scripts and piecemeal collections of utilities and configuration tools.

Example 3: Auto-create Outlook profiles at logon

Background

Citrix Presentation Server provides a popular solution for deploying Outlook across an enterprise and to remote workers. There are, however, a few complications that arise when Outlook is run on a farm of load-balanced servers:

1. An Outlook Profile must be created on every Presentation Server for every user. This must be done either by the administrator, or by giving the user a set of instructions to follow when they first log on to a new server in the farm.
2. If users create their own data files for Address Book, Archive files, Personal Folders and Offline storage then by default those files get stored on the individual Presentation Servers. If a user is load-balanced on to a different server in the farm their files will not be available.

Another more general issue with Outlook deployments becomes apparent where users require access to multiple mailboxes, e.g. where a Technical Support representative needs access to their personal mailbox and also a shared “Support” mailbox. Users must be given instructions on how to open additional mailboxes from inside Outlook since there is usually no way to achieve this automatically.

The Desktop Authority Solution

Desktop Authority provides full control over the creation and maintenance of each user’s Outlook profiles and data files, as shown in Figure 3:

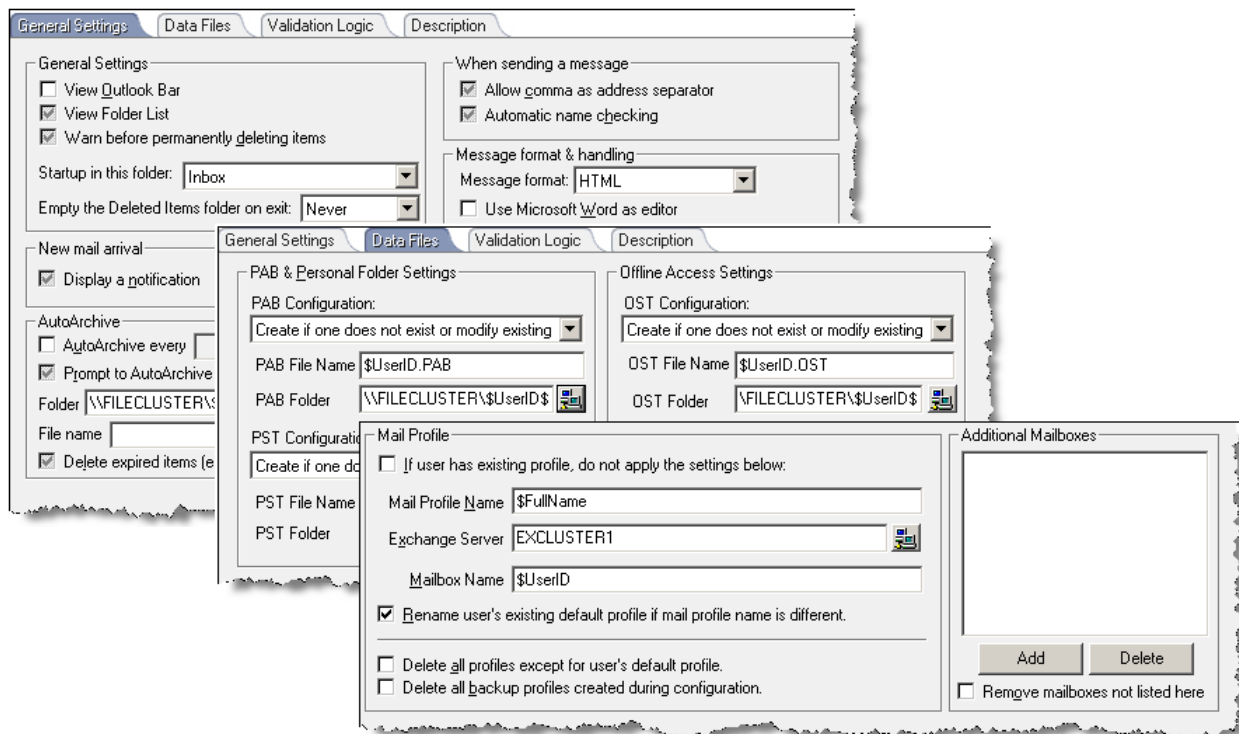


Figure 3: Desktop Authority centrally configures a comprehensive and consistent Outlook profile

1. Use Desktop Authority to automatically create profiles whenever a user logs on to the server, so that when they start Outlook they can access mail immediately
2. Use Validation Logic to set up different Outlook and mail profile settings for different groups of users
3. Specify additional mailboxes that the user requires in the “Additional Mailboxes” list, so that these are automatically opened when the user runs Outlook

Desktop Authority provides the user with instant access to the mailboxes they need when they start Outlook, without the complication of manually creating new profiles on every Terminal Services, and with the benefit of access to the same address book and mail data regardless of where or how they log on.

