

Securely connect BACnet Building Automation systems

BACnet is a pervasive building automation and control network that is used for connecting everything from HVAC and lighting, to access control and fire suppressions systems. Implementation of a Tempered Networks Identity Defined Network (IDN) quickly, simply and effectively connects, segments and secures BACnet systems.

CHALLENGES

Building Automation Systems running BACnet offer hackers one of the least secure, broadest attack surfaces in an organization. Communicating over an IP network, BACnet has both broadcast and point-to-point components that are inherently insecure and vulnerable to attack. Also, BACnet systems are often not updated to the latest standard, making them even more vulnerable to attack and intrusion. And, because BACnet protocols differ from IP, securing and segmenting BACnet within a broader network can be a complex and difficult undertaking.

BACnet also tends to create very high utilization rates over IP networks, causing headaches for network administrators who must balance noisy BACnet traffic with other mission critical network traffic. Consequently, BACnet systems are often difficult to connect reliably.

SOLUTION

Tempered Networks' IDN platform is a seamless and non-disruptive solution that works over your existing infrastructure. With it you can quickly and easily connect, secure and segment a BACnet implementation. Identity based networking addresses all the issues with security, segmentation and network utilization that have traditionally created broader headaches with a BACnet implementation. Despite BACnet devices and systems using different protocols, the use of the Host Identity Protocol (HIP) allows an IDN to be established, and communications maintained across the various systems whether point-to-point or broadcast. And, because IDN restricts the BACnet network traffic to the encrypted tunnel, it eliminates the network utilization issues keeping the BACnet traffic from propagating across the entire network infrastructure.

Coordinating HIP Services and HIP Switches, Tempered Networks' Conductor treats every BACnet device as it would any other IP resource, allowing for simple provisioning, flexible segmentation and military-grade, encryption at the device level. BACnet systems that once presented one of the largest and most unsecure attack surfaces in an enterprise are now cloaked. IDN delivers:

- Cloaking of BACnet systems
- Automatic encryption of all BACnet communications
- Unbreakable segmentation
- Instant connectivity and revocation
- Seamless failover
- Overcome IP conflicts – No need to reassign IP addresses as you connect systems
- Non-disruptive and works with legacy systems
- True plug-n-play connectivity

MINI-CUSTOMER CASE STUDY

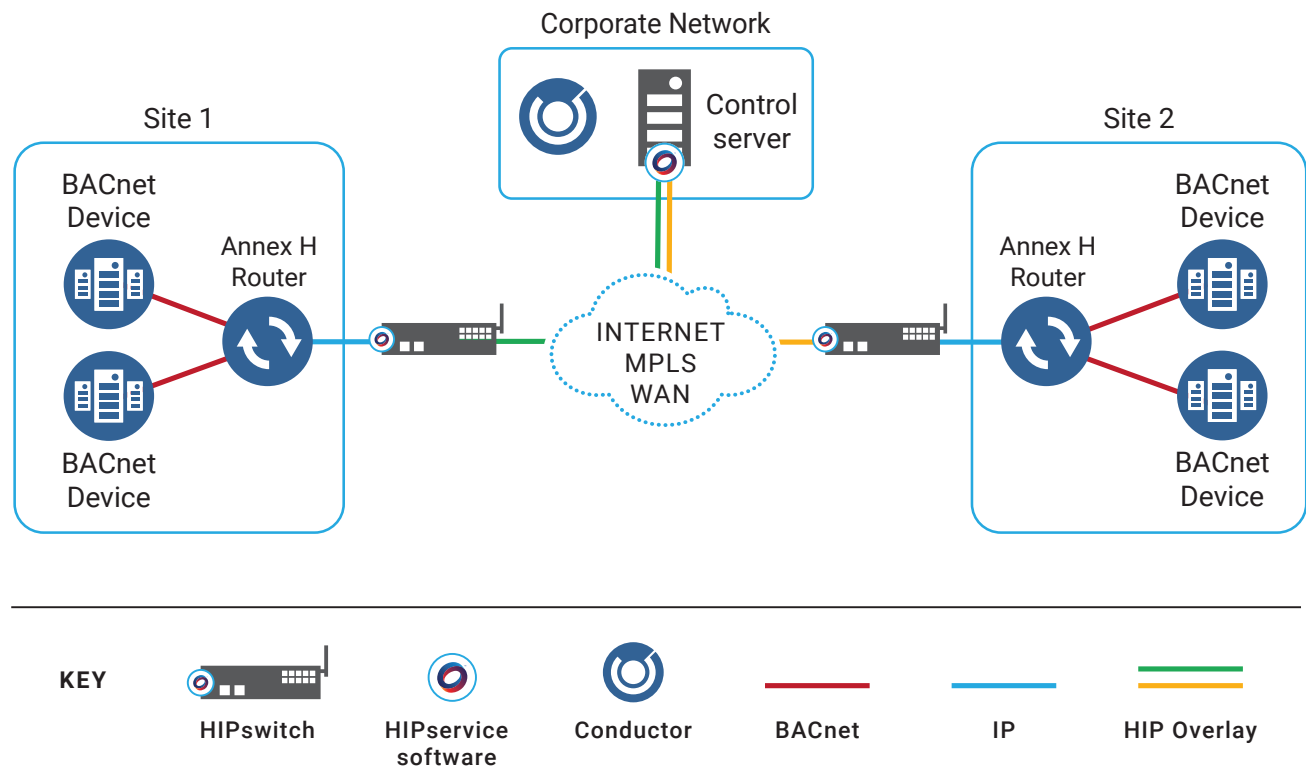
SITUATION

Large university system in the eastern United States needed a way to centrally secure, connect and control BACnet systems in hundreds of buildings spread across a large geographic area. All previous efforts had been stopped before they began due to complexity and cost of available solutions.

SOLUTION

Tempered Networks was the first and only network vendor to offer a solution that was truly simple, flexible and secure. Our HIP based, Identity Defined Network delivered the ability to seamlessly centralize management of building automation systems across multiple campuses. With built-in cloaking, the building systems were no longer vulnerable to hacking and other outside intrusions.

An added benefit of implementing the Tempered Networks solution was eliminating BACnet's network bandwidth utilization issue, since all traffic is now confined to the encrypted tunnel in the IDNs fabric. High network utilization by BACnet systems was a constant challenge for IT admins, the Tempered Networks solution solved this.



This diagram illustrates a Tempered Networks' IDN creating a secure connection between BACnet systems while also providing centralized monitoring and control of both.