FieldServer

System Integrators

MSA The Safety Company | fieldserver

About FieldServer

- Headquartered in Silicon Valley, California
  - Public since 1989
  - Acquired by MSA Safety 2019
  - ISO 9001:2015 Certified
- A trusted supplier for Industrial Life Safety
- A leader in Protocol and IIoT gateways
  - Launched first protocol gateways in 1995

Building Management Products

		Protocols	Interfaces	Approvals	Cloud Data	Wireless	Remote Access
BACnet **IoT GATEWAY**		BACnet - MS/TP - IP	1 Serial 1 Ethernet 1 Wi-Fi 1 Cell (opt)		✓	✓	✓
BACnet **ROUTER** • 2 port • Wi-Fi		BACnet - Ethernet - MS/TP - IP	2 Serial 1 Ethernet 1 Wi-Fi	BTL		✓	✓
EZ BACnet GATEWAYS		Modbus KNX M-Bus	2 Serial 1 Ethernet	BTL			✓
QUICKSERVER GATEWAYS		Over 100 Protocols	2 Serial 1 Ethernet	BTL			✓
QUICKSERVER GATEWAYS		Over 100 Protocols	2 Serial 2 Ethernet	BTL			✓

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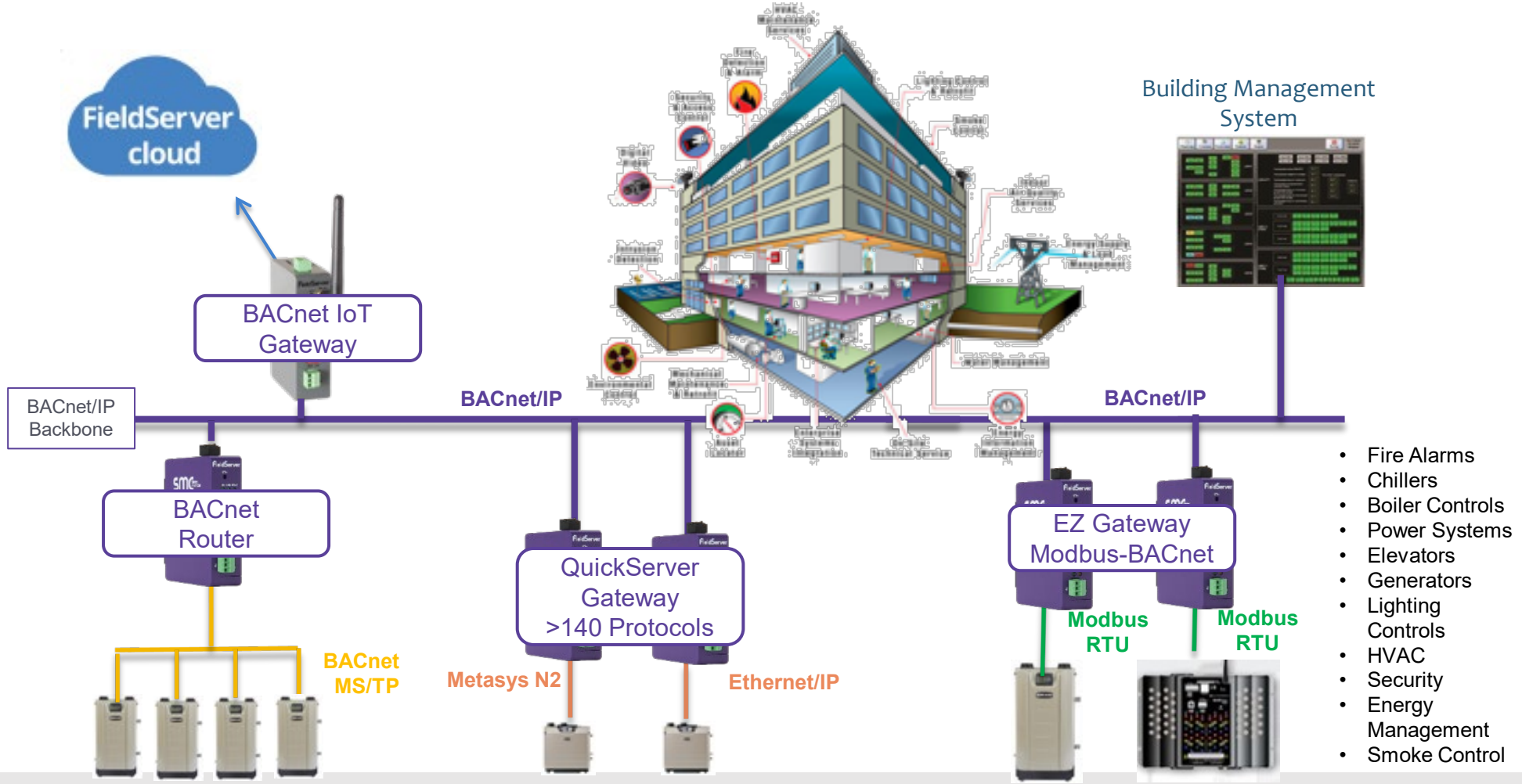
Building Management Experts

A Smart Building with a BACnet-based BMS.



