Case Study

Systems Integration – Problem Solving

Situation:

A major company in the Building Management Systems (BMS) industry engaged AFDtek to facilitate the integration of two systems. Both systems had their own proprietary built-in integration capabilities, the assignment was to design and document the systems programming required for each system to enable them to exchange data.

In addition to learning the integration "language" of each of the systems and developing complementary data exchange processes, AFDtek also had to resolve a fundamental limitation of the two systems. Although both systems used TCP/IP for data exchange, a feature that made network access simple, both systems were configurable only as TCP clients. A TCP client cannot talk to a TCP client.

Solution:

In order to enable the two systems to talk to one another, AFDtek designed and built TCP middleware software to place between the two systems.

This systems integration solution illustrates a key differentiator of AFDtek. AFDtek has the in-house capability to resolve otherwise insurmountable systems integration roadblocks by the judicious application of custom software when and if it is needed.

Key Features of the Project:

The middleware solved the problem by acting as a server for both system clients. Once the two systems had both connected to the middleware, the middleware transparently passed messages received from either system to the other system.

By designating one of the systems as the primary system, the middleware prevented the primary system from connecting until after the secondary system had connected. If the connection to the secondary system was lost, the middleware broke the connection to the primary system. This behaviour enabled the primary system's connection monitoring facility to monitor and report on the health of the connection to the secondary system as if it were directly connected.

The middleware was installed as a Windows service on the same computer as the primary system. Being a service, the middleware will automatically be started when the computer is started, making it always available.

Project at a Glance

Client: Johnson Controls

Field: Building Management Systems

Location: Toronto

Project: Integrate Two Systems having Proprietary Integration Interfaces

Date of Completion: March 2008