Example 4: Provide “Nearest Printer” functionality Thin Client Sessions

Background

Citrix Presentation Server makes it very easy for users to move between workstations in a building or a site and still access the same desktop and/or application environment. However, when a user wants to print a hard copy of a document in their location they typically have to choose from a long list of printers to find the one nearest to them.

The Desktop Authority Solution

Use Desktop Authority’s simple GUI to create a profile that sets up printers at logon time for all users, and use Validation Logic to define which printers get created based on the IP address range of the user’s computer when connected to a thin client session, as shown in Figure 4. Additionally, using AND/OR operators it is possible to add further rules which give exponentially more granular control over which printers are assigned for a given user. For example, a particular printer can be assigned to users on the 3rd floor who are in a particular security group, and are not using notebooks.

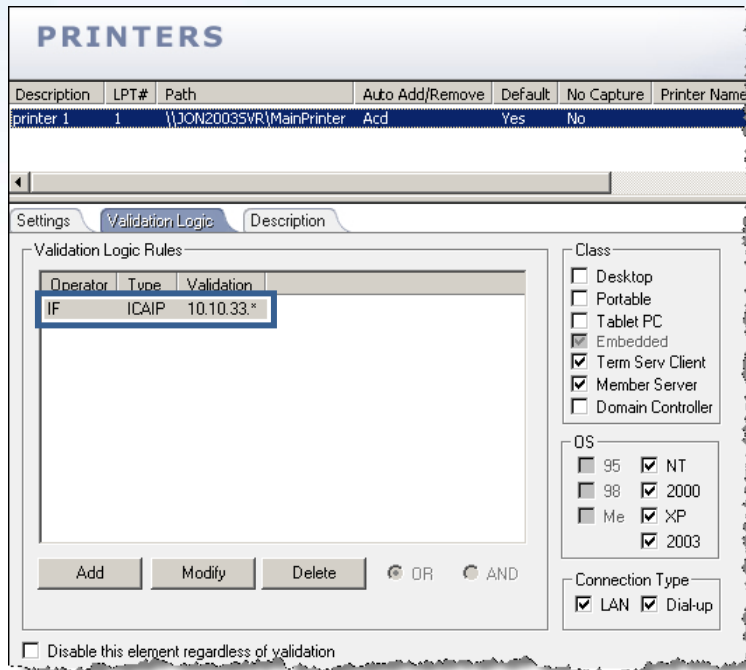


Figure 4: Auto-create printers for all thin client sessions based on a client's physical IP address

With Desktop Authority, administrators can ensure that users always have instant access to the printer most appropriate to their needs and location.

Example 5: Lock down Shortcuts and the Start Menu on Published Desktops

Background

One of the most common ways to set up Citrix Presentation Server is simply to provide a “published desktop” for users to connect to – a complete Windows desktop inside a session running on the server and displayed on their device. However, this provides the user with the ability to run many applications and perform many resource-hungry activities in each of their sessions, which may overload the server hardware. In addition, published desktops also present a security weakness since a knowledgeable user could use that desktop to run other applications that they shouldn’t and potentially access other computers on the network.

The Desktop Authority Solution

When Citrix Presentation Server is used to publish a Windows desktop to all users, then Desktop Authority makes it possible to configure which program shortcuts appear on the desktop for each user, as shown in Figure 5. Validation Logic makes it easy to specify program shortcuts by group, user, TS Client IP address or name, whether registry keys or files exist and so on, giving extraordinarily granular control over the applications presented to each user.

