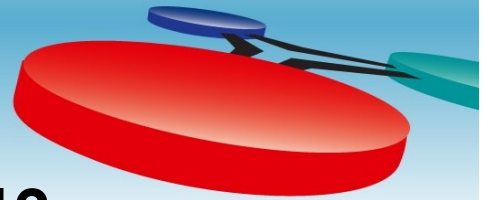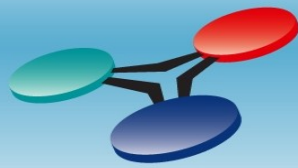NEW !

Cimetrics BACstac™ Update - July 2012

The Cimetrics BACstac continues to be the industry's leading BACnet protocol stack (SDK). We have made many improvements to the BACstac recently...

1. Microsoft Windows compatibility - Starting with BACstac v6.0, all BACstac for Windows versions are compatible with Windows XP, Windows Vista, Windows 7, Windows Server 2003, Windows Server 2008, and Windows Server 2008 R2. Running within a VMware virtual machine is also supported.

2. 32-bit and 64-bit compatibility - Starting with BACstac v6.0, all versions of BACstac for Windows are compatible with 64-bit Windows in 32-bit emulation mode. Starting with BACstac v6.2, we offer native 64-bit libraries in certain products.

3. Linux compatibility - Starting with v6.0, the BACstac/32 product is designed for easy porting to GNU/Linux running on embedded platforms with limited resources. GNU/Linux on ARM and x86 are specifically supported.

4. BACnet standard updates - BACstac v6.1 supports BACnet Addendum 135-2004f, Addendum 135-2008o, and Addendum 135-2008v. BACstac v6.2 supports all object types defined in BACnet 2008. BACstac V6.3 adds support for several additional addenda to BACnet 2008.

5. Installation tools included - Starting with BACstac v6.0, we offer MSI/MSM packages which make it very easy to create end-user products. Improvements include the proper selection of the "best" version of services to use when installing updates on customer computers. This also allows installing different versions of BACstac service on the same machine at the same time. It is possible to uninstall one BACstac version without interfering with another installed version.

6. BACstac/32 porting - Multiple improvements have been made to increase porting flexibility to support different operating systems and microprocessor types. For example, bit alignment in all routines has been tested, support for small C libraries such as uClibc, the use of `__kernel_cmpxchg` to provide fast atomic operations on ARM+Linux platforms, and stack control features to avoid overflow on systems that do not provide automatic control using page faults. There have been further improvements to ASN.1 messaging in order to save memory space and improve security.
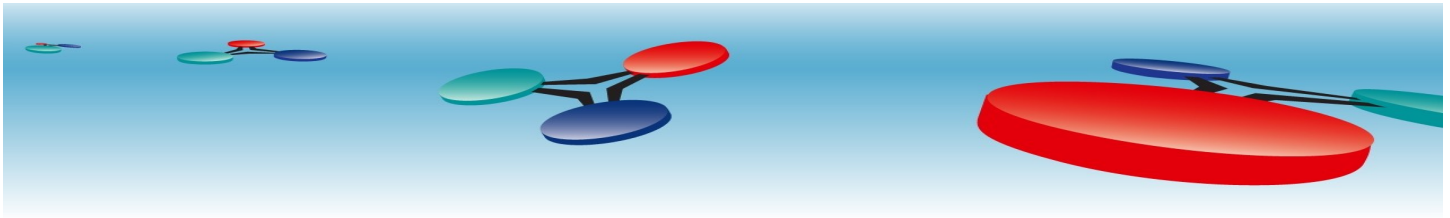
7. No file system required for BACstac/32 - Starting with BACstac v6.1, startup configuration data have been moved from a text file to C structures.

8. Independent BACstac applications - Using BACstac for Windows with source code, it is now possible to create BACstac applications that include all required BACstac code, i.e. no BACstac service is required. This architecture also supports a virtual network of devices inside of one computer without using any virtualization software.

9. Multiple Ethernet interfaces - Starting with v6.0, BACstac supports multiple BACnet/Ethernet (ISO 8802-3) interfaces on Windows and Linux platforms. **More on the next page...**

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Cimetrics BACstac™ Update: Page 2

10. Developer-defined object types - Starting with BACstac v6.1, BACstac allows the addition of new object types without having them added to the internal BACstac code as long as they do not require a new data type.

11. New BACstac API calls - BACstac encoders/decoders can easily be used to handle proprietary data, or in activities not related to sending and receiving data from the network. There are features which allow automatic handling of COV subscriptions and adding objects and properties. Diagnostic interfaces are much more descriptive. Starting with BACstac v6.1, API features allow proprietary objects and properties within the BACstac database with no need for handling raw ASN.

12. Diagnostics - BACstac v6.0 and above includes greatly improved diagnostic information. Error messages have been enhanced with accurate descriptions of syntax errors and the ability to detect BACnet violations and produce usable diagnostic information.

13. Performance improvements - Many improvements were implemented including the implementation of hash searches in the BACstac object database instead of linear search for fast object searches, the use of IPC request pipelining between the BACstac library and BACstac service to reduce context switching, ASN decoder optimizations, improved handling of received broadcast messages, and much more.

14. Supports TCP/IP as the IPC transport on Windows - This enables the use of TCP libraries when doing JAVA coding, and allows "split stack" configurations with the BACstac application on one computer and the BACstac service on another computer. This enhancement is also works over the Internet using SSL tunneling for security.

15. MS/TP example improvements - Source code versions of the BACstac now include code examples for MS/TP that conform to BACnet 2008, and functionality has been improved by using event callbacks instead of threads. This eases the porting process and allows support for higher bit rates on slow microprocessors (e.g. ARM7-based processors).

BACstac v6.3 Products (Effective July 1, 2012)

B1050 BACstac for Projects (32-bit libraries): Low-cost Microsoft Windows version of the BACstac designed for low-volume applications. Requires purchase of hardware dongle from Cimetrics for each installation. Includes Windows DLLs. Also available: **B1055 BACstac for Projects (64-bit libraries)**.

B1060 BACstac/Win (32-bit libraries): Supports Microsoft Windows. Designed for the development of BACnet client and server applications and BACnet gateways. Includes static libraries for Microsoft Visual C++. Also available: **B1065 BACstac/Win (64-bit libraries)**.

B1091 BACstac/Win with source code (32/64): Supports Microsoft Windows. Designed for the development of sophisticated BACnet clients, servers, and gateways. Includes BACnet routing functionality. Includes complete source code. Libraries for native 32– and 64-bit applications. This product replaces B1090 starting with BACstac v6.2.

B1140 BACstac/32: Source code version designed for porting to 32-bit embedded platforms with limited resources. Monolithic build (application and BACstac code are compiled together). GNU/Linux is supported. Written in C.

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