



Sage BusinessWorks: Microsoft Terminal Services and Citrix MetaFrame

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Introduction

Microsoft Terminal Services and Citrix MetaFrame have become the industry standards for providing thin client access to local area network (LAN) based applications. This white paper outlines Sage's position on support of Terminal Services and Citrix MetaFrame and examines the supported configurations.

What is Terminal Services

Microsoft Terminal Services for Windows 2000/2003 and Citrix MetaFrame allow the Windows 2000/2003 Server to function in a mode similar to a computer mainframe. That is to say that any and all programs, including the user interface (desktop) that the user is presented with, are actually operating within a virtual machine on the Windows 2000/2003 server. When a user starts a session in Terminal Services and/or Citrix MetaFrame, a desktop that is similar to the standard Windows desktop is displayed to the user. Programs that are run from this desktop or actions that the user performs are actually operating from the Windows 2000/2003 server computer (not the workstation).

Benefits of Using Terminal Services

- **Remote Access** – Employees can use software applications installed on the Terminal Server remotely using a dial up connection and can even print to a local printer or a printer mapped on the Terminal Server.
- **Reduced Maintenance Costs** – You can run a Terminal Server session on a workstation that would not otherwise meet minimum system requirements for modern software applications such as Sage BusinessWorks Accounting. For example, using Terminal Services, it is possible to use a Windows 98 workstation to access Sage BusinessWorks on a terminal server (that meets the system requirements). Additional cost savings are realized over time as workstation upgrades become necessary less frequently.
- **Ease of Upgrading** – Installing software upgrades and updates is less time consuming using terminal services. Installing the software on the server automatically makes it available to the client machines without installing software on each desktop.
- **Ease of Administration** – Terminal Services allows the system administrator to log onto the server remotely as if he/she were sitting at the console. Not only does this allow your systems administrator to assist you in a timelier manner but this also helps reduce the travel costs normally associated with having a consultant or network specialist assist you on site.

Citrix MetaFrame vs. Microsoft Terminal Services

Microsoft Terminal Services for Windows 2000/2003 provides a basic remote access capability for system administration and application delivery. The addition of MetaFrame to Terminal Services does not change the basic network configuration; however, MetaFrame adds many valuable benefits to Terminal Services. The following are just some of the capabilities that differentiate Terminal Services and MetaFrame.

- Enhanced security: MetaFrame provides the availability of enhanced levels of security, including 128-bit encryption and pass-through authentication. This allows operation over the Internet without the need for virtual private networking (VPN) or point-to-point tunneling protocol (PPTP).
- Enhanced performance: Citrix ICA (Independent Computing Architecture) is optimized for connections as low as 14.4 Kbps and reduces the bandwidth consumption of thin client connections. On average, only 20 Kbps of bandwidth is required to yield excellent performance.
- Expanded support for various client types: Citrix ICA is inherently platform independent and has already been incorporated into UNIX, OS/2, Macintosh, and other non-DOS devices. This allows Windows applications to be delivered to non-Windows devices. Please visit <http://www.citrix.com/> for more details regarding the benefits of adding Citrix MetaFrame to Microsoft Terminal Services.

Sage BusinessWorks and Terminal Services

Sage BusinessWorks uses a network computing architecture. A network computing application is typically loaded from a network file server and executed on the client workstation. Because the Sage BusinessWorks application runs on the terminal server, it requires more server resources. It is very important to insure that the terminal server has enough resources to perform at an acceptable level.

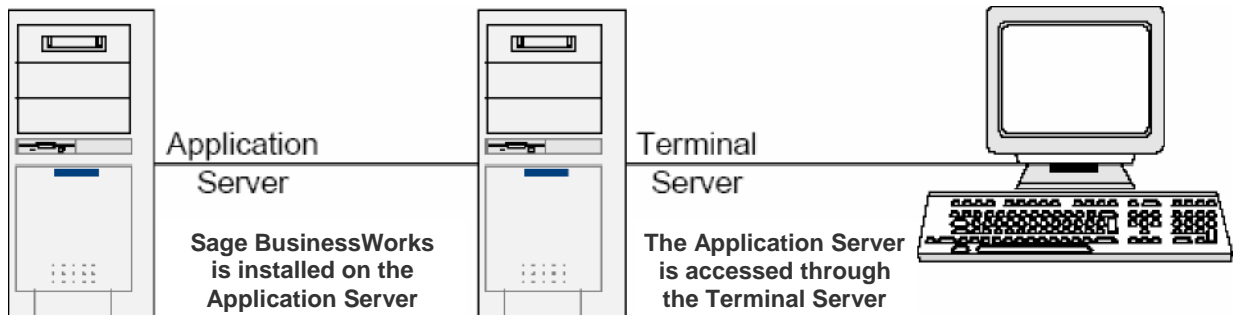
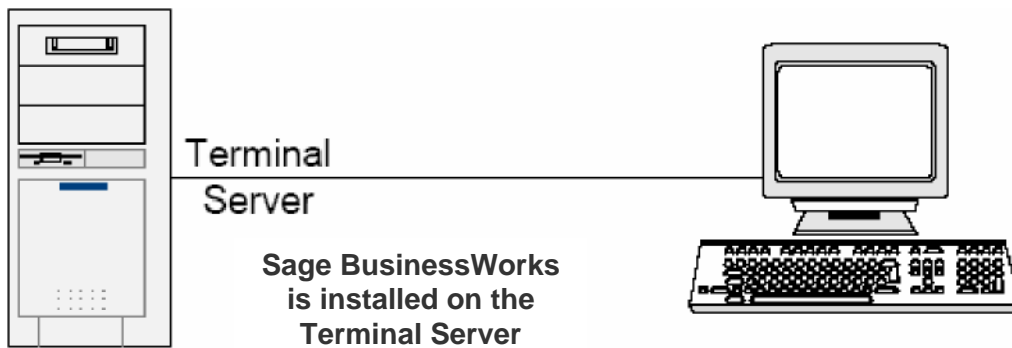
For security reasons, Microsoft does not recommend running Terminal Services in Application Server mode on a domain controller. Sage Software agrees with this position and does not support running Sage BusinessWorks on a domain controller that is running Terminal Services. For additional information, please visit:

