Understand the capabilities and limitations of the I/NET Gateway

A gateway has two sides - Protocol 1 (example Modbus) and Protocol 2.(example- bacnet)

With protocols like Modbus, BACnet, Lonworks, GE EGD, FINS, Ethernet/IP we often program gateways using the data flow model shown in figure 1. The field device with these protocols is most commonly, a server. So the gateway uses the field protocol (also known as the downstream or edge protocol) as a client – reading data from the field device. The data is stored in a cache in the gateway. We then expose this data using a 2nd protocol configured as a server, thus allowing a remote system to poll for the data using this 2nd protocol.

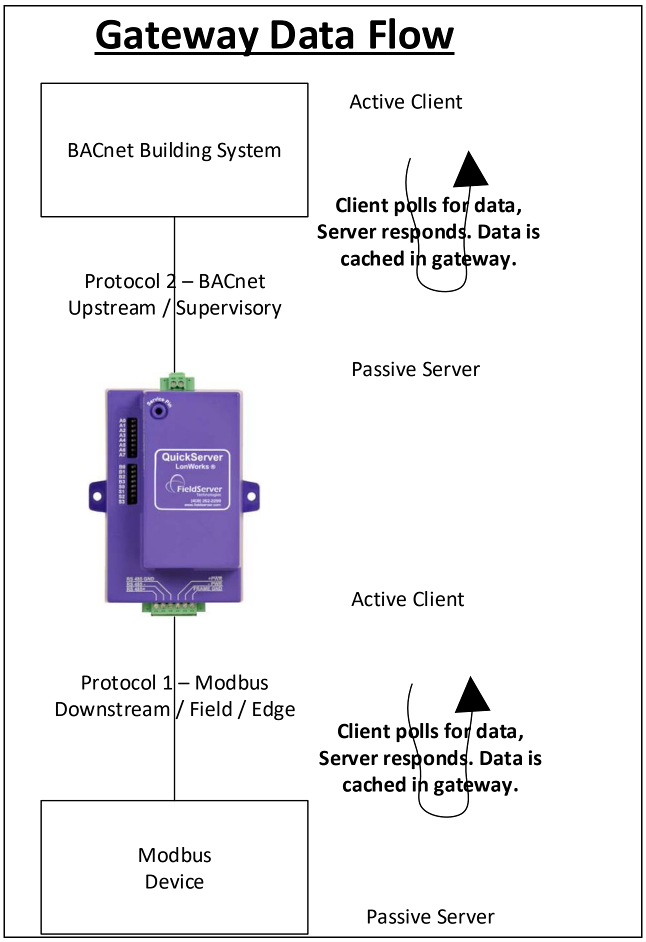

Figure 1- Client Server Gateway Model

Fire alarm panels and some other protocols like TAC I/NET need a different data flow.

In the case of fire panels, gateways are commonly connected to the printer port of the fire panel. The gateway must accept the messages sent by the fire panel. In such a case the fire panel is called an active server – server in the sense that it produces data. Active in the sense that it sends this data without being asked for it.

