

## Case Studies

### *FieldServer Solves a University of Arizona Math Problem*

The [University of Arizona](#) has installed many FieldServers as a key tool in achieving the [campus-wide integration](#) they needed to bring energy meters, fire alarm panels, generators and other HVAC devices into its central control stations via BACnet/IP over the campus WAN.



As part of this major campus-wide project, Joe Branaum, Manager of the Integrated Systems Group of the University of Arizona, learned that the FieldServer is more than a simple gateway. Some of the over 400 buildings on the campus had multiple sources of chilled water per building. Being in Arizona, chilled water comes at a significant price and thus the controlled usage of chilled water is paramount. The university installed ultrasonic flow meters on each chilled water pipe coming into each of these buildings. But then they needed a way to calculate total chilled water usage per building based upon these multiple meters in each building.

One way to obtain such information was to do the math function in the head end, but it would cost precious computer resources. The University decided that it would be easier and more efficient to do the math functions in the FieldServer saving the processing power in his head-end computer, thus decentralizing the processing control of the chilled water metering.

David Hopper of the University of Arizona Integrated Systems Group states that, "The Math Functions have allowed us to make real time calculations and comparisons, using multiple meters, without the need of additional software or the need to tie up valuable front-end resources."

FieldServer Technologies has added many math functions into the FieldServer logic so the user can utilize the gateway for such calculations. These functions include:

- Addition
- Subtraction
- Division
- Multiplication
- Greater than
- Less than
- Greater than or equal to
- Less than or equal to
- Not equal to