

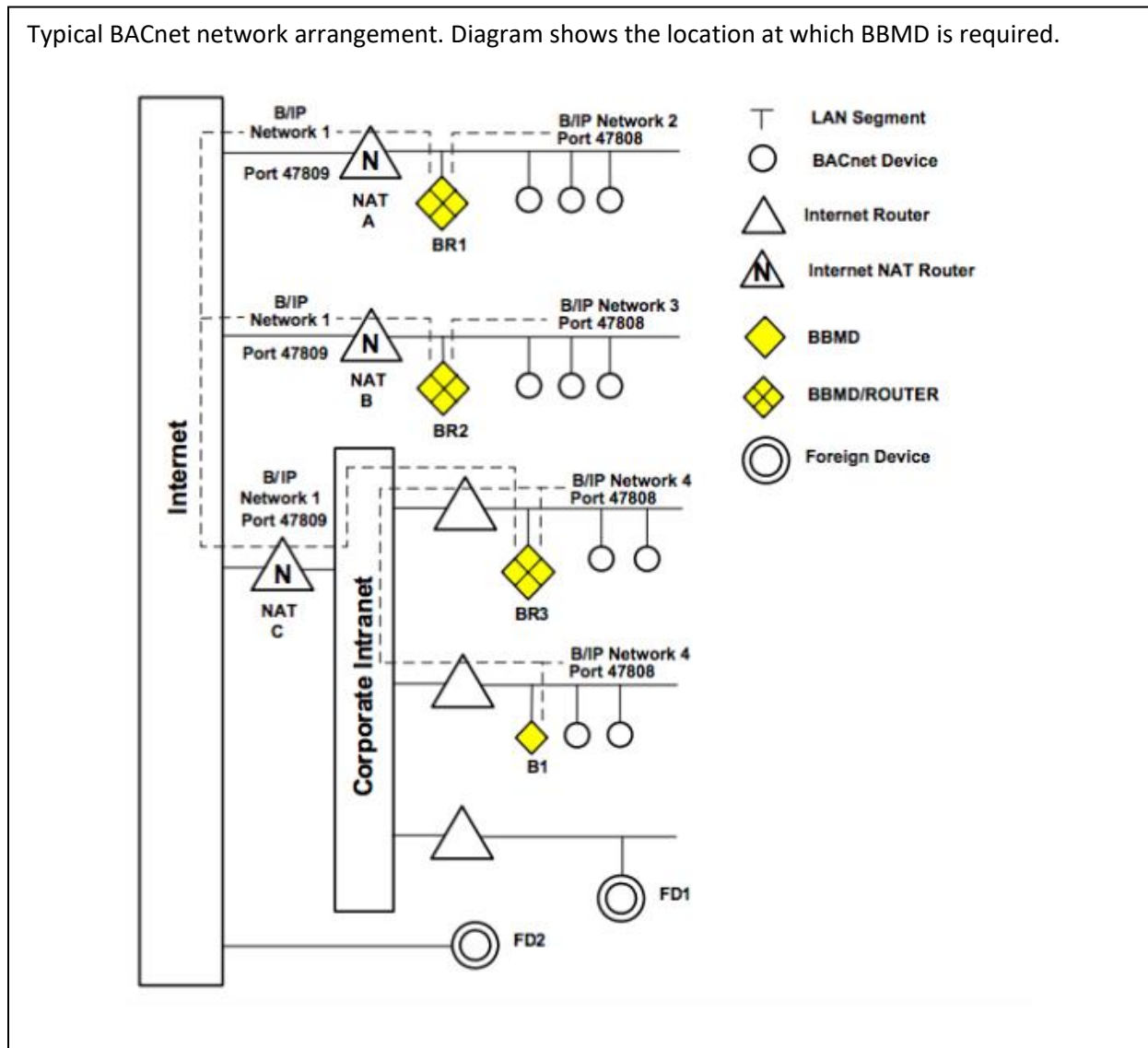
Segmented University Network & BACnet

Pulling it all together with Chipkin's BBMD

Chipkin has a highly scalable solution for BACnet BBMD.

