



KEPServerEX – Configuring a Server Project with Multiple Channels:

KEPServerEX is the industry leading OPC Server and supplies reliable data access to HMI, SCADA, Historian, and Enterprise applications. Through a single interface KEPServerEX provides consistent access to the widest variety of industrial systems.

How is the Server Project configured?

Within KEPServerEX, most drivers are capable of supporting up to 100 channels and around 100 devices per channel for serial drivers, and up to 1000 devices per channel for Ethernet drivers. Beyond the question of how many devices can a driver support is another important consideration: how is the server project configured?

Round Robin Polling Method

For example, let's consider a server project that needs to have access to 100 Ethernet PLCs using a Kepware Ethernet driver. While it is possible to simply add one channel to the server and put all 100 devices under that one channel, such a configuration would result in very poor performance because the driver would communicate to each of the 100 devices one at a time. The driver would start with the first device, gather some data, move to the next device, gather some data, and so on until the driver has collected data from all 100 devices in what is often called a "Round Robin" polling method. Thus, the time required to update a client application with

100 devices would be the total loop time of communicating to all 100 PLCs, one at a time.

Multi-threaded Programming

A much better project configuration would be to add 10 channels to the server, then assign 10 devices to each channel. Why would this result in a much improved performance? To understand, let's look at what goes on inside the server. Each channel within KEPServerEX is its own thread of execution, so while communications are occurring on one channel, communications can also be occurring at the same time on a different channel. This is how the KEPServerEX uses multi-threaded programming techniques to enhance its performance.

More Channels Increases Performance

Returning to our example; putting 10 devices on each of 10 channels, the server will only need to poll 10 devices per channel, which results in almost a 10 times gain in performance. It should be noted that with 10 channels sending and receiving data at

the same time, there will be a greater load on the network. However, if performance is the goal then using more channels to increase performance is the way to go.

Use Serial Ports Simultaneously

Obviously this works best with Ethernet based drivers, but if the workstation PC has multiple serial ports then the same setup can be used for serial drivers using multiple serial ports simultaneously.

Best of all, regardless of how a user configures their server project, using either one channel or 100 channels, there is no difference in cost!

Please visit: www.kepware.com

Or call 1.888.KEPWARE for complete product listing and pricing.