- Fire Alarms
- Chillers
- Boiler Controls
- Power Systems
- Elevators
- Generators
- Lighting Controls
- HVAC
- Security
- Energy Management
- Smoke Control

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Two Form Factors

Classic

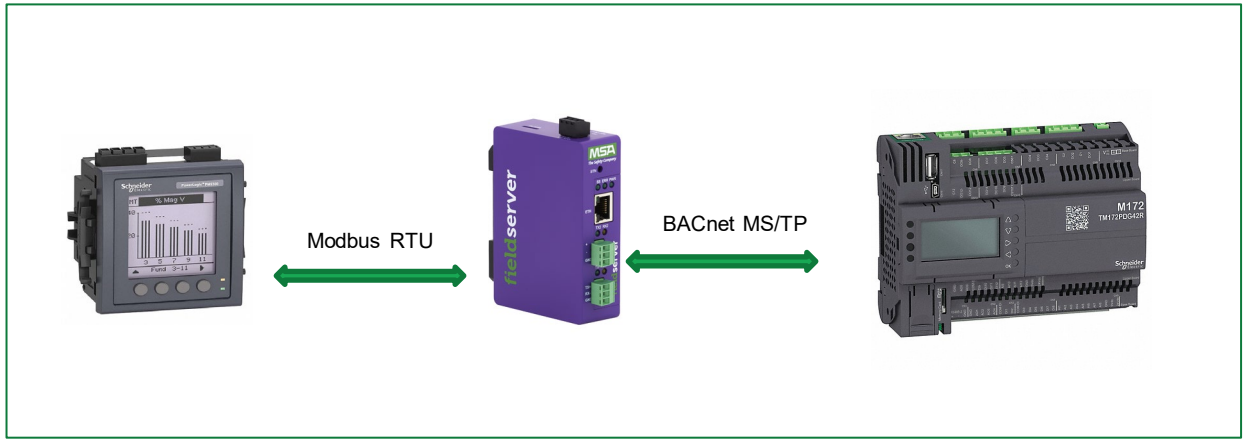
- QuickServer – LonWorks, KNX, M-Bus
- EZ Gateway – M-Bus, KNX

New

- Serial and Ethernet protocols only
- BACnet IoT Gateway
- BACnet Router
- EZ Gateway – Modbus
- QuickServer – Serial

QuickServer Gateway

- Point count: 250, 500, 1000 can upgrade to 3000
- 3 selectable ports (**LonWorks, KNX, M-Bus**, RS-485, RS-232, Ethernet)
- Remote cloud connectivity built-in
- Part number: FS-QS-1xxx-xxxx & FS-QS-2xxx-F
- **One-to-one** protocol e.g.: Device to Controller

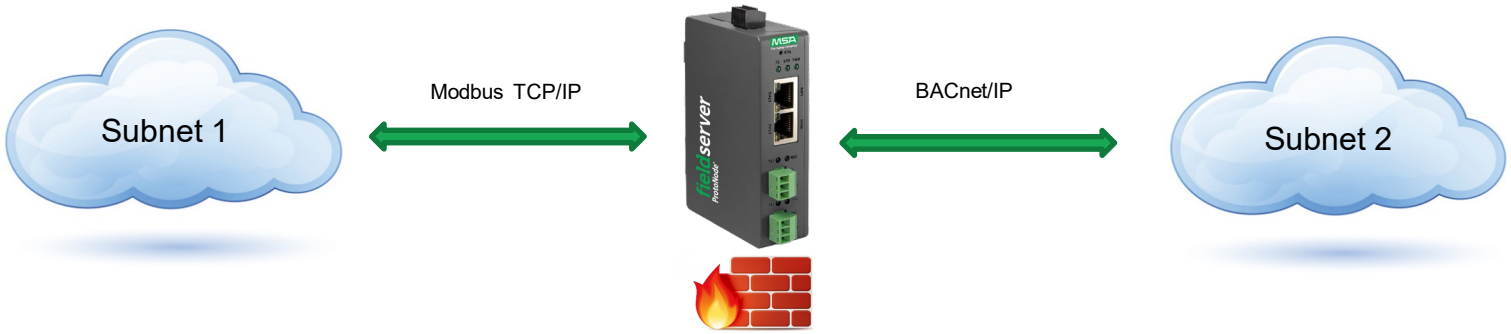


QuickServer Gateway

- Pre-loaded all 100+ Serial & Ethernet protocols
  - Simplify the ordering and stock
  - **No DCC** code required
- Smaller in size, Faster processing , More memory storage
  - Start integrating faster
  - Maximum flexibility on every integration job
- Based on the new hardware platform FS-QS-2x10
  - RS-485, RS-232
  - DIN-rail form factor
- Remote cloud connectivity built-in
- Upgradable point count part number:
  - FS-QS-2010-F – 250 Points
  - FS-QS-2210-F – 500 Points
  - FS-QS-2110-F – 1 000 Points
  - FS-QS-2310-F – 3 000 Points
  - FS-QS-2410-F – 5 000 Points

QuickServer Gateway – Dual Ethernet

- Pre-loaded all 100+ Serial & Ethernet protocols
- Ports
  - 1 x RS-485, RS-232
  - 1x RS-485
  - 2 x Ethernet
- Remote cloud connectivity built-in
- Upgradable point count part number:
  - FS-QS-3010-F – 250 Points
  - FS-QS-3210-F – 500 Points
  - FS-QS-3110-F – 1 000 Points
  - FS-QS-3310-F – 3 000 Points
  - FS-QS-3410-F – 5 000 Points

