

The Polling Service The backbone of ClientView is the windows service application that sits on an office's server. This application, called "The Polling Service", is what communicates with the Junxure SQL Server instance to retrieve the data needed to be sent back up to the webpage. We refer to this application as "The Polling Service" because it frequently contacts the server where the web page front end is hosted to see if there are any requests for data being made by clients logged in. When it receives a request, it gathers the information from the Junxure database, or a document from the file system, and returns this information to the web server. Since the communication bridge between the Polling Service and the web server is instantiated from *outgoing* requests made by the Polling Service, there is no need to open any ports on the firewall because it will communicate just as any normal web request would. This is comparable to viewing a webpage in Internet Explorer.

The Polling Service is a Microsoft .NET 3.5 Windows Communication Foundation (WCF) application that uses the WSHttpBinding security model. The WSHttpBinding security uses an X.509 certificate, granted by VeriSign, which resides on the web server to sign and encrypt any messages sent back and forth. This type of certificate is the same as any site that one goes to where all communication happens through SSL – any pages prefaced with https://. The Polling Service that is installed on the server in Junxure offices has a public key (huge string of letters and numbers) that it uses to encrypt the data it sends. When a message is received, the web server will use the public key and a private key, contained exclusively on the web server, to decrypt the message being sent. If the messages sent to the web server are not signed using the correct public key information, they will be rejected.

Caching When a client logged into the web site makes a request for data, the Polling Service streams the data up to the web server from the Junxure office, and then stream it from the web server down to the client. The time required for this journey is the sum of both two trips because the client is not connected directly to the Junxure office, as shown below.



To increase responsiveness for the client, ClientView Live offers the ability to cache data on the web server. When the information from the Junxure server is temporarily cached on the web server, the time required to view the data is greatly reduced because a cached copy of the stream still resides on the web

server and there is no need for the Junxure server to stream the data, as shown below.



All data which is cached on the web server is encrypted, so an intruder who managed to circumvent the layers of firewall / intrusion detection and user authentication to the web server, would only have access to cached information that would be useless to them without our encryption keys. For example, just as an online banking website stores username and password information as encrypted values, the ClientView web server retains information in the same fashion.

Since caching is a measure that is implemented strictly for performance, a Junxure office can decide whether or not they would like to employ this strategy. If a Junxure office is uncomfortable with information and documents being temporarily stored on the web server, they can elect to have that information deleted at the time a user logs off. Each office can choose the amount of time they would like the information to be temporarily stored, where the default is 24 hours.

Document Streaming When a ClientView user obtains a document (e.g., a will or portfolio statement), they will click on a link and view the document embedded inside of the web browser. Typically, documents are cached on the local computer in a location that stores temporary files. This is common among any web browser that views any web page and is done to make viewing the same content on a web site faster. Something like a web site's logo image can be stored in this temporary folder on the local computer, so that the next time it needs to be displayed, it can be done from the hard drive locally instead of having to transfer the information over the web.

ClientView takes certain measures to ensure that any documents downloaded from the web server are streamed temporarily into memory while they're being viewed in the web browser. When the browser window containing the document is closed, that document is no longer stored in memory. The document at no time is stored in the cache folder on the local disk. If the client wants to view the document again, they must be logged into the ClientView website and download it again into a new browser window.