



This reliable, automated tool makes pretesting faster, less labour-intensive and therefore less costly

The „BACnet expert“
for building automation

BACnet Test Framework

When it comes to using various devices from different manufacturers in building automation systems, the BACnet standard unifies data exchange and ensures interoperability of the products used. As it is absolutely essential that all of the technical elements actually adhere to the standard, the conformity of new developments is carefully examined by accredited testing laboratories. These labs use the BACnet test framework developed by Krefeld-based MBS GmbH and manufacturers to make their pretesting more cost-efficient.

For more information: www.mbs-solutions.de



BACnet Test Framework

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From field device to control unit and gateway all the way to guidance system: the entire data communication process comes to a halt if just one element is not completely BACnet conformant. This is why there are detailed regulations governing BACnet communication, which have been used in conformity tests by accredited testing laboratories since 2005. The tests culminate in the much coveted manufacturer's certificate confirming that the tested device is BACnet conformant.

BTF

Time-consuming manual pretesting is not necessary

Manufacturers who want to put a newly developed BACnet product to the test in-house can use free open-source software to do so. Its disadvantage: the work is done manually and can take months. Depending on the range of functions, a complete conformity check can consist of several thousand individual tests – complete with a significant number of potential sources of error. As many product developers also find the pretesting process too complicated, MBS GmbH has developed the BACnet test framework (BTF). This reliable, automated tool makes pretesting faster, less labour-intensive and therefore less costly.

The BTF is the only software of its kind. It is used by BACnet test laboratories as an official tool for the certification process. Even large BACnet manufacturers use it to prepare their new developments for conformity checks. The BTF is based on the official BACnet test package, which consists of ISO standards 16484-5 and 16484-6, the BACnet standard of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the plans for BACnet Testing Laboratories (BTL). The test package defines which tests must be included in the certification process according to the features of a product.

Automated and low-cost pretesting

The BACnet test framework is a tool by experts for experts that significantly simplifies pretesting, because it translates all of the necessary processes into one software. It allows manufacturers to document the results along with network recordings, in order to discuss possible deviations with the laboratory. The BTF also helps product developers who are new to formal testing to test their devices to be virtually error-free. In addition, it is also a very useful tool in the manufacturer's own lab for pinpointing errors should problems occur in building automation systems.

The script language Python offers a wide range of possibilities for the user, who can write individual scripts. These prologs also have access to the 370 API functions that are provided with the BTF. Some examples are available on the MBS website Library for BTF Scripts.

For the configuration, the user first builds a tree of the test plan that contains the necessary steps in a suitable sequence. Parameters can be set individually during this process. This way, the user can generate prologs for the respective preparation, for instance for checking functionalities beyond the BACnet standard or for quality assurance: based on the user's own test scripts, automated test series can be run to measure the software quality in terms of continuous integration.





Three Versions - also available for lease

The BACnet test framework is available in three versions. The Light Edition LE is ideal for easily and efficiently running predefined scenarios. The Standard Edition SE was specifically developed for creating individual scripts or generating customised analyses. The Premium Edition PR matches the requirements in test laboratories. It contains the Python source code of all test scripts which can be used to analyse the test procedures in the debugger. The test scripts can be adapted, so that based on these tests, new and modified test scripts can be generated and run.

Cost-conscious users have the option of leasing any version of the tool by the month. That way, costs are only incurred when there is actually a device to be tested.

Users are thrilled with the usability of the BACnet test framework, because it makes testing processes so much easier. And using it really does pay, because if a device is not optimally prepared for the certification process, it can result in major costs: if a conformity check reveals even one single error, part of the test has to be repeated after the review. Depending on the fees for one laboratory day, such “laps of honour” can quickly add up to large amounts of money.

Perfectly prepared for the certification process

MBS GmbH has been working in BACnet data communication since 1999. Its products and services make manufacturers and their new developments fit for BACnet communication. The BACnet test framework is the expert for BACnet conformity in building automation. Based on the current test package, the tool reliably assists users with the systematic arrangement and automated implementation of their testing processes. The BTF has been in use since 2005, is continuously adapted to standardisation requirements and consistently optimised using customer feedback. With the BACnet test framework, manufacturers can perfectly prepare their devices for BACnet certification.

Automated and low-cost pretesting

Are you looking for a tool to help you to get the hardware to a defined state before starting the test (Prolog) or to reset the settings after a test?

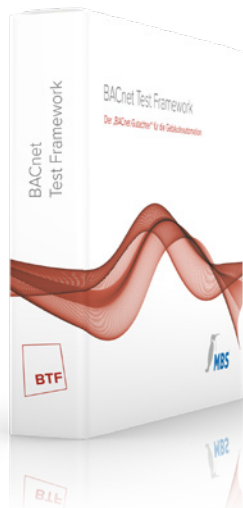
Then use our Python scripts, which can be used in our BTF as prologues and epilogues

You can find the scripts on our website.



Pre-Release & Release Updates:

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or by telephone:
+49 21 51 72 94-0

Can run on:

Windows 7, Windows 8, Windows 10

System requirements*: Processor 32-Bit (x86) or 64-Bit (x64) processor of 1.4 GHz or faster, Main memory 2 GB RAM, Hard drive 32 GB, Network interface card (Gigabit)

A BACnet MS/TP router (e.g. MBS UBR-01 or BMI-BTF) is required for communications with BACnet MS/TP networks.

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