Chipkin's 2 solutions for BACnet BBMD

Anything that prevents broadcasts also prevents BACnet communication. Chipkin announce the release of its CAS-BBMD tool for Windows and Linux. This solution compliments the on-device solution Chipkin can provide using the Quickserver platform of protocol gateways.

Released in Dec2020 these apps handle BACnet messages crossing routers and subnets. Both BDT and FDT are supported.

The Challenges

BACnet discovery uses two services - one is called 'Who-Is' and the other 'I-Am'. They rely on the use of broadcasts.

Routers join IP networks together so that messages from one network can be sent to another. Most routers do not forward broadcast messages and this means discovery can't discover devices on another network.

The Solution

To solve this problem, BACnet provides a technology called BBMD - BACnet/IP Broadcast Management Device.

Overall, the technology is simple. You install a BBMD (might be a physical device or just a software application on a computer) on each network. You can configure the BBMD by specifying the IP Address and mask of the each BBMD. This makes both BBMD configs identical. When the one BBM receives a broadcast, it forwards the messages to the other BBMD, which in turn re-broadcasts on the other network. They are configured by BDT files and these may be modified on the fly using select Bacnet services.

The technology also provides for foreign device registration. This allows a device on one network to communicate with a device on another network by using the BBMD to forward and route the messages.
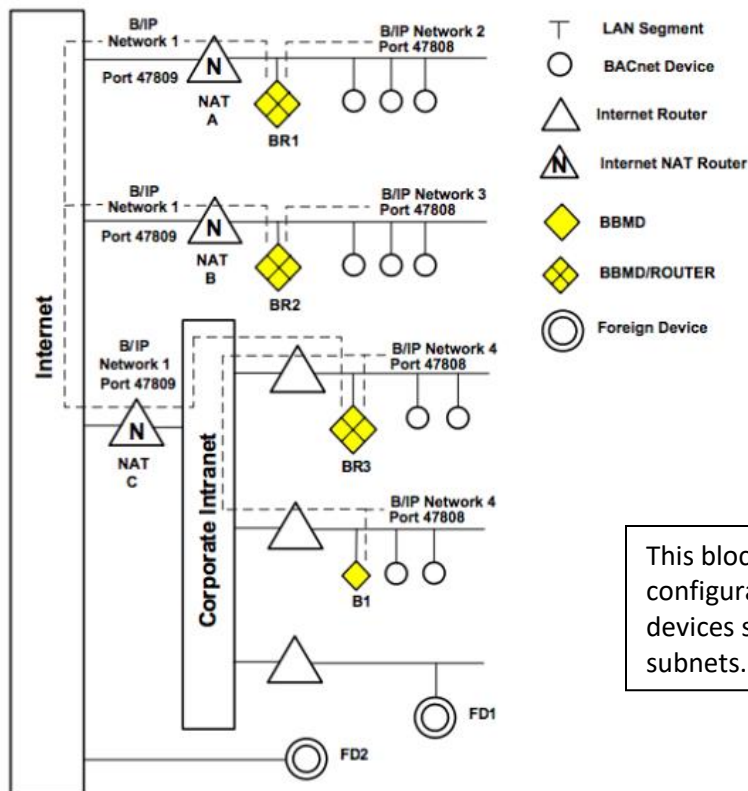
This block diagram lists a common configuration for multiple BACnet devices spread across different subnets.

How It Works

The BBMD application can be installed on a Windows or Linux server at the site. Chipkin also has 'on-device' solutions if you don't have a server.

Scalability

These application can scale up to handle entire sites handling 10's of thousands of points.

Conclusions

The biggest problem with the cloud trying to read BACnet data from a site is the problem of BACNet not being able to pass through a router or when the site is networked segmented because in both of these cases broadcasts are required.

CAS tools are easy to install and configure

About Chipkin

Chipkin Automation develops protocol drivers. Some are sold and supported by MSA. Some are sold and supported by Chipkin. Chipkin are data communication specialists with 20+ years of experience. The OPC UA driver will be sold and supported by both MSA and Chipkin.

Keywords

BACnet Router

BACnet subnets

BACnet broadcasts

BACnet BBMD

BACnet BDT

BACnet FTD

BACnet broadcast distribution table

BACnet broadcast distribution table

BACnet s foreign device table