

## Case Study

# PLC control of Lutron Push Buttons

### **A new driver within a week of the order.**

Chipkin saved a customer the other day. A customer overlooked an integration required to complete their project successfully. We provide a last-minute rapid response at a reasonable charge and saved the day. A new driver, ready for deployment within a week of the order.

Lutron's systems are well designed from an integration point of view. There are lots of options available. However, there are some exceptions. That is where this new driver comes in. There was no existing solution for control of the Lutron system from a Rockwell PLC using Ethernet/IP. This new driver is coupled with our other drivers to provide Lutron Integration for industrial applications like Rockwell, Schneider, Siemens, Omron, GE as well as BMS protocols like BACnet (All flavors), Modbus (All Flavors). Webby protocols like HTTP, XML, json are also supported. Over 120 active protocols in our library.

Chipkin's driver uses the Lutron Integration Protocol using Telnet as the transport layer over TCP/IP. The full feature set of Lutron services to a wide range of Lutron products is supported.



## Future Proof Firmware

The Lutron driver has been implemented in a way that should new services or variations of services be introduced by Lutron; it is possible to use them. A project can add new services by means of configuration. They do not need to come back to Chipkin to add new features the firmware.

Chipkin often take the 'future proof' approach. For example – Fire Panel System Event strings – New ones can be added to the driver by means of configuration. Thus, panels with newer firmware can be supported without coming back to us for changes in the firmware.

## Some Details

All Lutron services supported by the Integration Protocol are also supported by this driver.

As at 2020July the list is as follows

# ~ and ? formats of the following services are supported.

device, error, output, system, integrationid, details, programming, group, timeclock, monitoring, area, shadegrp, ethernet, sysvar, hvac, reset

The services can be populated with live data.

For example: You wish to control the virtual Push button activation by means of the Building System using BACnet. You configure a BACnet object which contains the Action Number and you configure a Lutron task to send that to the lighting system. In the configuration you specify the InegrationID and The Component Number. You connect the task to the data point the BACnet object with the action number. Now whenever that task is executed it will use the live data from the BACnet object to change the action number and trigger the command.

Configuration example `"#device,<DA_IDs[1]>,<DA_COMPONENT[1]>,<DA_ACTION{5}>`

Tells the driver to extract data from 3 locations and to use the numeric values to populate the command. The Data in these arrays is connected to the 'other' protocol. Constants can also be used for some fields.

## Chipkin Automation Systems

Protocol to protocol – Enabling the IOT Internet of Things

Products that support approx.. 140 major protocols. If we don't have a solution for you we will make you one. More than a dozen customers a year have a custom driver developed for them.

Chipkin are highly regarded for their outstanding support. System integration isn't always trivial even if that is what they tell you.

The Chipkin BACnet stack comes with a 100% copyright infringement indemnity to make corporate lawyers happy. Customers get direct access to the stack developers for coaching and problem solving.

What does it cost to develop a driver?

Typical is \$1,500-\$6000.

Sometimes its free because it leads to an ongoing product.

Occasionally its expensive.

It's always proportionate, fair and reasonable.