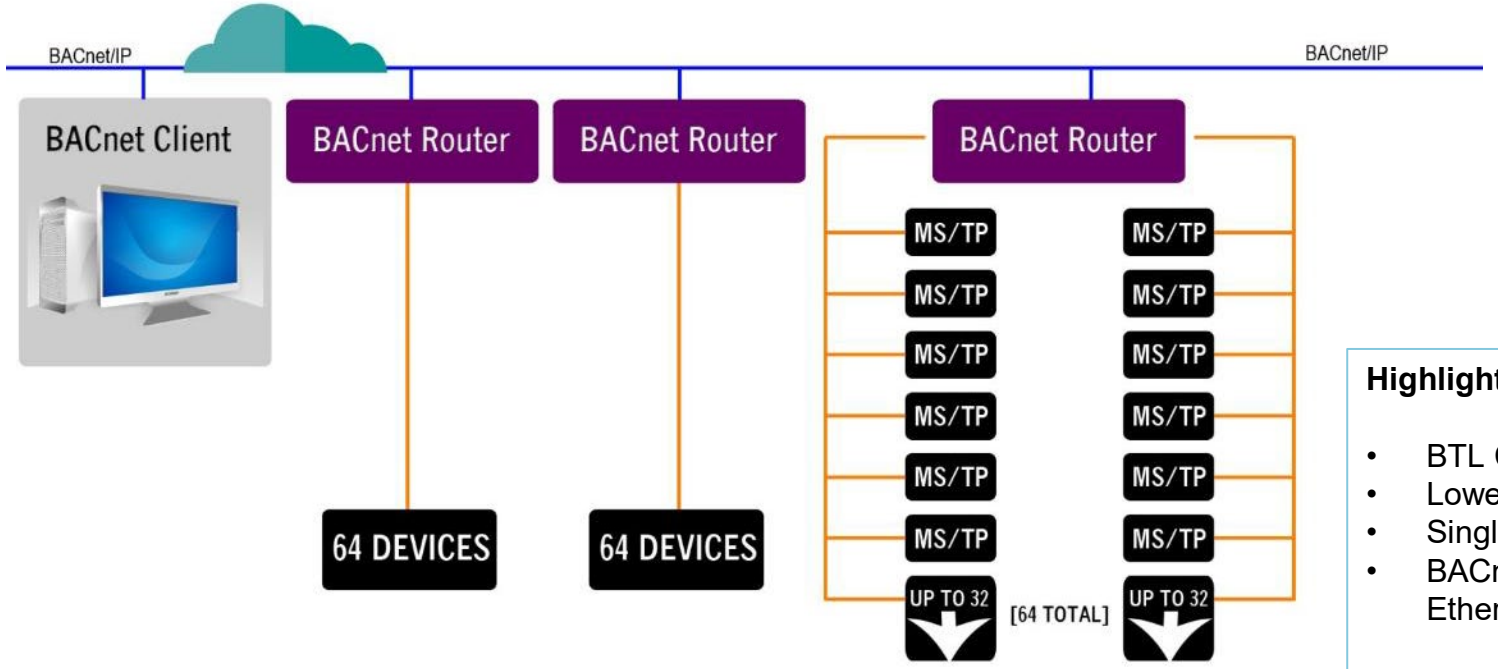


BACnet Router

- Internetworking Solution for:
  - BACnet/IP
  - BACnet Ethernet
  - BACnet MS/TP
- Ports
  - 2-RS485
  - 1-Ethernet
  - Wi-Fi optional
- Ease of Use
  - Web Based configuration: one page set and forget
  - NAT support with secondary BACnet/IP connection for routing between public and private IP networks
  - Foreign Device Registration (FDR)
  - BACnet Broadcast Management Device (BBMD) for a connection between different subnets
- Ease of Installation
  - BACnet Explorer discovery feature for automatically finding connected devices
  - MDIX to use any Ethernet cable for commissioning & installation
  - DHCP to automatically obtain IP setting from the network
  - ToolBox to find and diagnose Routers on your network
  - Wide range of input power requirements AC or DC

Certified

BACnet Router



Highlights

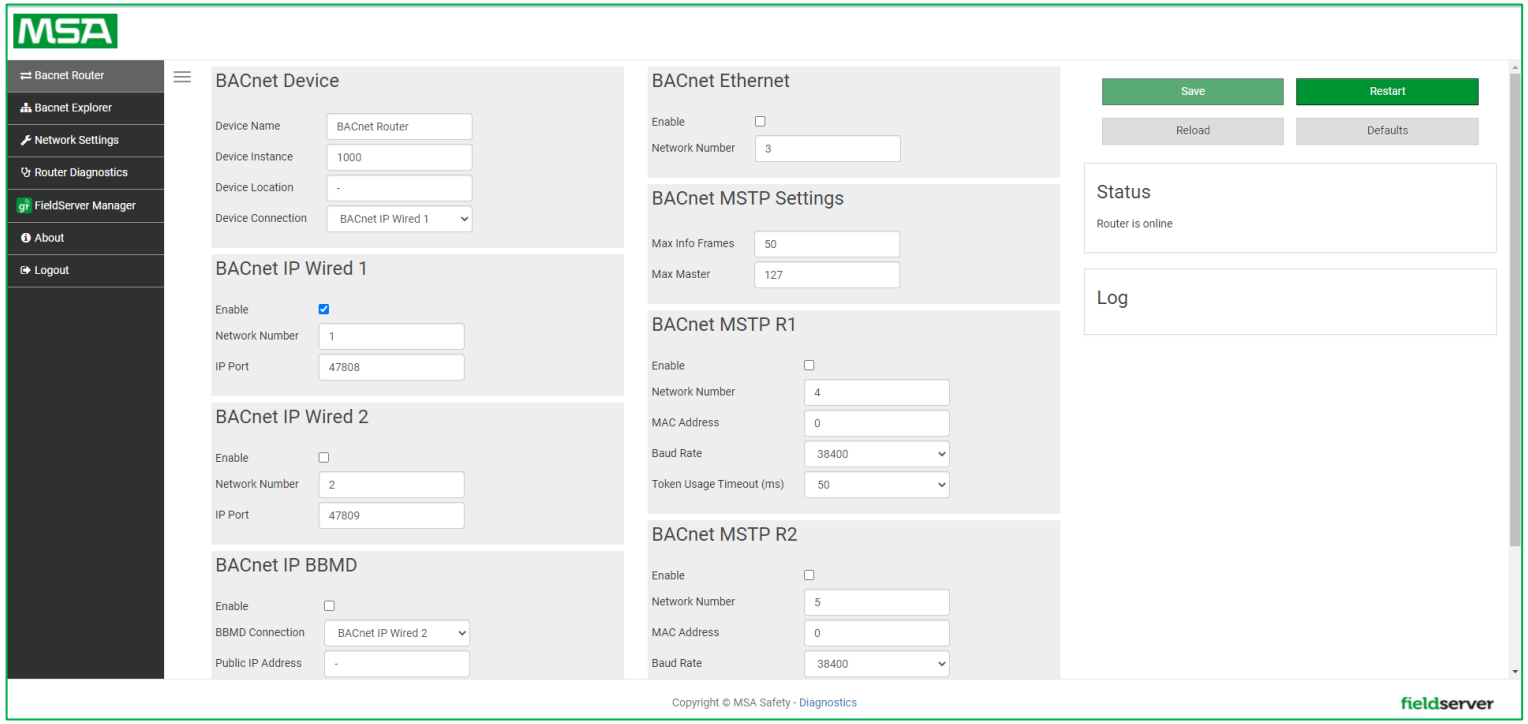
- BTL Certified
- Lowest cost per node
- Single page configuration
- BACnet IP,MS/TP & Ethernet