http://www.microsoft.com/windowsserver2003/community/centers/terminal/terminal_faq.mspx

Click the question ["I want to deploy Terminal Server on my domain controller. How do I give users access?"](#) The link will take you to article Q247989.

The statement means that Sage does not support installing Sage BusinessWorks on a Terminal Server that is also a Domain Controller. The article Q247989 describes the security hole that is created when you install Terminal Services on a Domain Controller.

When running Sage BusinessWorks on a terminal server, Sage BusinessWorks programs, Pervasive and Sage BusinessWorks data files must reside on the terminal server or an application server.



Memory and Hard Disk Requirements

Every user session on the terminal server is allocated a portion of memory, and all users share the same hard drive. For this reason, a computer configured as the terminal server requires a significant amount of memory and hard disk space. For example, if you were to have 10 to 15 users running Sage BusinessWorks, you would require from 320 MB to 752.5 MB of memory and approximately 500 MB of hard disk space.

The table below was adapted from the [“Microsoft Terminal Server Capacity and Scaling”](http://www.microsoft.com/windows2000/techinfo/administration/terminal/tscaling.asp) document found at:
<http://www.microsoft.com/windows2000/techinfo/administration/terminal/tscaling.asp>.

Sage has incorporated the BusinessWorks requirements into this document so that you may better anticipate the requirements necessary to operate Sage BusinessWorks in this environment.

	Admin user	Report user	Data entry user	Idle user
Memory per user	35 MB	55 MB	37 MB	25 MB
Launcher & task memory	Sage BusinessWorks Launcher = 15.5 MB Average BusinessWorks Task = 14.7 MB			
System memory	128 MB			
Total memory	System + (number of users x memory per user)			

Supported Versions

Terminal Services is supported on the Client Server Edition of Sage BusinessWorks v3 and higher. For complete details, please review the Sage BusinessWorks System Requirements located on the Sage Software Web site:
http://www.Sagesoftware.com/businessworks/product/sys_req.asp

Technical Support

If you plan to install Sage BusinessWorks in a Terminal Services environment, Sage Software highly recommends that you work with a knowledgeable expert. Sage can provide assistance on how to install Sage BusinessWorks on a Terminal Server but cannot provide assistance on configuring your Terminal Server. Working with a knowledgeable expert will save you time, save you money and will ensure that your network is properly configured and your installation is a success.

If you choose to install Sage BusinessWorks yourself and you do not have adequate expertise with Terminal Services, it may be necessary for Sage Software to refer you to an expert in order for us to provide you with telephone support.

Conclusion

Microsoft Windows 2000/2003 Terminal Services and Citrix MetaFrame are important additions to the supported platforms for Sage BusinessWorks. Sage's support of these platforms allows our customers the flexibility of additional choices when designing their implementation and will offer new opportunities to our partners.

When making the decision to include a terminal server configuration as part of the business management software implementation, care must be given to selecting the appropriate software and hardware components that comprise the implementation. The following are important points to consider when deciding to implement Terminal Services or MetaFrame.

Hardware

Keep in mind that the terminal server will be performing multiple tasks simultaneously:

- Multiple concurrent sessions of the Sage BusinessWorks application.
- Generating the screen images and tracking the user input for each active client connection.
- Running applications other than Sage BusinessWorks.

It is important to insure that the terminal server has enough memory and processor power to perform at an acceptable level.

Server Software

As outlined earlier in this document, Citrix MetaFrame includes enhanced security, improved performance as well as support for various client types. Business needs should be evaluated to determine whether to use Citrix MetaFrame or Microsoft Terminal Services.

Recommended Resources

Citrix MetaFrame Product and Pricing: <http://www.citrix.com/lang/English/ps2>

Microsoft Terminal Services Product and Pricing:

<http://www.microsoft.com/windows2000/server/howtobuy/pricing/default.msp>

<http://www.microsoft.com/windowsserver2003/howtobuy/licensing/default.msp>

For more information on Microsoft Terminal Services requirements, please visit Microsoft's web site:

<http://www.microsoft.com/windows2000/technologies/terminal/default.asp>

<http://www.microsoft.com/windowsserver2003/howtobuy/licensing/default.msp>