BBMD is a BACnet technology which works around routers blocking broadcasts. Broadcast messages are an integral part of BACnet (as part of the discovery, who-is process). The solution also applies to VLAN's which strongly segment traffic.

Typical BACnet network arrangement. Diagram shows the location at which BBMD is required.



Introduction

A university has several buildings. Each building has several BACnet/IP sensors in them. A central control room that monitors all the buildings sensors using an HMI. The university has segmented the buildings into their own VLANs where each building has a different subnet. When the HMI tries to discover the BACnet/IP device across the university campus it sends out a IP/UDP broadcast.

The IP/UDP broadcasts are not routed through the NAT routers and HMI can not discover any of the other BACnet/IP devices on the different VLANs or sub networks.

Solution

The solution is to install and configure a BBMD device on each VLAN and subnetwork. The BBMD device receives the IP/UDP broadcast message and relays it to the other BBMD devices on different VLANs or subnetworks networks thought a directed IP/UDP message. When a BBC receives a directed message from another BBMD it will broadcast the message on its local network VLAN/Subnet. The communication is bidirectional so devices on the VLANs and subnets can communicate to the HMI via the BBMDs as well.

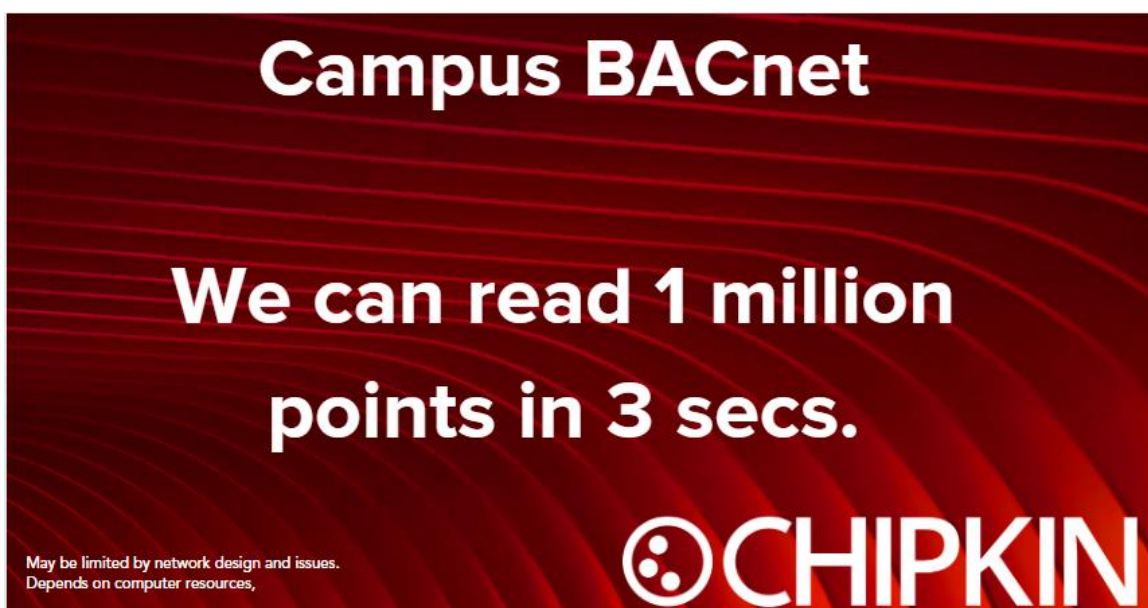
This allows a central HMI to communicate with all the BACnet/IP devices in the different segregated building/VLANs/Subnets.

Scalability

By providing the solution as Windows and Linux applications, the only limitation is the amount of memory, CPU power including core count in determining how many network segments and BACnet devices can be part of the BBMD.

Chipkin's BBMD solution is a natural partner of the Chipkin BACnet Client application. This app can suck up data from a whole large campus. To reach the BACnet devices the 2 apps are applied together.


- References available on request. We are under NDA with most customers so we have to check in with them before we can provide the reference.



Campus BACnet

We can read 1 million points in 3 secs.

May be limited by network design and issues.
Depends on computer resources,



About 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 is 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.