With BBMD the FieldServer BACnet Router can move data from the RS-485 trunk through Firewalls and different subnets to the BACnet Client

The FieldServer BACnet Router can have up to 32 devices per RS-485 port, with two RS-485 ports 64 devices can be connected without the use of a line driver

BACnet Router – Configuration

- Easy to use
- One-page configuration
- Built-in BACnet Explorer
- Quick start-up



EZ Gateway vs. Traditional Gateway

- Traditional gateways still have complexity
  - File-based configuration
  - Understanding of the inner workings of the Gateway
  - Configuration customized for every installation
- EZ Gateways simplify new installations and ongoing management
  - EZ Profiles
    - Web-based or Excel-based EZ profile generation and customization
    - Use EZ Profiles again and again
    - Common profiles available at www.msasafety.com
  - DeviceProxy™
  - Simple, Uncomplicated

EZ Gateway Modbus to BACnet

- Supported: **Modbus RTU/TCP → BACnet IP/MSTP**
- 3 selectable ports (1 Ethernet, RS-485/RS-232)
- Supports: **500 and 1000 points .**
- EZ Profiles
  - Web based EZ profile generation and customization
  - Use EZ Profiles again and again
  - Common profiles available at www.sierramonitor.com
  - Remote cloud connectivity built-in
- Simple, Uncomplicated, EZ!
- BACnet BTL Certified, UL and CE approved
- Part Number:
  - FS-EZ3-MOD-BAC 500 Points
  - FS-EZ4-MOD-BAC 1,000 Points

