

Z-Wave Controller Development Kit



The resources and assets you need to develop feature-rich, IoT-enabled Z-Wave Controllers.

Faster time to market and reduced cost

The Z-Wave controller development kit gives you the fastest and easiest way to develop feature rich Z-Wave controller applications. It contains both the Z/IP Gateway and Z-Ware offering as full source code releases, to use and/or modify for your Z-Wave Controller.

Intelligence in the home

The Z-Wave for CE SDK contains a working IoT gateway prototype. Just connect power and download the Z/IP Gateway application on the supplied BeagleBone board that is all you need to do to bring all of your Z-Wave devices to the Internet of Things.

Along with the Z/IP gateway you get the Z-Ware C Library which converts your Z-Wave devices to easily manageable software objects for you to build your own IoT application on top off putting all the smart home intelligence in the

Intelligence in the cloud

The Z-Wave for Portal SDK contains a Z-Wave Plus certified portal evaluation server running on Ubuntu Linux. The server is build on open source software such as Apache webserver and OpenLDAP that is combined with Z-Ware C Library and Z-Ware web API plugin to form a solid prototype for an IoT Smart Home Service.

The evaluation server utilizes the ZIRR low cost Z/IP Gateway reference design in the home and the Z-Ware intelligence in the Cloud service.

KEY BENEFITS

- Faster time to market
- Reduced development cost
- SDKs contains full source code
- One kit covers all Z-Wave regions
- Access to Z-Wave technical website
- Rapid IoT gateway development
- Industry-standard TI BeagleBone™
- License to use Z-Wave technology world-wide

TARGET APPLICATIONS

- Gateways
- Televisions
- Set-top boxes
- Consumer electronics
- Cloud-based services

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Z-Wave Controller Development Kit

SDK building blocks

Z/IP Gateway

Z/IP is a UDP/IP wrapper for Z-Wave command classes. Z/IP Gateway is an application that handles all communication between Z-Wave and Z/IP in a similar way that a home router handles the communication between the home PC and the internet. The Z/IP gateway handles all the Z-Wave housekeeping such as network management, Z-Wave Security, mailbox for battery driven devices, Z/IP packaging and multichannel support. Z/IP Gateway utilizes DTLS for LAN security and can also connect to a remote server through a secure TLS1.1 tunnel making it ideal for use with a portal server.

Z-Ware C Library

The library contains a C API that can connect to a Z/IP Gateway and discover all connect Z-Wave devices exposing them as software objects. The Software objects can be used as building blocks to design an intelligent home gateway or combined with the Z-Ware Apache Web API Plugin as part of an intelligent Portal solution.

Z-Ware Apache Web API Plugin

The plugin is used to combine Z-Ware C Library and Z-Ware Apps with standard technologies, such as OpenLDAP and Apache Server, to form a starting point for portal solution developers. The Z-Ware Portal is designed to serve a Z/IP Gateway, such as the ZIPR, through secure IP tunnels.

Z-Ware Apps

Z-Ware Apps is a collection of user interface samples for smart TVs, PCs, tablets and smart phones.

Z-Ware Apps provide a cohesive design across all platforms, creating a consistent user experience for Z-Ware Portal and allowing the end consumer to perform complex tasks with the touch of a button.

The Z-Ware Apps is designed with a focus on optimizing consumer experience. Z-Ware Apps offer a consistent experience no matter which device is being used.

Z-Ware Apps are easily customizable and can be modified to include company names, logos and even a color scheme to keep with branding look and feel guidelines. Z-Ware Apps are supplied as source code, as part of the Z-Ware for Portal SDK enabling developers to customize the user interface and tailor it for specific end-customer needs.

ZIPGW 2.x requirements:

- FLASH memory 4Mb (code size: 500kb, non-volatile memory 512kb, libssl+libusb1: 2Mb, firmware update)
- SRAM memory 8Mb
- Linux system
 - libssl, libusb1
 - TUN/TAP and 802 Ethernet bridge
 - 32-bit MCUs (200MHz+) capable of running Linux

Z-WARE C Library requirements:

- FLASH: 1MB
- RAM: 1MB
 - 32-bit MCUs (200MHz+) capable of running Linux

Z-WARE Web API Plugin requirements:

- Apache Web server
- Ubuntu Linux 12.04LTS

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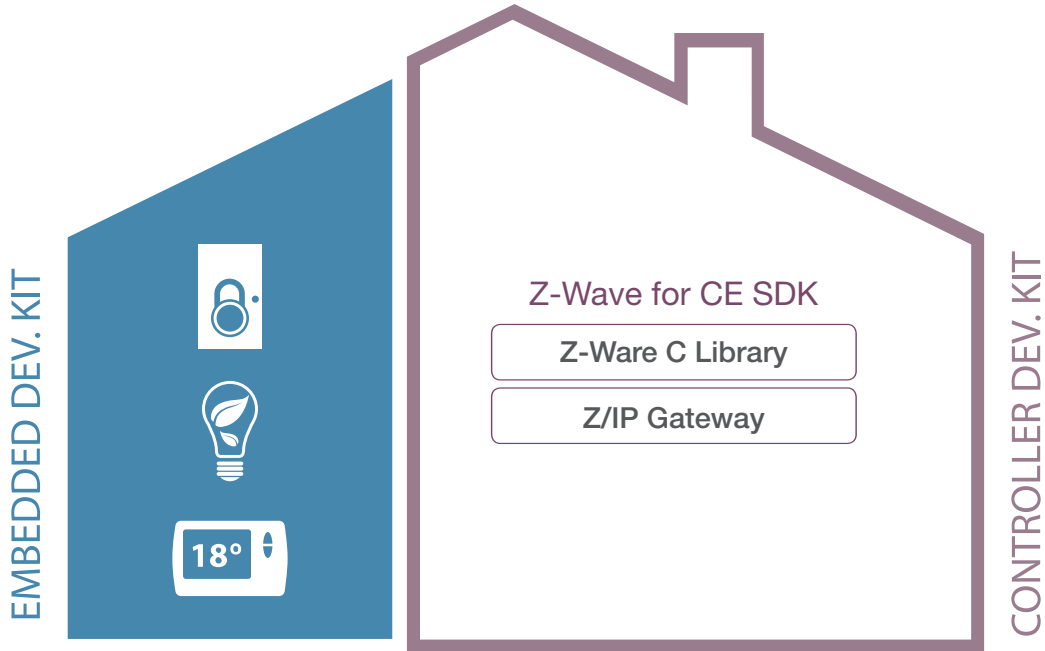
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Z-Wave For CE SDK