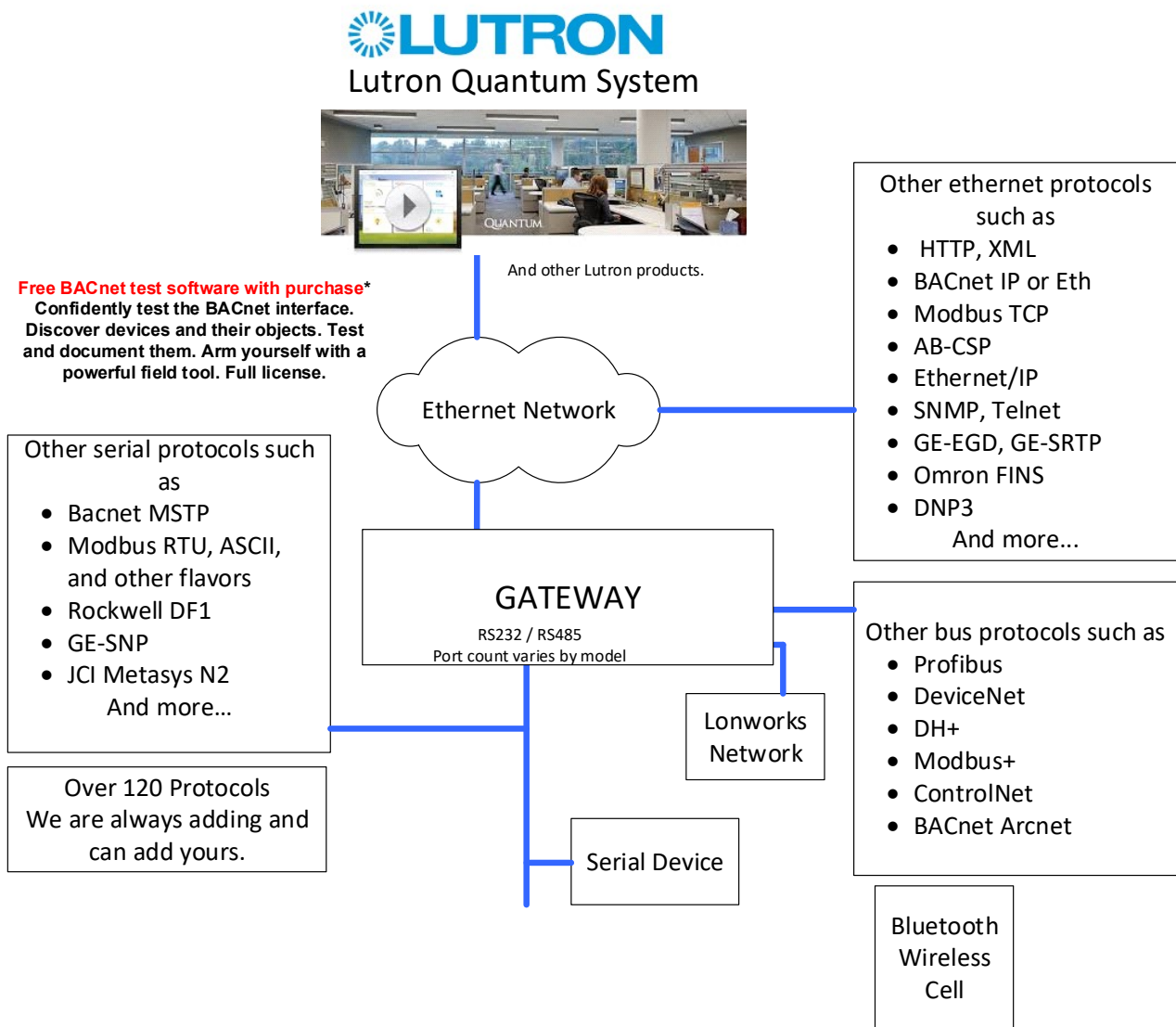
## Lutron

### Saving Energy... One Dimmer at a Time

No matter where they are installed or how big the system, every Lutron product saves energy by reducing electrical consumption. Taken as a whole, Lutron light controls have reduced electrical use by 9.2 billion kWh, which reduces our customers' electric bills by \$1 billion annually.

Lutron also protects the environment by decreasing the demand for light bulbs. Since dimmers extend lamp life, customers must buy fewer bulbs, and that reduces the energy and environmental impacts associated with the manufacturing of fluorescent, incandescent, halogen, and other types of lamps.

## Block Diagram



## Keywords

Lutron Modbus

Lutron BACnet MSTP

Lutron Rockwell

Lutron Allen Bradley

Lutron Integration Protocol

Lutron protocol converter

Lutron protocol

'#device'

Lutron EthernetIP

Lutron Siemens

Lutron JCI