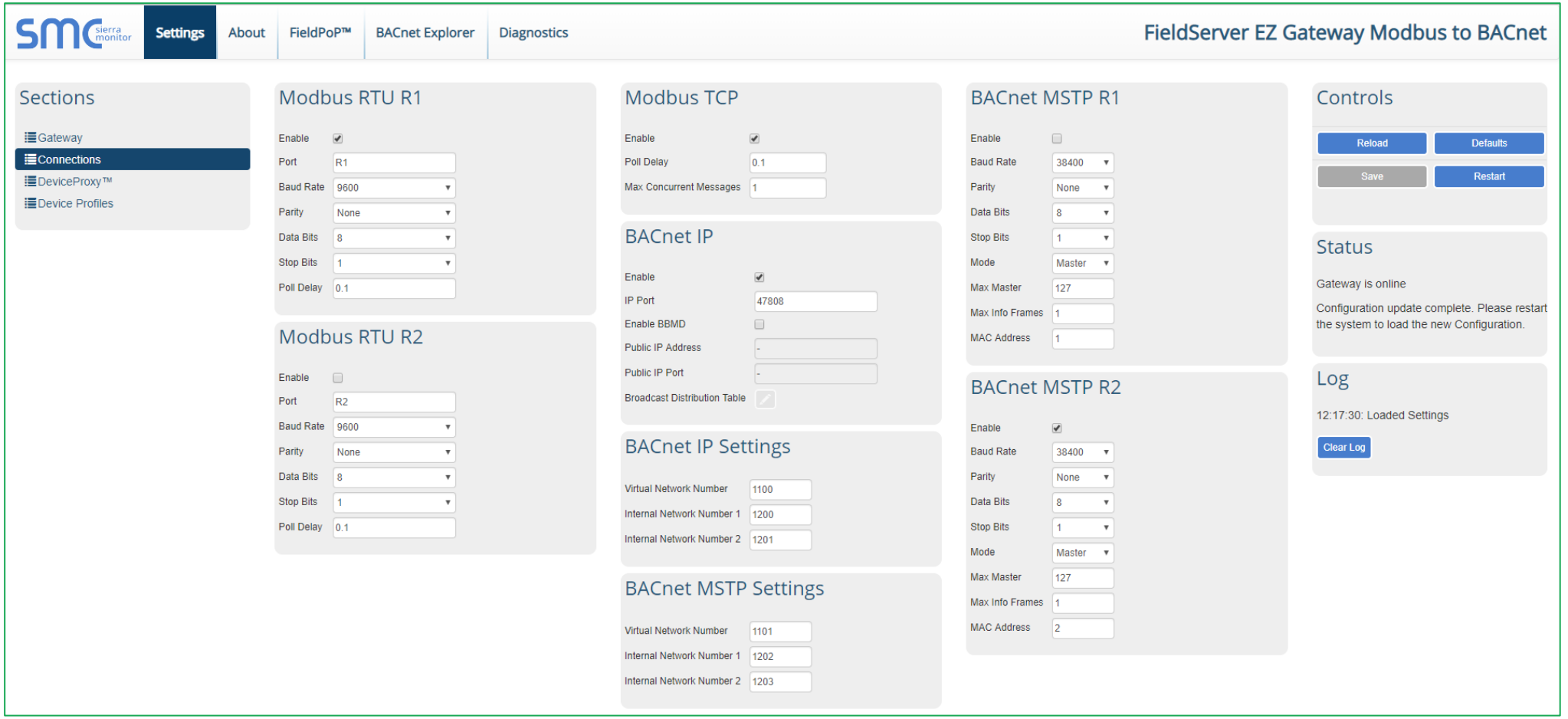
EZ Gateway KNX to BACnet

- Supported: **KNX → BACnet IP / MSTP**
- 3 selectable ports (1 KNX, 1 Ethernet, 1 Rs-485)
- Supports: **500 and 1000 KNX points.**
- EZ Profiles
  - Web based EZ profile generation and customization
  - Use EZ Profiles again and again
  - Common profiles available at www.msasafety.com
  - Remote cloud connectivity built-in
- Simple, Uncomplicated, EZ!
- BACnet BTL Certified, UL and CE approved
- Part Number:
  - FS-EZ1-KNX-BAC 500 Points
  - FS-EZ2-KNX-BAC 1,000 Points

EZ Gateway M-Bus to Modbus/BACnet

- Supported: **M-Bus → Modbus RTU/TCP BACnet IP/MSTP**
- 3 selectable ports (1 M-Bus, 1 Ethernet, 1 Rs-485)
- Supports: **16 devices, 32 devices and 64 devices.**
- EZ Profiles
  - Auto-discovery and web based EZ profile generation
  - Use EZ Profiles again and again
  - Common profiles available at www.sierramonitor.com
  - Remote cloud connectivity built-in
- Built-in level converter
- Simple, Uncomplicated, EZ!
- BACnet BTL Certified, UL and CE approved
- Part Number:
  - FS-EZ1-MBUS-MOD-BAC 16 slave devices
  - FS-EZ2-MBUS-MOD-BAC 32 slave devices
  - FS-EZ3-MBUS-MOD-BAC 64 slave devices

EZ Gateway – Configuration

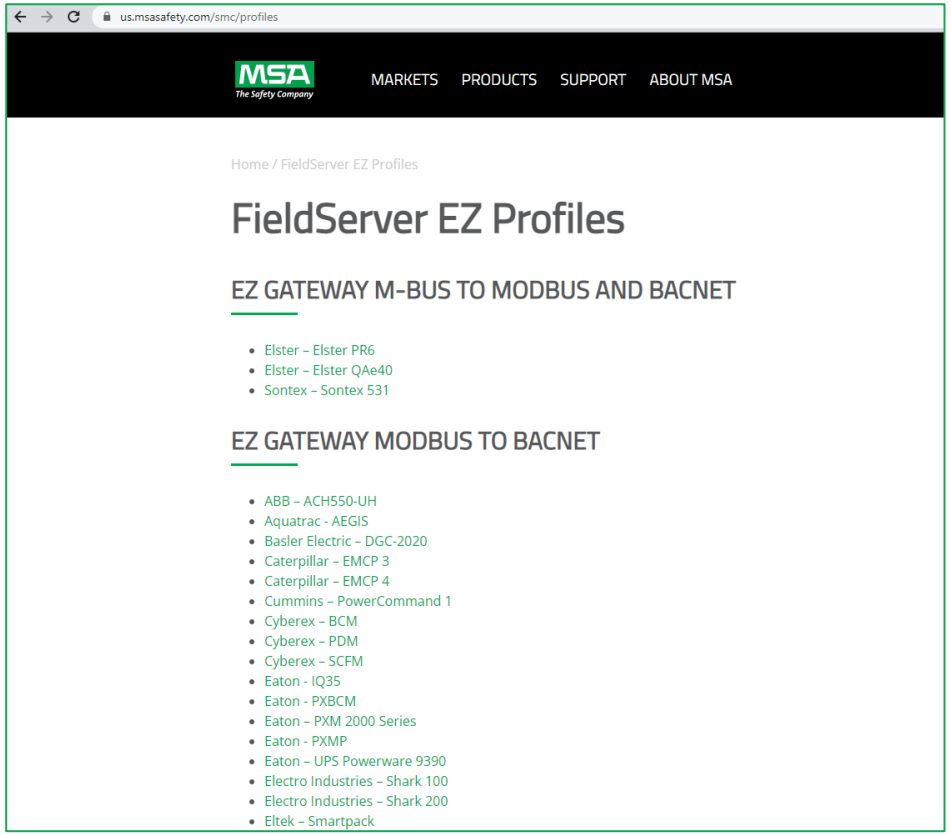


EZ Profile

An **EZ Profile** is a convenient mapping file that defines a one-to-one relationship between a Modbus/KNX/M-Bus register or bit and a BACnet object.

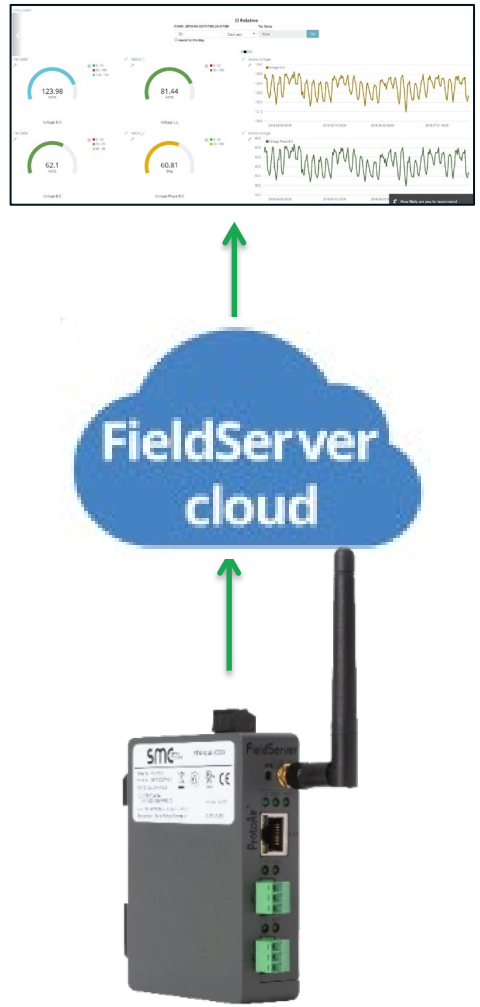
- Simple to create
- Reusable
  - Per-installation
  - Different sites
  - Duplicate configurations
  - Community
- Editable
- Download from

