Seg-Flow® 4800

Automated Sampling & Feed Control System

Seg-Flow® 4800 Application Note: Process Trigger Sampling

Introduction

The Seg-Flow 4800 system can be configured to be remotely controlled by an external SCADA or other bioprocess management system. This remote control function allows the Seg-Flow system to perform automated sampling and analysis during planned or unplanned process events.

The Process Trigger Sampling Function

The process events used to activate, or trigger, the Seg-Flow system are user-defined. Examples of process events include pH or dissolved oxygen excursions, culture induction, feeding or other in-process control events. The process events used to trigger the Seg-Flow system require OPC data tag configuration and must be programmed into the host SCADA/bioprocess management system. The configuration and programming of the process event tags may require assistance from the SCADA/bioprocess management system manufacturer.

When the process event is detected by the bioreactor station, the data trigger is communicated to the SCADA system to commence the remote activation of the Seg-Flow system (Figure 1). Once the Seg-Flow system is activated, a sample is automatically withdrawn from the bioreactor for sample collection and/or analysis. Upon completion of the sample collection or analysis, the data is communicated to the SCADA/bioprocess management system via OPC over the Ethernet network. Once the Seg-Flow system has completed the sampling functions and data transfer, the system returns to an idle status. The data retrieved from the Seg-Flow system can then be used for additional process monitoring and control options.

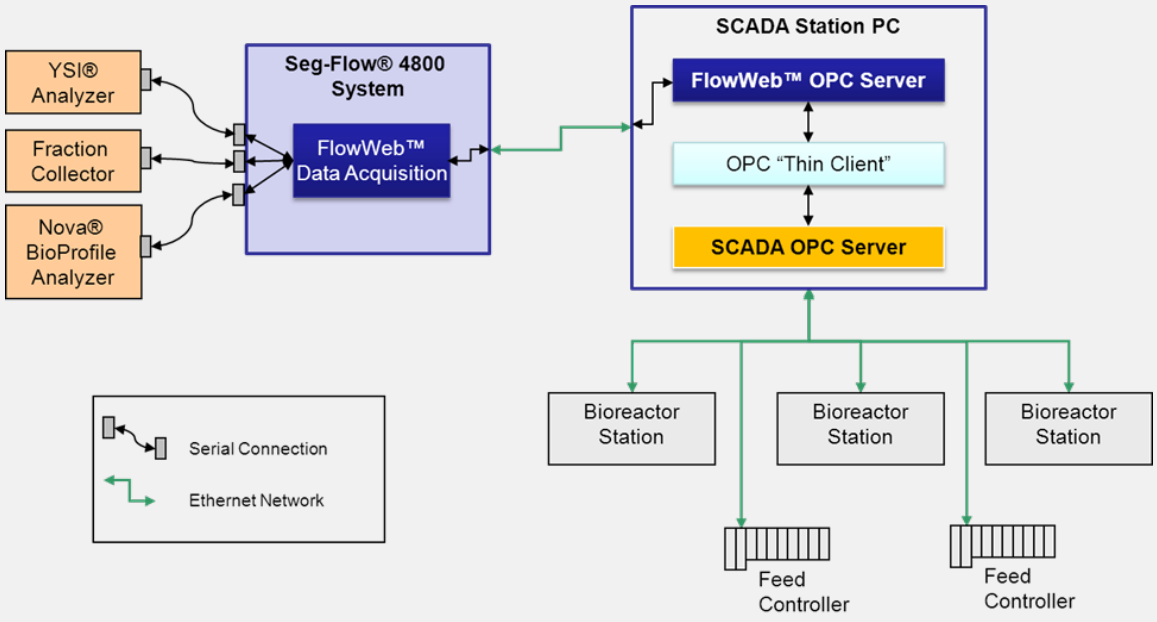

Figure 1. Architecture for the Seg-Flow 4800 process trigger sampling function. The process event or "trigger" is user-defined and is programmed in the bioreactor's OPC-enabled SCADA or bioprocess management system, which remotely controls the Seg-Flow system.

Conclusion

The Seg-Flow 4800 allows user-defined, remote controlled sampling and analysis through an OPC-enabled SCADA or bioprocess management system. This unique remote control function allows the process scientist to conduct "around-the-clock" monitoring and sampling of unique process events that could impact process and/or product quality.

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