

Open house!

Gateways to the EIB

Oliver Janisch

Being able to change the TV channel from the comfort of your armchair might give you the feeling of being in control, but it's nothing compared with the empowerment you experience when you log onto the web from a vacation hotel to, say, check the temperature – and lower the sunblinds – in your home, 2000 miles away. Seem far-fetched? Not with today's gateway technology.

Every new commercial building, whether a small company branch office or the headquarters of a global concern, is almost certain to have a bus system installed over which its technical facilities and services are run. And of all the systems currently available, the one most likely to be used is the European Installation Bus (EIB) [1].

There are numerous reasons for installing the EIB: companies can exchange data between many different systems situated anywhere in the building; also, a huge, still-growing range of products can be connected to it, including light switches, sensors and dimmers,

temperature regulators, shutter actuators and sunblinds, as well as virtually every kind of circuit terminal. In fact, over 10,000 EIB-compatible products, offered by more than 100 vendors, are currently available on the market. These products provide a level of comfort and convenience that people have come to expect at home as well as in the office. In addition to making life more comfortable and secure, the EIB can also contribute to energy-saving, for example by optimizing power consumption on the basis of how many people are present in a building or room.



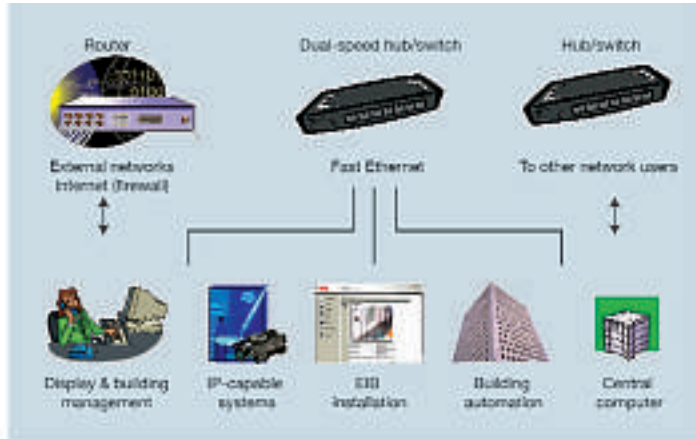
ABB began developing and marketing products for use with the EIB in the early 1990s and currently offers a wide range of EIB-compatible deliverables to industry and commerce.

EIB/IP gateway

The sheer number and diversity of the electrical and electronic equipment installed in our homes and workplaces make reliable communication between the different devices and systems a top priority.

1 Using the Ethernet as interface between the EIB and other systems has numerous benefits in a wide range of applications.

Of the systems developed to date, the Ethernet has emerged as *the* communication standard for industrial control systems and building automation systems. Personal computers and other everyday devices already use the Ethernet to communicate and exchange data with each other. This and the fact that it is so widely used in modern commercial buildings, makes the Ethernet an obvious choice as interface between the EIB and other systems, allowing data on the EIB to be received by devices connected to it



1. Whole new application areas have opened up as a result, as well as new opportunities for linking EIB devices and other equipment connected to the Ethernet. And the EIB can continue to use the Ethernet as the backbone over which EIB system parts communicate with each other.

ABB will soon bring to market a so-called IP gateway for the EIB. This device converts EIB telegrams into telegrams for the Ethernet, and vice

versa. Since, increasingly, homeowners are installing in-house networks for their PCs and domestic appliances, the IP gateway will also offer advantages to this consumer group, too, by making the EIB accessible for data exchange between devices.

Telephone gateway

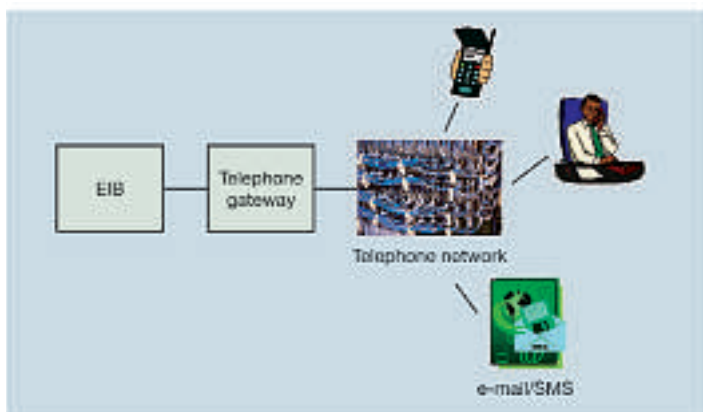
In recent years a new requirement has emerged: to be able to remotely control and monitor buildings and apartments.