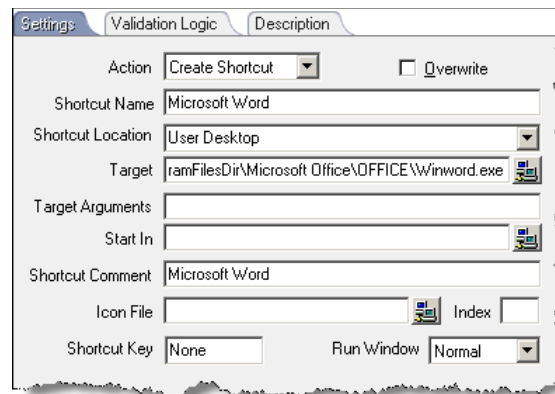


Figure 5: Easily configure shortcuts on the desktop, Quick Launch, Start Menu and more, creating a managed environment

By removing other icons from the Start Menu and removing options such as the “Run” menu it is possible to create an essentially locked-down desktop that only gives the user the applications allocated by the Administrator, as shown in Figure 6.

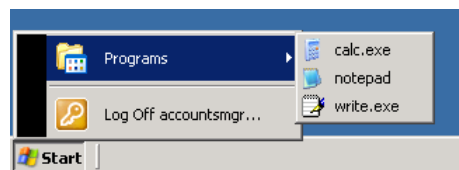


Figure 6: Lock down the desktop to limit

Example 6: Provide complete control of Windows desktop computers

Background

In most Citrix Presentation Server deployments, a large percentage of the user population uses Windows desktops to access a mixture of local and server-based applications. For example, many enterprises use Citrix to deploy core business applications such as Microsoft Office, but let users run resource-intensive applications such as CAD, financial modeling or graphic design on their local desktops.

Citrix provides the ability to “Shadow” server-based applications and desktop sessions (i.e. those that run on Citrix so that the administrator or support staff can monitor and/or help users. However, those administrators and support staff would also like to have the same Remote Control capability for applications running locally on the user’s desktop.

The Desktop Authority Solution

Desktop Authority has a range of remote management capabilities; including the ability to Remote Control (or “shadow”) the user’s desktop, as shown in Figure 7. With Desktop Authority and Citrix, the administrator or help desk staff can Remote Control the user’s local desktop, they can Shadow a users Citrix session, and they can also Remote Control the server console to see if there is anything wrong on the server.

