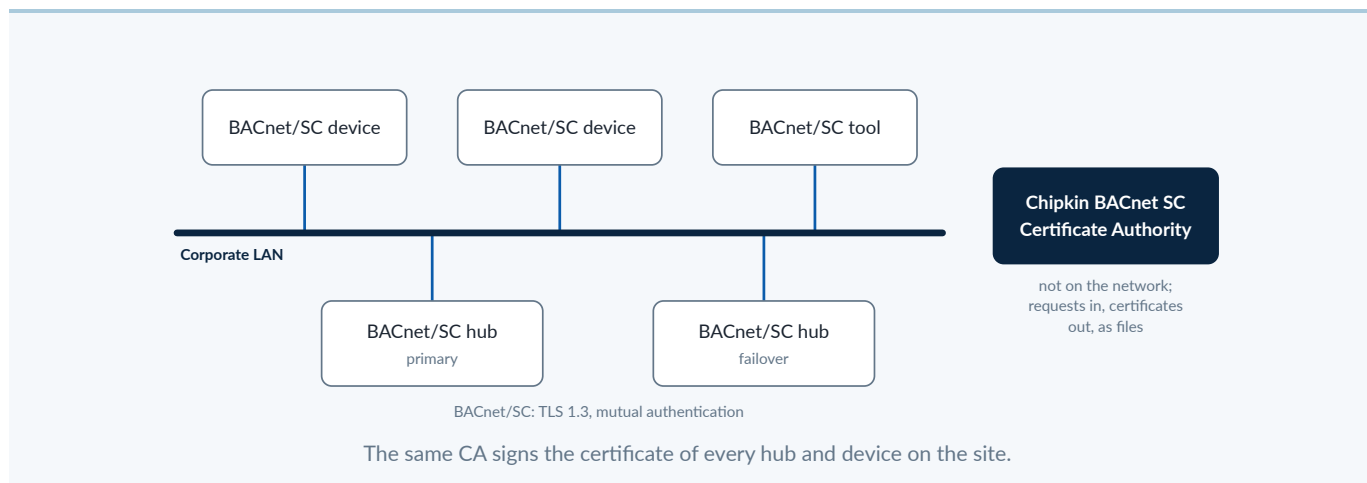


Chipkin BACnet SC Certificate Authority

DESCRIPTION

The Chipkin BACnet SC Certificate Authority is a desktop application for Windows and Linux that makes and signs the certificates a BACnet Secure Connect (BACnet/SC) network needs. It reads and writes the Certificate Authority Requirements Interchange (CARI) file format of ANSI/ASHRAE Standard 135-2024.

Every hub and device on a BACnet/SC network needs a certificate signed by the same certificate authority (CA). You create one CA for your site, then use it to sign the certificate of each hub and each device. Requests come to the CA and certificates go back as files, so the CA works without a network connection.



FEATURES

- **One CA for your whole site.** Create a site CA and save it as a single file protected by your password, with a guided backup step.
- **Sign requests from any CARI tool.** Sign CARI requests from the Chipkin BACnet SC Hub or a device vendor's tool, or a single certificate signing request (CSR). Each one is checked first.
- **Device keys and certificates made for you.** For a device without its own request tool, the application makes the key and the certificate, with an optional .pfx file for Windows tools.
- **Revoke and renew.** Revoke a certificate and publish a signed revocation list for your hubs. Renew a certificate from the request kept in the CA file.
- **Everything stays on your computer.** Keys, certificates, and the register are saved only in the files you choose. The application works offline.

AT A GLANCE

File format	CARI (Annex AA.2)
CA key types	ECDSA, RSA
Device certificates	825 days
Revocation list	7 to 90 days
Platforms	Windows, Linux
Runs as	Desktop app

CERTIFICATES

- CA certificates valid for 10 or 20 years, or with no expiry.
- A hub's certificate carries server and client authentication and the hub's subject alternative name.
- A register of every certificate issued. It marks certificates within 60 days of expiry and exports to a spreadsheet (CSV).
- A revocation list signed by the CA. The Chipkin BACnet SC Hub reads it within seconds and refuses revoked devices.
- A file inspector for certificates, CSRs, keys, .pfx files, CARL zips, and revocation lists, checked against the open CA and its register.
- Export of the CA as a .p12 file, for moving it to OpenSSL or another CA tool.

SECURITY AND PRIVACY

- The CA's private key is encrypted in the CA file with your password (PKCS#8 PBES2, PBKDF2-SHA256 with 600,000 rounds, AES-256).
- The password is never stored. Keys leave memory when the CA is closed, or after 15 minutes without use.
- Files that hold a private key are marked as private when you save them.
- The application connects to Chipkin only to check for a newer version, which you can turn off, and to send feedback when you choose to.
- A Getting started page and a Help panel on every screen say what each step does, which files go in and come out, and where each file goes next.

SPECIFICATIONS

File format	CARL request and response zips (ANSI/ASHRAE Standard 135-2024, Annex AA.2)
Accepts	CARL request zips; single CSRs (.csr, .pem, .der, .req, .p10)
Produces	CARL response zips; device key and certificate zips; .pfx and .cer files for Windows tools; the revocation list (issuer-cr1.pem); the register as CSV
CA key algorithms	ECDSA P-256 (default), ECDSA P-384, RSA 3072
Validity	CA: 10 years, 20 years, or no expiry. Device certificates: 825 days by default.
Works with	Chipkin BACnet SC Hub (CAS-1000-21), Chipkin BACnet Explorer, and CARL-compatible devices and tools

SYSTEM REQUIREMENTS

Operating system	Windows 11 or later (x64), or Linux x64 (ApplImage, or a Debian or Ubuntu package)
Network	None required. An internet connection is used only for the optional update check, an update you choose to download, and feedback you choose to send.
Storage	A safe place for the CA file and a backup copy, and a password manager for its password

SALES AND CUSTOMER SERVICE

Chipkin is proud to provide support for our products. For technical support, sales, and customer service, please [contact us](#).

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