The first interfaces to be developed for this were telephone dialing and answering machines. These made it possible to transmit information as voice messages from the EIB to a telephone, or to send commands to the EIB via the telephone line simply by pressing a button. Users were thus empowered to switch on and control the heating, in the office or in the home, by remote means **2**.

Telephone interfaces still offer interesting possibilities, and are having new functionality added all the time. For example, every telephone gateway is expected nowadays to be capable of sending text messages or e-mails, and so enable information about system disturbances to be transmitted. Facility management is another area that is making new demands on telephone functionality; here the need is for systems to be networked via the telephone.

Internet gateway

Rounding off the ABB gateway portfolio is the Internet gateway IN/S. This lets users link up to installed electrical equip-

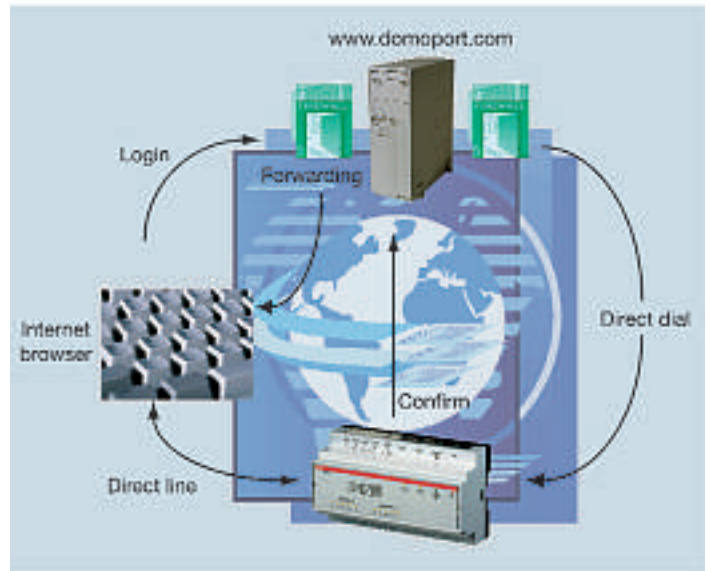


2 The telephone gateway empowers people to communicate directly with the EIB, for example to remotely switch on and control a domestic heating system from the office.

3 Video module for remote live transmissions



4 The combination of Internet gateway and web lets people access their home devices from anywhere in the world.



5 First version of the Internet gateway, with four analog and six binary inputs as well as six binary outputs. Target users are owners or occupants of buildings that do not already have a bus system installed.

ment from an Internet access point anywhere in the world. From here they can, among other things, remotely control and monitor systems at their convenience. Live transmission is also an option; an additional module **3** and video camera are all that is needed.

The IN/S gateway offers even more. For example, it can independently send e-mails to a mailbox or mobile devices to report disturbances and alarms.

Configurators are also available for timers and for logically linking inputs and outputs. These are easy to use and can be accessed either via the Internet or a local network.

Of course, the Internet gateway can also be used for convenient remote control and monitoring of property and installations. A homeowner, for example, can access his home device from a vacation hotel anywhere in the world simply by logging onto the web **4**.

The Internet is the medium that provides the all-important link. Since the devices have their own integrated web server, they make all the interfaces available to the Internet user, wherever he is located. A clearly structured graphic display ensures user-friendly operation. All that is needed at the Internet gateway location is a telephone hook-up (analog or ISDN).

The first version of the Internet gateway **5**, with four analog and six binary inputs as well as six binary outputs, is now available. This version is primarily

of interest for owners or occupants of buildings that do not have a bus system installed. The heating systems of vacation homes, for example, could be controlled remotely in this way.

A new version of the Internet gateway with direct EIB connection is due to come onto the market early in 2003. This will offer new possibilities by allowing even more inputs and outputs to be connected to the bus than with a conventional gateway.

Author

Oliver Janisch
 ABB STOTZ-KONTAKT GmbH
 DE-69123 Heidelberg
 Germany
 oliver.janisch@de.abb.com

Reference

[1] For more information about the EIB bus, visit: <http://www.konnex-eiba.de> or <http://www.abb.de/stotz-kontakt>