Intelligence in the home



Z-Wave for CE SDK

Contains all the software building blocks needed to design a Smart Home solution. The Z-Wave for CE SDK abstracts the complexity of the Z-Wave protocol and represents all the devices in the Z-Wave Network as software objects that you as a developer can use.

The Z/IP Gateway is included with a host build environment in Ubuntu Linux creating targets for the TI BeagleBone Black. The Z/IP Gateway connects to a UZB controller reference design as default but all of the 500series modules and SoCs can be used with the CE SDK and SerialAPI binaries are included in the kit.

The Z-Ware C library is offered with an easy to understand C API for you as a developer to design an application utilizing.

HARDWARE FOR THE CE SDK:

- 3x UZB USB stick Bridge controller
 - 1x E HW contains EU protocol
 - 1x U HW contains US protocol
 - 1x H HW contains JP protocol
- 1x TI BeagleBone Black



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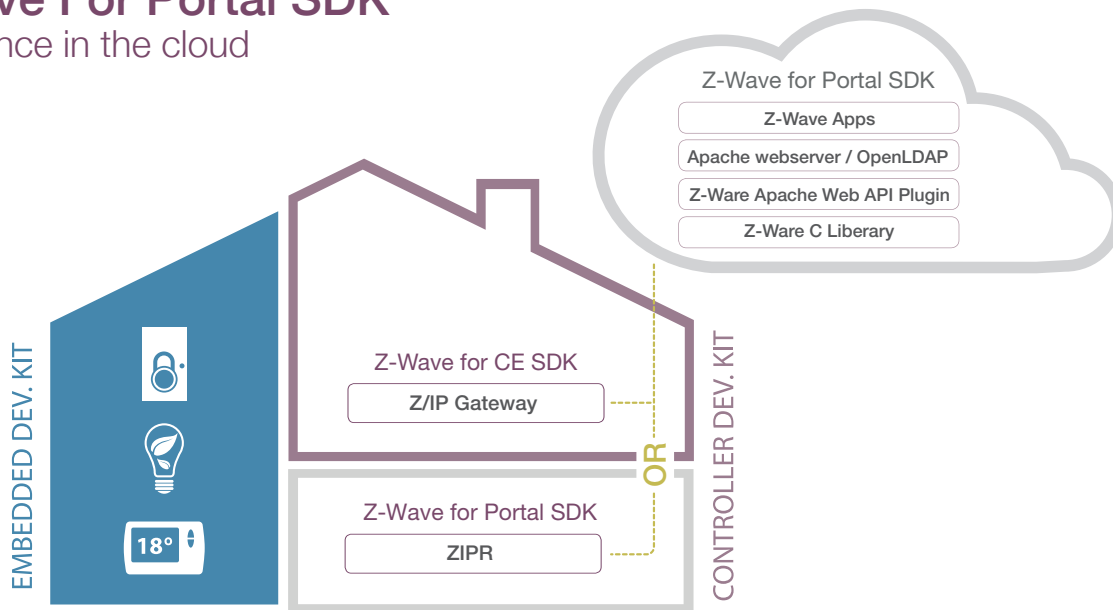
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Z-Wave For Portal SDK

Intelligence in the cloud



Z-Wave for Portal SDK

The SDK contains an evaluation server running on Ubuntu Linux that combines Z-Ware and Z-Ware Apps with standard technology, such as OpenLDAP and Apache Server, to form a starting point for portal solution developers. The Z-Ware Portal is designed to serve a Z/IP Gateway, such as the ZIPR or the Z/IP Gateway from the Z-Wave for CE SDK. All the components of the server are offered as source code with a build environment for Ubuntu Linux.

HARDWARE FOR THE PORTAL SDK:

- 3x ZIPR-CE
 - 1x E HW contains EU protocol
 - 1x U HW contains US protocol
 - 1x H HW contains JP protocol
- 1x Power supply for ZIPR



FOR RF TEST AND DEBUGGING:

- 3x ZDB5101 E/U/H



- 1x USB-S - USB stick network-sniffer



ABOUT SIGMA DESIGNS

Sigma Designs is a leading provider of system-on-chip (SoC) solutions used to deliver entertainment and control throughout the home:

Media Processing, Smart TV, Video Encoding, Home AV Networking, Video Processing, Home Control

These SoCs are supported with board-level reference designs, sophisticated system software, and technical documentation to form a complete solution for a variety of set-top boxes, smart TVs, consumer electronics, AV network devices, and home control systems.

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Visit: go-z-wave.sigmadesigns.com

Headquarters
1778 McCarthy Blvd.
Milpitas, CA 95035
Main: +1.408.262.9003
Fax: +1.408.957.9740
z-wave.sigmadesigns.com

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