TECHNICAL NOTE #107
Data Transfer or "Pipeline" between two devices connected to a 2000/5000 Family product

The 2000 and 5000 Family of HMI products have the ability to communicate with two different devices at the same time. With this comes the ability to transfer data from one device, and send it over to another. In effect, you can "synchronize" data registers between to dissimilar devices that would otherwise wouldn't talk to each other, or require more extensive programming to make it work.

First, add the drivers for your devices to the Winbuild 2000 or Winbuild 5000 project.

Confirm communications to either device with a couple of simple registers that reference each respective device, and place them onscreen of your program.

Then, to 'synchronize' the data between the two devices, set up a background TASK. This TASK will in the background regardless of what the HMI is doing, constantly reading and writing the values to your device, using the device communications driver.

For example, if on each COM port you have:
COM1: Automation Direct PLC
COM2: Galil DMC 1500 Motion Controller

You will then have a tag sourced to each of the above devices:

	Tag Name	Source	Address	Type	Default
1	PLC_tag	Automation Direct DL205 [1] on 1	V2100	Word	
2	Motion_Tag	Galil DMC-1000/1500 [0] on 2	COUNT.DW	Double Word	

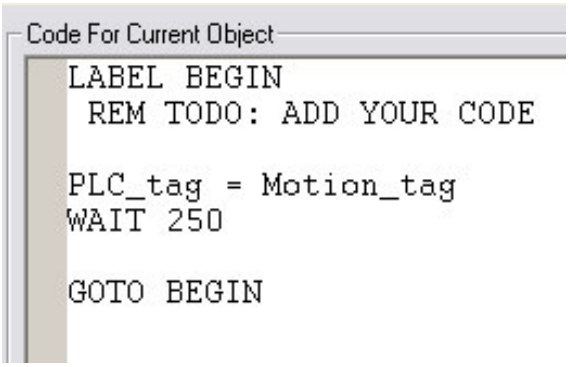
Then, to get a piece of data from your PLC to the Motion Controller, you'd just equate one of the PLC tags to one of the Motion Controller tags.

```
PLC_tag = Motion_tag
```

No need to write any code to the communication ports, the drivers will take care of that automatically.

To automate this process, set up a TASK, and put the above code in it. This code will loop and run constantly in the background. However, this also means the communication ports will see considerable traffic as the above registers are continually

read from, and written to, particularly if you are synchronizing many variables. You can slow this down a little by introducing a WAIT statement. (in milliseconds)



This will make the TASK wait a little bit each time to read/write your values, and give the HMI and other code a chance to use the ports too.

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