



Summary

The MailBox API is designed to be a very simple programming interface for developers of ZigBee applications. It may be used for the rapid application development of ZigBee products with minimal prior knowledge of ZigBee or radio communications.

MailBox is designed for interoperability and ease-of-use. In particular, it offers compatibility with existing MailBox products and avoids the need to apply for ZigBee Alliance membership. The protocol ensures data is received at the destination error-free and in the sequence in which it was transmitted, but does not attempt to define the content of the data. It is the applications responsibility, however, to know what to do with it when it arrives.

The MailBox layer communicates using the MailBox ZigBee profile which is being submitted to the ZigBee organization for registration. Until registration is complete, 'placeholder' profile IDs have been used which may be subject to change.

In addition, the Mailbox API provides generic communications for applications without a dedicated ZigBee profile, for example:

- application wishing to take advantage of existing MailBox devices such as serial and USB adapters
- where communications are to be bridged to non-ZigBee media such as TCP/IP or RS485
- where the market size does not merit development of a dedicated ZigBee profile

A network-wide sleep feature is also provided which allows a network or parts of the network to agree to allow all devices to sleep until a later wakeup time.

The MailBox layer communicates using the MailBox ZigBee profile which has been submitted to the ZigBee organization for registration. Until registration is complete, 'placeholder' profile IDs have been used which may be subject to change. The profile is public. FlexiPanel Ltd retains the right to define the profile, but attaches no conditions or fees for its adoption and use.

Compatibility

The API is fully compatible with all MailBox products, including:

- *Pixie Gateway*
- *PixieDARC*
- *UZBee Gateway (when available)*
- *COMdongle (when available)*

Features

MailBox profile incorporates the following features:

- Integrated Microchip ZigBee stack
- conveyance of arbitrary data payloads in sequence at up to approx 19.2kbit/s
- addressed or broadcast (bus) messaging
- function-specific functional address system independent of underlying ZigBee addresses
- payload acknowledgement and failure management
- network-wide sleep and wakeup
- sleepy end device sleep & wakeup
- application specific messages, e.g. for modem status signals and application reflashing