MedFORCE® TECHNOLOGIES, Inc.

Terminal Server vs. Browser Based (web-enabled) Applications

A comparison of online, hosted software technologies

In this article we will discuss two ways that hosted software can be provided from the vendor's server to the customer's client machine. One is by using a technology called Terminal Server, this is the technology MedFORCE Online uses; the other is by using browser-based applications.

A Terminal Server application is a normal windows application that runs entirely on the server and, other than for scanning or printing, only screen shots of the application are sent to the client (similar to Gotomypc). To access a Terminal Server application a user can use the Terminal Services client that comes with every windows machine or a web-browser. With browser-based applications the application itself runs in a web browser on the client's machine and sends requests for data back to the server.

This is a purely technological comparison of the two technologies. Many of technical differences stated below will only be apparent in certain environments; in these cases, if the conditions of client and server are optimal, the end-user may not see much of a difference between the two technologies. Obviously, the back-end technology itself is not enough to make a decision between two completely separate products. Unless one of the items stated below is crucial to your company you will want to base your decision more on the functionalities, features, environments and support of the two products than on the technology alone. However, this article will attempt to explain some of the main differences that do exist between Terminal Server and browser-based applications.

Bandwidth: Typically, terminal services will use less bandwidth than a browser-based application. This is because, with terminal services, the application resides on the server and so all data is processed there and does not need to be sent to the client. The only things sent between client and server are screen shots of the application, scanned images, and printed images. However, with a browser-based application, data needs to be sent to the client-machine for processing.

In addition, MedFORCE has been able to take advantage of many third party tools available for Terminal Server that are specifically designed to manage bandwidth usage. MedFORCE Online uses these tools to significantly decrease the only bandwidth-intensive part of the application, scanning and printing so that these can be done in even low-bandwidth environments. Terminal Server even allows throttling of printing bandwidth so you can limit how much bandwidth is taken up by printing if you find it is slowing you down.

Web Access: Both terminal server applications and browser-based applications can be accessed from anywhere that has Internet access. Both can be accessed from web-browsers and Terminal Server can, additionally, be accessed from the RDP client that comes with windows machines.

Scanning: A browser-based application may have a more difficult time scanning than a Terminal Server application. This is because of the difficulty involved in having a browser-based application accessing a scanner, which is a local resource on the client's machine. In order to get around this a system may require the user to scan to a batch on the local machine and then upload it to the remote server. Scanning with MedFORCE Online is real-time. The images transferred to the server while your scanner is scanning.

User Environment: A large difference between a Terminal Server application and a browser-based application is that with a Terminal Server application the client is constantly connected to the server. Every time you click or press a key that is sent to the server and processed. You can see the results of your actions immediately. The end-result is that working with a Terminal Server application is the same as if the application was running on your local machine.

With a browser-based application, the application works like a web page. The server sends the client some data to work with; the client manipulates the data locally and then, when the client requires more data, it puts another request to the server for that data. For example: when you log in to a web page to access your e-mail, the server sends you the list of e-mails; you look at the list and choose an e-mail to read and click on it; the browser then sends this request back to the server and the

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server sends you the text of the e-mail you requested; when you are done you put another request to the server, which then sends you back the data from your inbox so you can see your list of e-mails again.

The practical difference is, as Brian Madden puts it, quoted in an article by Joanne Cummings entitled, A deep-rooted legacy of access, "Would you rather use Hotmail or Microsoft Outlook? Outlook is much better and easier to use. For every single screen, you don't have to click 'Next' and wait for it to send your request to the server and wait for it to send it back. That's a real value."

Ease of use: A Terminal Server application is a normal windows application and therefore has the environment you are used to and expect from windows applications. A browser-based application certain limitations inherent in browser-based technologies and the user environment may be somewhat different from what a windows user is used to, and may require additional user training.

Technology: Both Terminal Server and browser-based technologies are here to stay. They are both being improved constantly and will get better over time. The new windows, "Longhorn", will contain terminal server. If you are interested, you can read the article below in further reference, by Brian Madden, a terminal server expert and consultant, where he speculates about the future of Terminal Server in, The Future of Terminal Services: 2007 and Beyond.

BANDWIDTH. Web applications are bursty, while Citrix applications are streaming. You always know how much bandwidth Citrix will use, while Web stuff tends to spike, making traffic loads harder to get a handle on.

RESPONSE. Web apps tend to have slower response times — every time you click on "Next," you've got to wait for data to upload or download. Depending on the application, performance could suffer vs. what it would be using Citrix.

SECURITY. Web apps might hold data in the browser's cache, which can be a security risk. Citrix uses SSL security and only keystrokes traverse the link, making it very secure.

OFFLINE. Neither Citrix nor a Web-enabled application provides much of an offline experience because they both require access to a central server.

PRODUCTIVITY. Citrix gives you the illusion of using that fat 32-bit client, while Web apps are more stripped down. Web apps, then, might require additional training time and dollars.

PLATFORM CHOICE. Both Citrix and Web apps can pretty much run on anything. Still, some Web apps are too RAM-intensive to run on a dumb terminal, whereas Citrix can always run on one.

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