

FS-8705-44 – Eddy Solutions JSON Driver

DATASHEET – Rev 2

DESCRIPTION

This Driver accepts messages from the Eddy Solutions Cloud Server. The message formats are defined in the Eddy Solutions API. The messages carry device update data and alerts.

The driver allocates a dual purpose to these messages

1. Uses the data to update dtaa points inside the gateway. These points are mapped onto the 'other' protocol such as BACnet or Modbus. A remote system will monitor these points to learn the status of installed sensors and devices.
2. Uses the messages to provision the gateway configuration. When a message arrives from a previously unknown point the gateway will add this point to its configuration and restart itself to give effect to the new configuration. The gateway can act as an end point for a single stream of messages because any new point will be added to the single existing system. Aid another way – one gateway per site or logical collection of sensors.

This driver is a passive Client. It listens for and accepts a connection from the Eddy Solutions Cloud Server. After that it listens passively for incoming messages from the Eddy Solutions Cloud Server processing them and updating status, alert and alarm data inside the gateway. This data is mapped onto another protocol (such as BACNet) for the BMS system to monitor.

In many cases both the client and server side are implemented by Chipkin. Only the passive client side of this driver is implemented. The effect of this is the the driver cannot be used to emulate an Eddy Solutions Cloud server.



CONNECTION FACTS

FIELD SERVER MODE	NODES	COMMENTS
Client	Many	Number of devices/sensors that driver can monitor is dependent on the resources and capability of the physical gateway the driver firmware is loaded on as well as the licensed point count
Server	Many	The driver cannot simulate a Eddy Solutions Cloud Server

FORMAL DRIVER TYPE

Serial RS485
Active Client

COMPATIBILITY

FIELD SERVER MODEL	COMPATIBLE
FS-2010/2011/4010 (Legacy)	Yes
FS-35 Series	Yes, (Dual NIC cards)
FS-QS Series	Yes

DEVICES TESTED

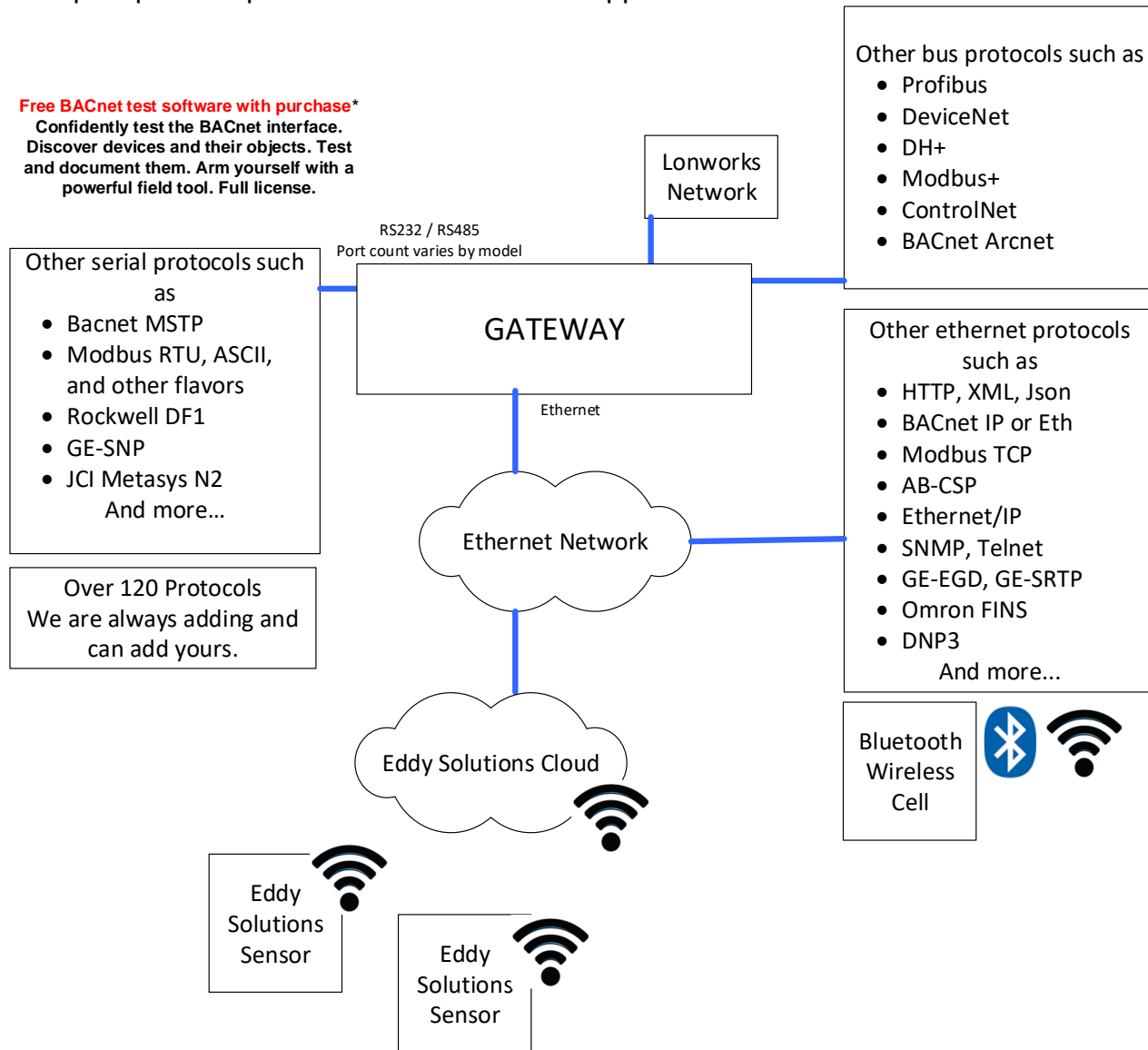
DEVICE	TESTED (FACTORY, SITE)