www.msasafety.com



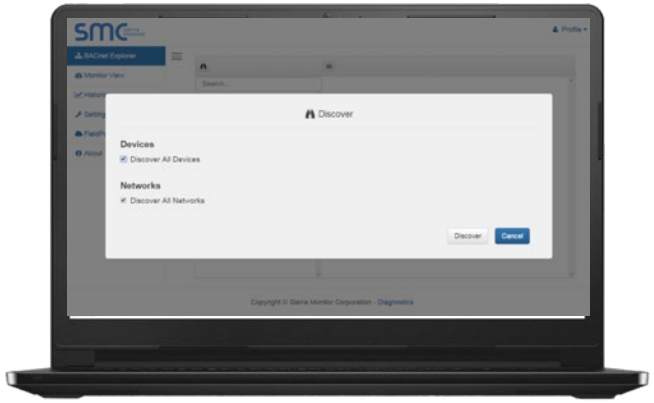
BACnet IoT Gateway

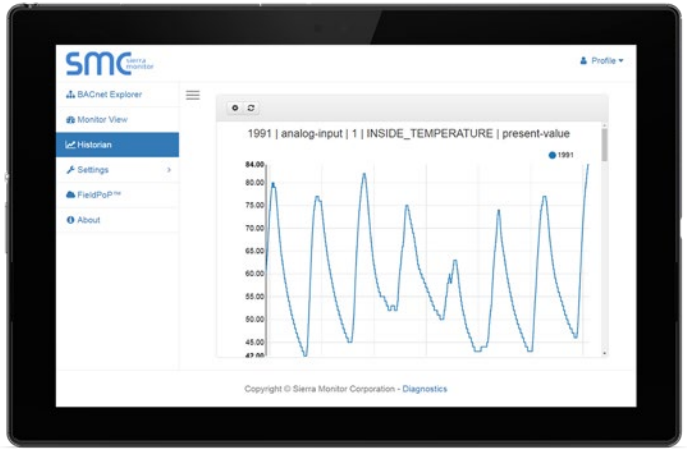
- Includes full featured BACnet Explorer
  - Discover, Report, Monitor, Write specific devices, objects, or values.
- Integrated MSA Grid
  - Securely log data on specific devices, objects, or values to the MSA Grid for additional processing
  - Set notifications (email, SMS) on objects values, devices status
  - Free trial up to 50 DPPM
- FieldServer technology – the trusted brand name for protocol gateway for more than 20 years
  - Support for latest BACnet objects, easy to use graphical interface, and unmatched support.



BACnet IoT Gateway – BACnet Explorer

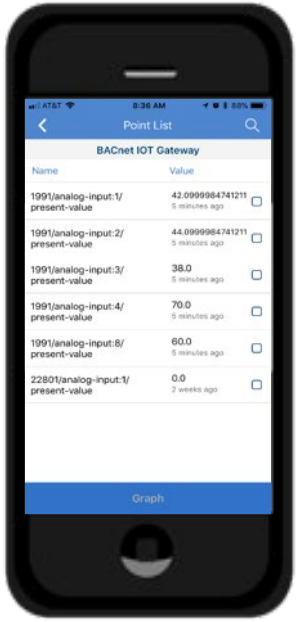
- BACnet discovery, advanced device filtering
  - Quickly find all BACnet objects on network
- Monitoring
  - View critical objects
  - Local or remote
- Control
  - Write values to BACnet properties
- Diagnostics
  - View all BACnet devices on BACnet IP, BACnet MS/TP
  - View duplicate device ID's
- Datalog viewer
  - Graphical data representation

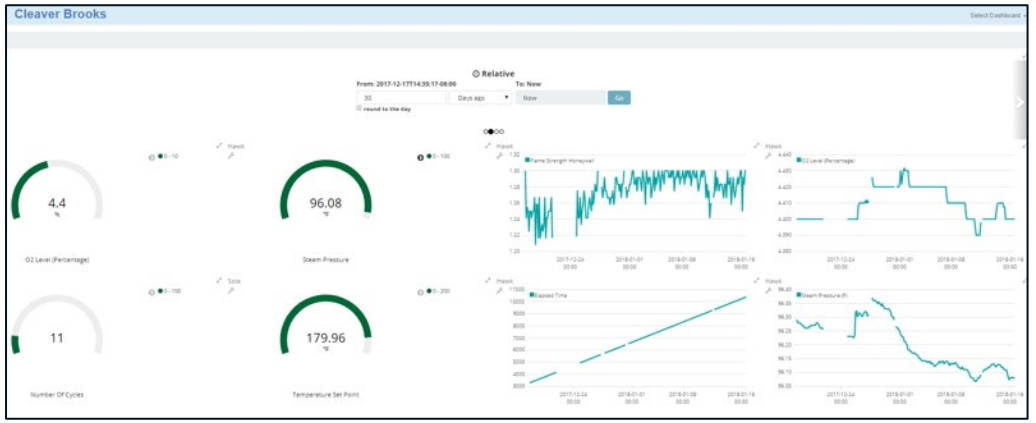




BACnet IoT Gateway – SMC Cloud

- Dashboards for data visualization
  - Cloud graphical interface
- Alarm notifications
  - E-Mail & SMS
- 3rd party interface
  - RESTful API
  - Web Services
- Data download
  - CSV & JSON
- Mobile application
  - SMC Live