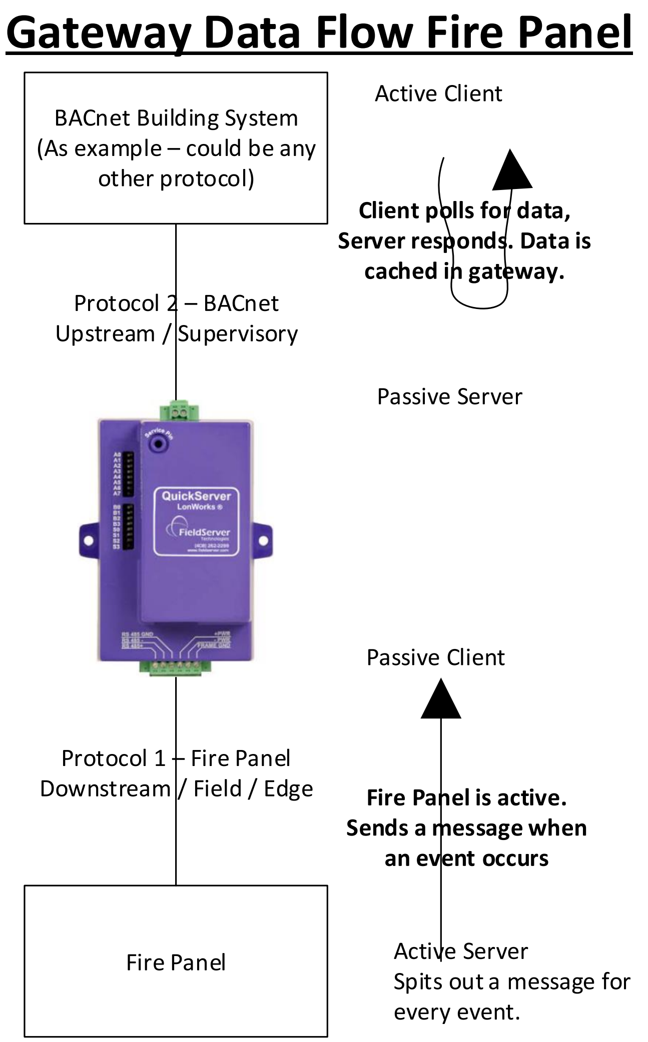

Figure 2- Client Server Gateway Model Fire Alarm Panels

INET Data flow for Integration.

The Gateway is a server on both sides. Someone has to go into one or more I/NET controllers and program them to read the inputs from the gateway (data coming from BACnet) and write the outputs to the gateway so that it gets to the BACnet system. **Why is it like this ?** Because to the I/NET system our gateway looks like you have connected a 7793 with 32 MR units with ins and outs. A controller must read the inputs and write the outputs as if was talking to I/O on the MR's. This gateway has been successfully sold, installed and used in projects using I/NET over many years.

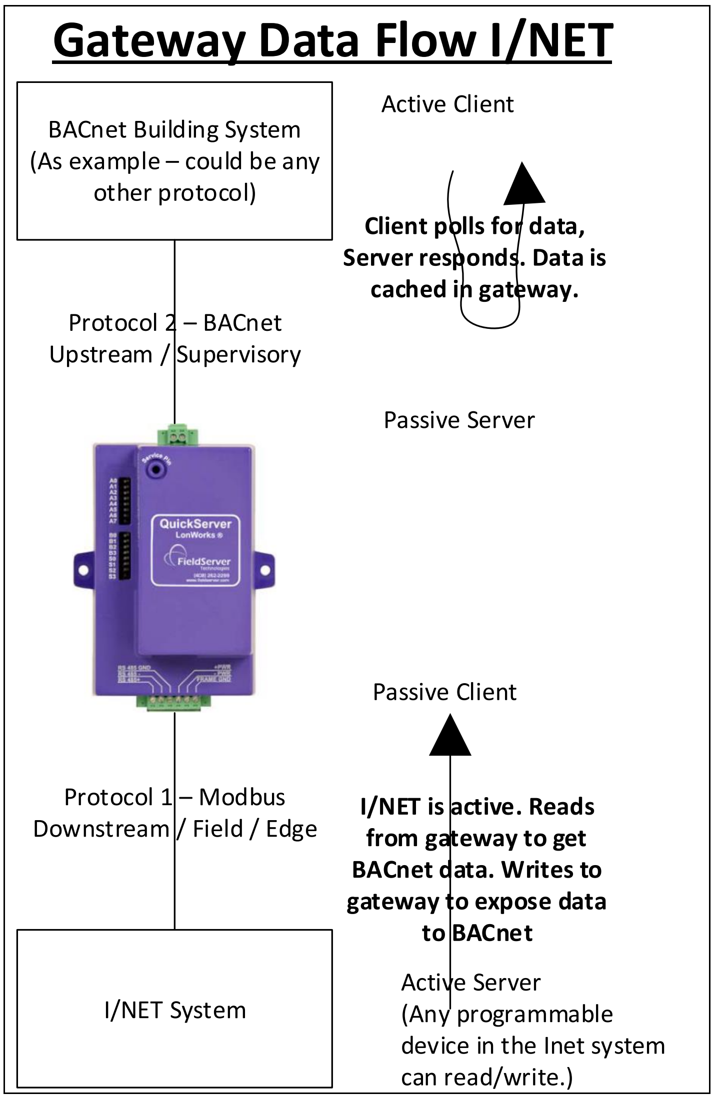

Figure 3- Client Server Gateway Model – I/NET