CONNECTION CONFIGURATIONS

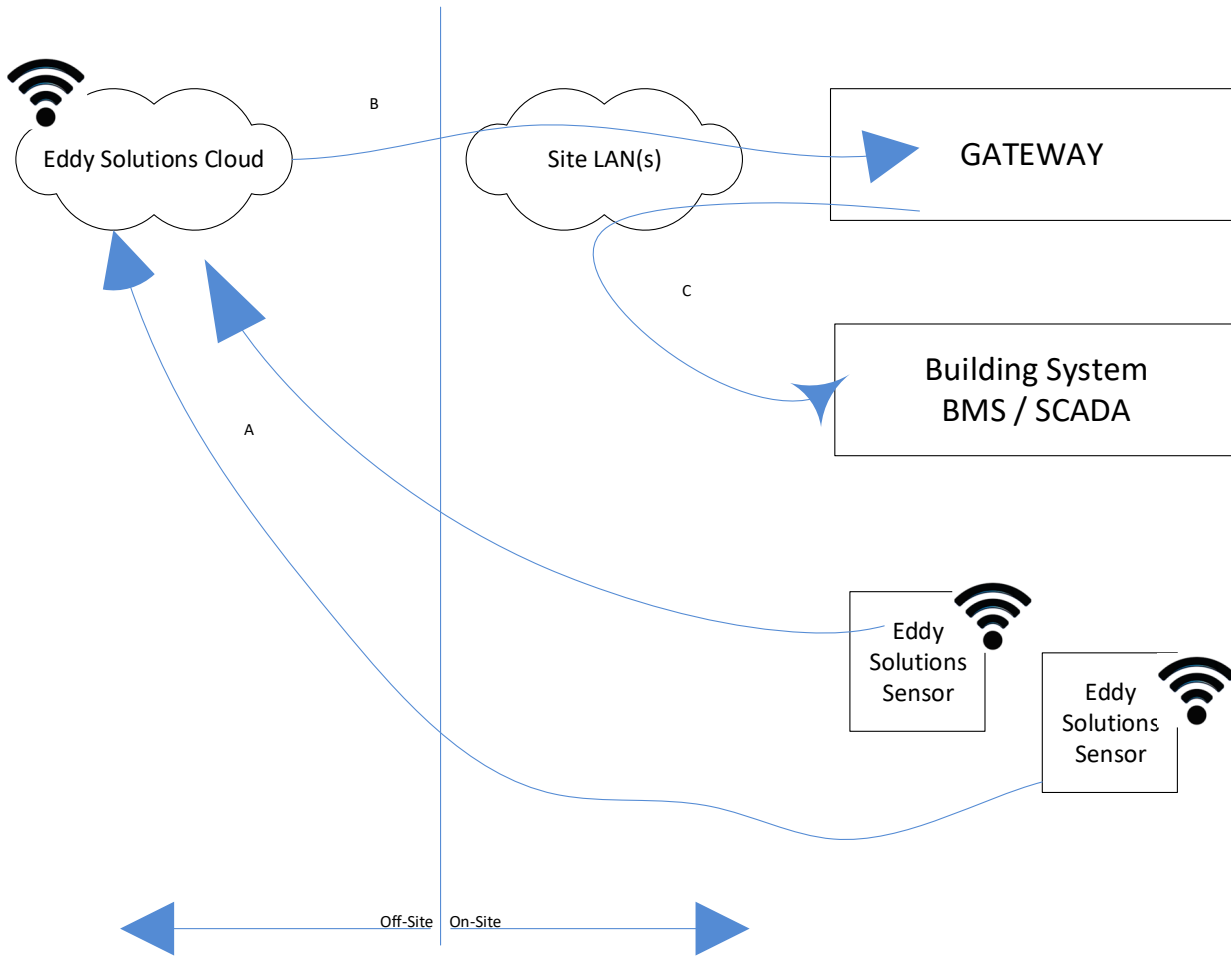
Multiple upstream protocols and connection supported. See list of FieldServer Drivers.

