uBACstac™ V4.0

BACnet Protocol Stack for small devices with or without OS

The Cimetrics uBACstac saves man-years of development when your company needs to develop medium– or high-volume BACnet-compliant applications that run on small devices with or without OS! uBACstac includes source code, example programs and reference ports to three hardware platforms with or without FreeRTOS — ATmega, ARM-7, Cortex-M4.

Many Building Automation and Controls manufacturers use a Cimetrics BACstac protocol stack because of our reputation for delivering high-quality software and excellent technical support. Cimetrics does the heavy lifting of testing the BACstac on different hardware platforms and implementing the new Addenda approved by the BACnet Committee in a timely fashion. We keep our customers UP-TO-DATE with the latest BACnet features and make sure that the code is compatible with growing number of hardware platforms.

uBACstac features:

> A small-footprint BACnet stack for small devices with or without OS.
> Implements state-of-the-art MS/TP and BACnet/IP with Foreign Device. A single firmware image may support both data links.
> Provides truly portable code—the same core uBACstac library, the portable MS/TP implementation and the example application run on all platforms unmodified, including bare-metal microcontrollers and embedded OSs.
> Supports a wide range of processors, from entry level 8-bit AVR to powerful 32-bit ARM7 and Cortex-M, or even more powerful 64-bit processors running Linux. Supports little-endian and big-endian architectures.
> Provides the stack in source code form, with example programs and reference ports to a few hardware platforms, both with embedded OS and without OS. Also, for ease of application development, includes a port to Linux and even Linux-on-Windows as an "instrumental" platform.
> Implements a modular design, with clean separation between platform-dependent and portable code.
> Provides highly configurable source code: unwanted features can be turned off, decreasing the executable memory footprint.
> Makes it possible to implement a device conforming to the BACnet B-SS, B-SA, B-ASC, and B-AAC profiles, optionally with COV notifications and more.
> Provided example programs support the following BACnet application services: RP/RPM/WP/WPM/Who-Is/Who-Has/DCC/ReinitializeDevice/EventNotification/ AcknowledgeAlarm/GetEventInformation/TimeSync/GetEventInformation/COV notifications/COV subscription/ File transfer/ Confirmed and Unconfirmed Private Transfer.[1]
> Supports BACnet segmentation on receive and transmit. Supports initiation and execution of confirmed and unconfirmed requests.
> Customers may enhance the source code to implement additional BACnet functionality.
> Includes detailed documentation, including a User's Guide and a Porting Guide.

[1] **BACnet Interoperability Building Blocks (BIBBs) supported in the current example:** DS-RP-B, DS-RPM-B, DS-WP-B, DS-WPM-B, DM-DDB-A,B, DM-DOB-B, DM-DCC-B, AE-N-I-B, AE-ACK-B, AE-INFO-B, SCHED-I-B, SCHED-WS-I-B, DM-TS-B, DM-UTC-B, DM-RD-B, DM-R-B, DS-COV-B, DS-COVU-B, DS-RP-A, DS-WP-A.

BACnet standard object types supported in the current example: Accumulator, Analog Input, Analog Output, Analog Value, Binary Input, Binary Output, Binary Value, Device, File, Multi-state Input, Multi-state Value, Multi-state Output, Notification Class, Calendar, Schedule.

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