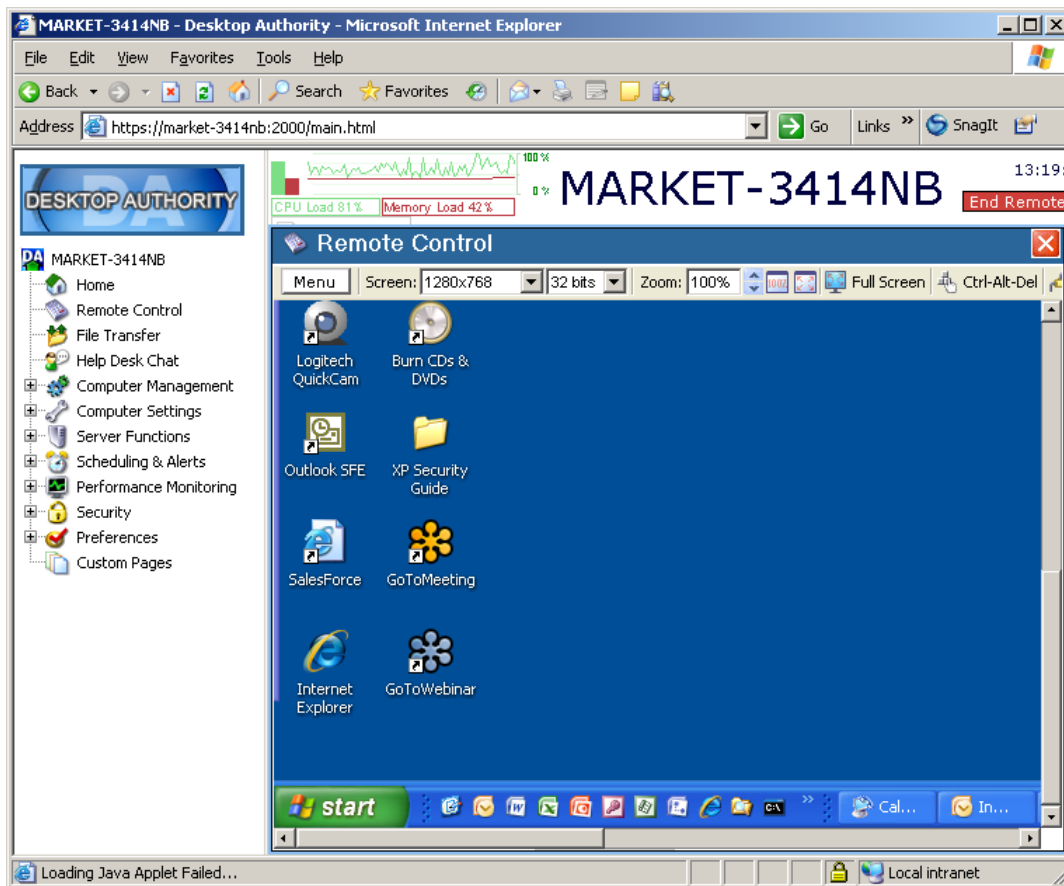


Figure 7: Remotely managing physical desktops is as easy as Shadowing thin client sessions

Desktop Authority also offers real-time control over the following functions on the user's desktop without the need to start an interactive Remote Control connection: Services, Processes, DLLs, Drivers, File System, Registry, Installed Applications and Reboot. This makes it possible to query and maintain the user's desktop operating system without disturbing their work.

Example 7: Control deployment of Presentation Server Clients (ICA Clients)

The final benefit of Desktop Authority in a Citrix Presentation Server environment comes from centralized control of client deployment. Desktop Authority has a full featured software distribution functionality that allows deployment of any MSI-based application including the Citrix ICA clients.

Using Validation Logic, you can control the distribution of the ICA client. For example, a new version of the client is released and you want to roll it out to a small set of users for testing. You can specify who gets the new client in the validation logic rules. Additionally, Desktop Authority lets you push pre-configured ICA connections to the desktop too, either as desktop or start menu shortcuts. This is achieved by editing ini files, or pushing URL links.

Common Questions

Can't I do most of this with Group Policies?

For configuring and locking-down a user desktop deployed with Citrix Presentation Server, Group Policies provide the ability to redirect some "Shell folders" to a central file location (Application Data, Desktop, My Documents, Start Menu). However, to truly eliminate the need for roaming profiles, other shell folders must also be redirected centrally, including Favorites, My Documents and Cookies.

Finally, creating settings for users which only apply when they are in certain locations, or on particular desktops, or when they logon through Terminal Services and not a desktop, requires creation of many Group Policies and extensive use of Security and WMI filters. Desktop Authority's unique, powerful Validation Logic technology, hierarchical profiles and intuitive user interface makes it far easier to configure different settings for different connection scenarios, and offers a far greater degree of granularity than can be achieved with Group Policies.

For a more comprehensive comparison of Desktop Authority and Group Policies, read "Desktop Authority And AD Group Policy Objects" which is available from www.scriptlogic.com/whitepapers.

How much does all this cost?

Desktop Authority is licensed per "desktop" – in the case of a Citrix Presentation Server environment this refers to the actual end-user client device. Pricing decreases with quantity, so for 10 users Desktop Authority costs less than USD \$40 per seat and for 1000 users the price is typically around \$30 per seat.

Compare this with the cost of administrating and deploying a Terminal Services environment without Desktop Authority – in numerous cases a 45-day cycle of developing logon scripts and group policies has been cut to 2 or 3 days using Desktop Authority! Logon scripting skills do not come cheap – this 40-day saving alone would more than justify the cost of Desktop Authority.

Industry studies show that IT help desk calls cost an average of around \$65 each. Desktop Authority eliminates the problems of corrupted roaming profiles, missing printers, missing Outlook profiles, lost access to shared mailboxes, outdated ICA clients, and unwanted applications degrading Citrix Presentation Server performance. Saving just Help Desk call per user delivers an immediate Desktop Authority ROI of greater than 2:1 (\$65/\$30). By eliminating these, and many other, IT help desk calls Desktop Authority lowers the costs of Citrix Presentation Server deployment every hour of every day.

Conclusion

Desktop Authority enhances Citrix Presentation Server deployments in a number of key areas, improving the user's experience and making them more productive. It saves the administrator many hours that would otherwise be spent piecing together a mixture of hand-coded scripts and utilities, and gives improved control and management of their Citrix environment. Finally, in addition to these substantial time savings, Desktop Authority also enables the Citrix deployment to be streamlined and secured to ensure that maximum performance and value is extracted from server hardware.

With all these benefits, Desktop Authority is a cost-effective must-have enhancement for any Citrix Presentation Server or Terminal Services environment.

For more information please contact ScriptLogic at www.scriptlogic.com or **1.800.424.9411**.