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PROTOCOL SERVICES SUPPORTED / NOT SUPPORTED

As per 'Eddy Solutions API Design' provided 2019Sep19,

Protocol will accept two types of message

1. Device updates (sent on an hourly or daily basis, depending on the device)
2. Alerts (sent upon device being put into an alert state due to abnormal flow data, valve status noncommunication, water being detected on the ground or abnormal temperature/humidity data)

Both types of message can result in 'provisioning'

Provisioning

The gateways will be shipped with a minimal std configuration. It is expected that the only params that might need to be set to make the gateway operation is the allocation of an IP address appropriate for the site. Thus by default it will not be capable of reporting the status / alert for any sensor / point.

When a message arrives the driver will use this information to update the configuration by adding new data objects to represent the device. To give effect to a new configuration the gateway needs to restart. After a restart the new data objects will be active and will be updated with the status information from the messages that were used to trigger the provisioning.

There is no way to delete points from the configuration without manual intervention.

MODBUS AND BACNET

The standard configuration will serve the data as BACnetIP and Modbus/TCP. The customer will ignore the service they don't need.

The following protocols will be supported by the firmware but will not be configured by the provisioning system. Manual configuration will be required. Ethernet/IP, XML over HTTP, other flavors of BACnet and Modbus.

TYPICAL OBJECT SET

Each BACnet object can have an object name with max of 37 chars.
The SerialNumber will be used with a suffix for each value exposed.

1234567890123456789012345678901234567890
"48DA96000300D07B"

Eg. H2o Sensor

48DA96000300D07B_Leak	- Bi (normal,leak)
48DA96000300D07B_TimeStamp	- Ai with 32 bit time date/stamp
48DA96000300D07B_Temp	- Ai
48DA96000300D07B_RH	- Ai

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48DA96000300D07B_Battery	- Ai	
48DA96000300D07B_AlertisActive		- Bi (normal,alert) Point is set if an alert is received with this DeviceID
48DA96000300D07B_AlertBattery	- Ai	
48DA96000300D07B_AlertRH	- Ai	
48DA96000300D07B_AlertTemp	- Ai	

Each object can be allocated a description. Max 40 chars
The description be midstring (location1+location2+location3 , 1 , 40)

EG Alert Update that does not correlate to a physical device such as a link alert.

An alert doesn't always relate to a sensor. If it does not then it will provision the system with one set of alert objects for the given Serial Number

08002487_AlertisActive
08002487_AlertType
08002487_AlertValve
08002487_AlertlastFlow

Limitations / Other

Our service will not run on port 80 or 8080. We expect the Eddy Cloud to connect to a port number of our choosing. Port 10001 is suitable.

HTTPS is not supported.
HTTP1.1 is supported.
HTTP POST is expected

CUSTOMER SUPPORT

Eddy Solutions Driver for FieldServer was developed by Chipkin, and we are proud to provide support for our products. For technical support, sales and customer service, please call us at 1 (866) 383-1657.

Thanks for choosing Chipkin's products and integration services to meet your building and industrial automation requirements!

Chipkin™ is a building and industrial automation protocol expert. We develop, configure, install and support gateways (protocol converters), data loggers and remote monitor and controlling applications. Founded in October 2000, Chipkin provides expert solutions for converting BACnet®, Modbus®, and LonWorks®—to name just a few—and enabling interfaces for HVAC, fire, siren, intercom, lighting, transportation and fuel systems. The high-quality products we offer (including those from other vendors) interface with Simplex™, Notifier™, McQuay™, GE™ and many others—so you can rest assured that we will select the most appropriate solution for your application.

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REVISION HISTORY

DATE	RESP.	DRIVER VERSION	DOCUMENT REVISION	COMMENTS
17 Oct 2019	PMC		0	Created for quote purposes
17 Oct 2019	PMC		1	Added notes about HTTP
7 Jun 2021	YC		2	Updated to latest template