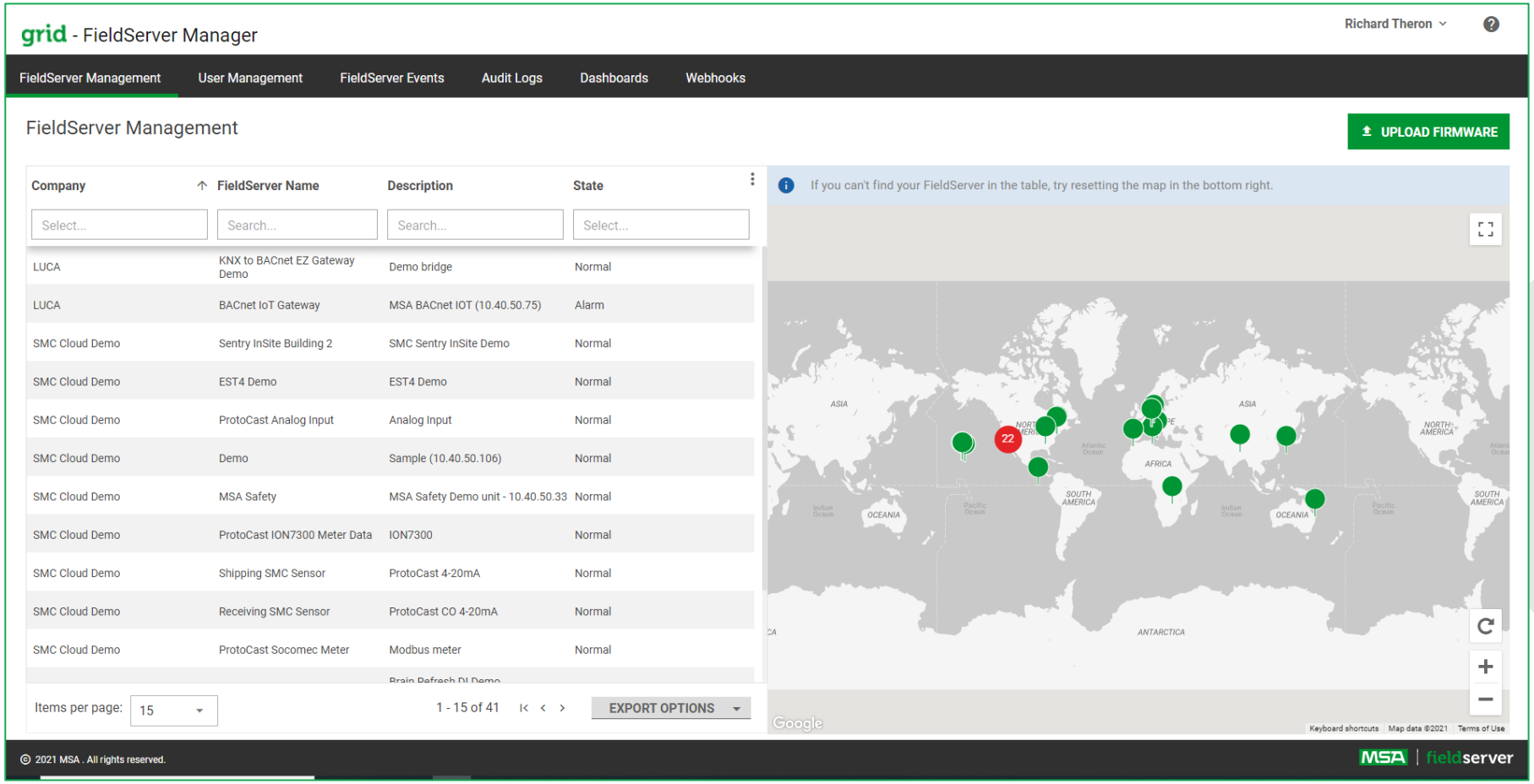
BACnet IoT Gateway – Dashboard

- Templates
  - Different configurations of Gauges & Graphs
- Client configurable
  - Client can set up own dashboard
  - Multiple client dashboards possible for different applications
- No additional charge for dashboards
- Slice data for a specific data range

- Gauges
  - Configurable setpoints
  - Configurable naming
- Graphs
  - Multiple data points on the same graph for analysis
  - Analyze data from the same machine or different machines

BACnet IoT Gateway – FieldServer Manager

- Device Management
- Software Downloads
- VPN
- Proxy Tunnel

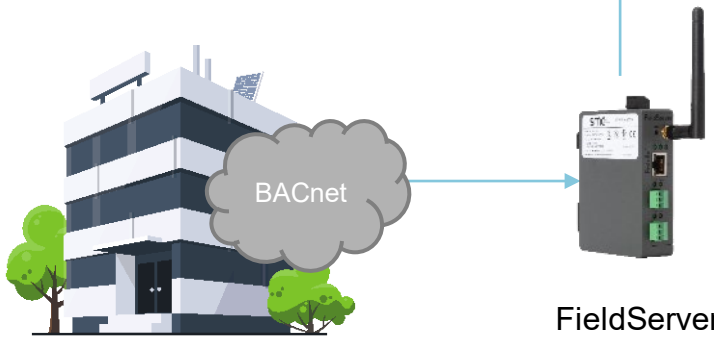


BACnet IoT Gateway – Case Study

- Cloud-based energy management system for commercial buildings
  - Control AC, heating, lights, …
- Needed to collect BACnet data from customer sites, push it to Cloud
- BACnet IoT Gateway to:
  - Discover all BACnet devices on Site
  - Select objects, data points to monitor
  - Use real-time data to control building systems remotely

3rd Party Applications

FieldServer cloud



FieldServer
BACnet IoT Gateway

"The combination of easy discovery of devices over BACnet/IP, configurable monitoring of points, RESTful API and responsive customer support have made it an easy solution to slot into our operations."

