

BACnet Secure Connect Features and Benefits Guide for IT Professionals

BACnet Secure Connect is an IT-friendly and secure version of the BACnet protocol which is well suited for use in IT environments, while maintaining all of the benefits of BACnet.



Feature Contrast	BACnet/IP	BACnet/SC	
Standardized data model for communication	●	●	STILL BACNET
System scalability and flexibility	●	●	
Interoperability between vendors with BACnet Testing Laboratory (BTL) listings and matching BACnet Interoperability Building Blocks (BIBBs) in Protocol Implementation Conformance Statement (PICS)	●	●	
Compatibility with existing and future versions of BACnet	●	●	
BACnet routing between different BACnet data links (BACnet MS/TP, BACnet/IP, BACnet/SC) to form a BACnet internetwork	●	●	
Device instance number and object instance number method of device and object identification	●	●	
Upgrading BACnet/SC compatible systems from BACnet/IP to BACnet/SC is seamless. There is no re-engineering of Trends, Alarms, Graphics, Schedules, or other database components required. It is only a BACnet driver configuration change and certificate loading	●	●	
Same physical (Ethernet) topologies possible - no need to rewire	●	●	
Identical user-side application workflows during runtime	●	●	
All BACnet Services remain the same	●	●	MORE IT FRIENDLY AND SECURE
Connectionless, less reliable, no congestion control UDP protocol	●		
Connection-oriented, reliable message delivery, scalable TCP protocol		●	
Certificate-based mutual device authentication and network access restriction using X.509 v3 certificates		●	

Feature Contrast	BACnet/IP	BACnet/SC	MORE IT FRIENDLY AND SECURE
Certificate authority options for self-signed CA or trusted CA of organization's preference		●	
End-to-end traffic encryption using TLS v1.3 secured WebSockets		●	
No heavy network broadcasting on IP network		●	
Independent of underlying IP network infrastructure, micro-segmentation friendly		●	
Agnostic to changes in IP network topology		●	
IPv6 ready (currently supported on IPv4)		●	
Passes across IPv4-IPv6 borders		●	
No BACnet Broadcast Management Device (BBMD) required to get across IP subnets		●	
Firewall and Network Address Translation (NAT) friendly (works well with micro-segmentation)		●	
No static IP addresses required (static IP address recommended for hub device unless FQDN used)		●	
No additional licensing cost to use BACnet/SC in a system		●	
Secure BACnet communication even in unsecure environments		●	
Allows using shared IP networks without VPN setup		●	
No special networks required to be installed - allows for IT/OT network convergence		●	
BACnet essentially becomes a web application on the network like many others		●	
Fits well into a holistic information security approach (Defense-in-Depth)		●	

BACnet/SC certificates are handled by the ABT Site software application. ABT Site allows for easy and intuitive workflows which allow users to generate certificates, self-sign certificates, sign certificates with an external certificate authority, provision certificates to Siemens devices, renew certificates as well as generate certificate reports as needed. ABT Site can act as the certificate authority or interface with a certificate authority of the organization's preference. ABT Site supports interoperability with 3rd party vendors with the ability to exchange certificates on the file level.

*Automated certificate management solution for the system will be delivered with a future market release.

For more information on [BACnet/SC](#) logical topology, certificate management, and other features and benefits, refer to the [BACnet/SC brochure](#), or request support from a technical expert.