

# The Many Advantages of BACnet

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Building owners and control system designers often ask "How do I choose a building control networking technology that will meet my needs today and give me a reasonable way to keep up with the inevitable changes of tomorrow?" I almost always tell them to choose BACnet. Here are some of the reasons why.

- *BACnet is designed specifically for building automation and control networks.*

Because the BACnet ASHRAE committee was comprised of experts in building controls, BACnet has features and capabilities that are precisely tailored to the needs of such systems - other protocols do not. Among the features: time and date scheduling, prioritized commanding of setpoints and outputs, trend logging, extensive alarm and event processing capabilities, and so on.

- *BACnet is not dependent on current local- or wide-area networking technologies.*

While some protocols are rooted in a specific network technology, BACnet messages can be conveyed over a wide variety of media and topologies, depending on the requirements of a particular installation. You can specify just the bandwidth capacity that you need. Moreover, BACnet has recently been enhanced through the addition of BACnet/IP, a specification for the use of BACnet in conjunction with the Internet Protocol. The technology developed in the BACnet/IP addendum can easily be extended to other kinds of networks (e.g., ATM, SONET, ISDN) and other processing requirements (e.g., encryption and compression) as the needs arise.

- *BACnet is an American National Standard, a European pre-standard, and a candidate for international standardization within the ISO.*

The capabilities of BACnet have been recognized and proposed for standardization in the most prominent world standards bodies including the European Committee for Standardization (CEN) and the International Organization for Standardization (ISO).

- *BACnet is completely scaleable from tiny, single building applications to global networks of thousands of devices.*

Practically speaking, BACnet imposes no limit on the number of BACnet devices that can be internetworked or the number of "points" that a given device can potentially contain. Moreover, BACnet can be implemented in devices of virtually any size, from tiny, price-sensitive application specific devices to the largest general purpose programmable devices.

- *BACnet implementers can safely add non-standard extensions and enhancements without affecting existing interoperability.*

BACnet is designed to allow vendors to add innovations without affecting the ability of other vendors to do likewise - even on the same network. Only if there is a desire to standardize the innovation is there a need to submit a proposal to the BACnet committee.

- *BACnet has been adopted by the most prominent fire protection companies in both the USA and Europe and other non-HVAC industries are evaluating its use.*

In addition, the National Electrical Manufacturers Association (NEMA) Signaling, Protection and Communications Section (3SB) has recommended that NEMA endorse BACnet as a NEMA standard. The impact of this decision is to make BACnet the NEMA recommended method of integrating security and fire alarm systems with other building control systems.

- *BACnet is supported by most chiller manufacturers.*

All of the major chiller manufacturers, including Carrier, Dunham-Bush, McQuay, Trane, and York, have BACnet interfaces to their equipment.

- *BACnet has a proven track record in real building control applications.*

BACnet has been applied successfully in thousands of buildings all over the world. BACnet installations can be found in at least 16 countries and even in Antarctica. Successful field applications range from very small simple projects, like connecting a chiller to an existing proprietary energy management system, to very large-scale projects like the Phillip Burton Federal Building in San Francisco, the new German parliament complex in Berlin, and the interconnection of multiple municipal buildings in Memphis, Tennessee.

- *BACnet is completely open and its future is in the hands of the industry.*

Anyone may build BACnet equipment without the use of proprietary technology, tools, or license fees. Moreover, anyone may participate in the deliberations of the ASHRAE committee (SSPC 135) that interprets and maintains the standard.

Much more information about BACnet, and the companies that have implemented it, may be found by visiting the official BACnet website, [WWW.BACNET.ORG](http://WWW.BACNET.ORG).

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