- Rick Balsano, principal engineer at Cortex

University of Arizona

Application

- Campus wide energy management integration

Problem

- 435 buildings utilizing devices/systems from over 35 vendors utilizing multiple protocols need to interface to BACnet system.

Solution

- Multiple FieldServers brought together almost 40,000 points into system from HVAC, fire alarm, utility services and more.

Results

- Customer reports great decrease in energy usage and states that FieldServer outperformed all other solutions.

THE UNIVERSITY OF ARIZONA.

Shands Hospital, University of Florida

Application

- Integration of temperature and humidity sensors to central management system

Problem

- Temperature and humidity must be tightly controlled in refrigerators containing valuable, life-saving pharmaceuticals.

Solution

- FieldServer with XML was able to integrate AeroScout MobileView controls to Johnson Controls network.

Results

- With FieldServer customer was able to select the best temperature/humidity system for their needs yet still interface to existing network.

King Abdullah University

Application

- Integration of lighting, fire alarm, window shades, motion sensors, water flow for over 2,500 homes/buildings

Problem

- Wide range of devices and multiple protocols needed to feed data to central BACnet/IP control system

Solution

- FieldServer was only gateway manufacturer with the full compliment of protocol drivers to meet their needs.

Results

- FieldServer had the experience and capabilities to meet the customers needs and delivered the custom solution on time, pulling in 50 000 Data Points into their SCADA system

South Africa World Cup Stadiums

Application

- Integration of power, fire panel and HVAC equipment in 10 stadiums

Problem

- As World Cup host, South Africa constructed 10 stadiums. Each needed integration of various Modbus and Fire Panels to SNMP control system.

Solution

- Each stadium utilized a FieldServer to bring in data from power meters, fire panels, diesel generators and chillers to NetBotz control system.

Results

- Customer very pleased to find a single gateway that can handle the multiple devices needed to interface to the control system.

Freight Company

Application

- Integration of multiple devices to a secure network

Problem

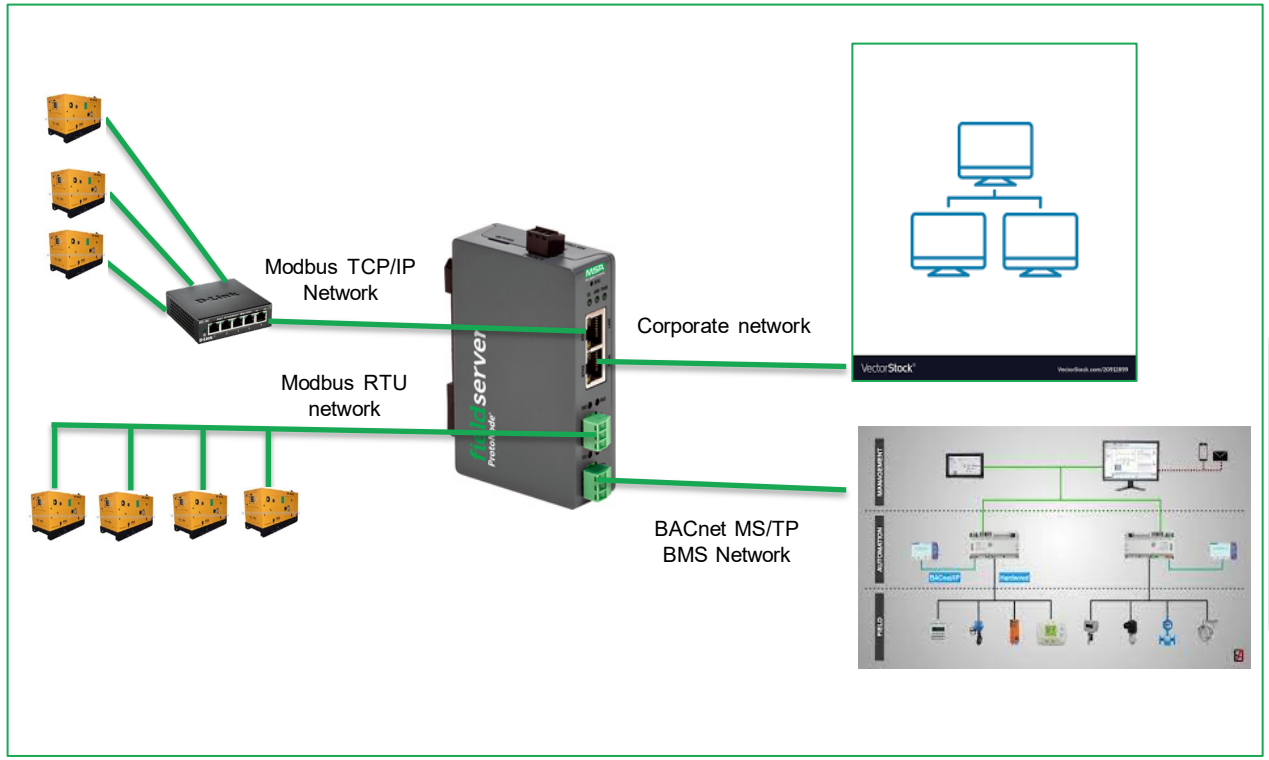
- No remote switches are allowed on the corporate network.

Solution

- The two Ethernet FieldServer solved the network needs

Results

- All Modbus devices could now be access on the corporate network.



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