Guideline for Debugging Performance Issues

Summary

When a performance issue is reported it can be very difficult to find the true cause. Often because a Synergy product or program is being used a customer will contact Synergex Support to debug the issue. However, the true cause is often not due to an issue with a Synergex product.

These performance problems often fall into two categories; either an issue with local resources or network based issue. There are two tools available for free download from Microsoft that helps reveal the true clause of these issues. They are Process Explorer and Microsoft Network Monitor respectively.

Debugging issues on which local resources are consumed (CPU, Memory or Disk I/O)

Firstly, use the multi-functional Process Explorer (http://technet.microsoft.com/en-us/sysinternals/bb896653.aspx) and monitor the processes for which is consuming a large amount of resources as compared to the other running processes.

Open the Process Explorer and set the view to be as such:
View -> Select Columns

On the below tabs confirm that only the below columns are selected:
Process Image tab select Process Name and PID (Process Identifier)
Process Performance tab select CPU Usage, I/O Reads, I/O Writes
Process Memory tab select Page Faults, Private Bytes, Peak Working Set Size

Depending on the issue monitor the columns (I/O Read/Write for disk activity and CPU or memory based columns for CPU bound issues) for large values or values that are being consumed in an increasingly greater amount and observe which process(es) are responsible.

Debugging Network related issues:

Download and install the Microsoft Network Monitor (information page: http://blogs.technet.com/netmon/). The program itself can be downloaded from http://www.microsoft.com/downloads/details.aspx?displaylang=en&FamilyID=983b941d-06cb-4658-b7f6-3088333d062f

Once installed set the filters as such:

File -> New -> Capture
Filter -> Display Filter - > Load Filter -> Standard Filters ->Addresses -> IPv4 Addresses
In the Display filter window edit the filter by commenting the below line (add // as the first characters on the line)

IPv4.Address == 192.168.0.100

And un-comment the below line by removing the //

// IPv4.Address == 192.168.0.100 AND IPv4.Address == 192.168.0.200

Then edit the IP address in the line to be that of the client and server.

Start the capture, reproduce the issue and stop the capture. Save the capture file and send it to Synergex Support