

Why Being Browser-Based is Better for EHR

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Why is a browser-based EHR application better? And why should a normal person (i.e., non-geek) care? The short answer is **cost** and **reliability**.

As many of you already experience on a day-to-day basis, health care organizations can be large and geographically dispersed. Because of this, the complexity of the computer network that ties all of these points of care together has risen significantly over the past 5 - 10 years. However, the traditional client/server EHR, where the application resides on your local PC and the data reside on a remote server, does not take this complexity into account. A client/server application demands considerable network bandwidth as it continually passes data between the PC and the remote server. For example, a simple drop-down list of 200 common medications requires over 100,000 (100K) bytes of data to be downloaded from the server to the client. With just 10 users simultaneously working on a medication list, the network bandwidth requirement over a single shared connection is over 1,000,000 bytes (1MB or 10mbps) to download the med list alone. Now consider all the other data elements that must be reviewed, selected and/or updated in hundreds of medical records by scores of simultaneous users each day and you can easily see why a typical client/server application can stress a computer network beyond reasonable levels of affordability -- the greater your demand for network bandwidth, the higher the cost. To address this, a thin-client deployment technology, such as Citrix XenApp™ or Microsoft Windows Terminal Services™ (WTS) must be deployed. However, while these technologies solve the bandwidth issues and make remote deployment of a client/server application easier, they do not address an equally critical aspect of network cost and reliability.

Even using Citrix/WTS, a client/server application must have a dedicated connection to the remote server at all times. If this connection fails, the application fails, even if it is sitting idle. This connection dependent or "stateful" model requires expensive dedicated lines, such as a T1 or T3, in order to ensure the constant connection. A typical Internet connection, while it might offer the bandwidth needed, cannot guarantee this dedicated connection because the Internet itself was designed to support transient "stateless" clients, like a browser, in order to make it affordable. At any point in time, an Internet connection can be re-routed, re-packaged or simply denied, based upon complex algorithms that determine the least-cost path from requestor to responder. A browser-based application is designed to retain its state and quickly re-establish it with each request to the server, thereby obviating the need for a constant, dedicated connection. This seemingly simple piece of technology can mean the difference between paying \$700/month for a dedicated T1 vs. \$120/month for a business-class DSL or cable Internet connection. It also leads to greater satisfaction among healthcare providers who do not need to start a clinical documentation session over from scratch simply because a network "blip" caused their dedicated connection to fail.

In short, browser-based means less cost for network infrastructure and higher levels of satisfaction among your clinical staff. Now that's worthy of attention when selecting your EHR product.