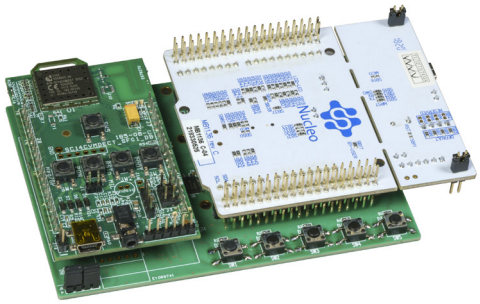
OpenD

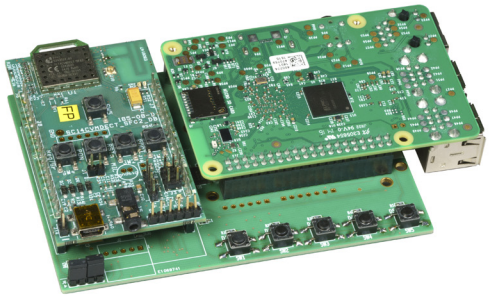
OpenD development kit

Best known for its high-quality cordless audio communication, the DECT protocol is the ideal solution for a wide range of data applications from cordless home internet connections to wireless machine-to-machine communications.

However, for students, small businesses and startups, developing a new cordless application based on the DECT protocol can be a challenge. To help these innovators turn their new ideas into reality, the DECT forum has initiated the OpenD framework – a set of open source APIs that makes it easy to apply the power of DECT and Ultra Low Energy (ULE) DECT to a host of systems. OpenD extends the user base of DECT from major businesses right through to university students and start-ups, allowing more people to exploit DECT wireless voice and data in exciting applications in the smart home.

To support the OpenD platform, we have released a complete OpenD wireless system development kit. The kit makes it easier than ever for developers – whether new or seasoned DECT users – to utilize DECT's ultra-reliable, low latency, yet simple wireless environment to create numerous application possibilities. It places all the tools you need at your fingertips to help you prove concepts and build ideas.

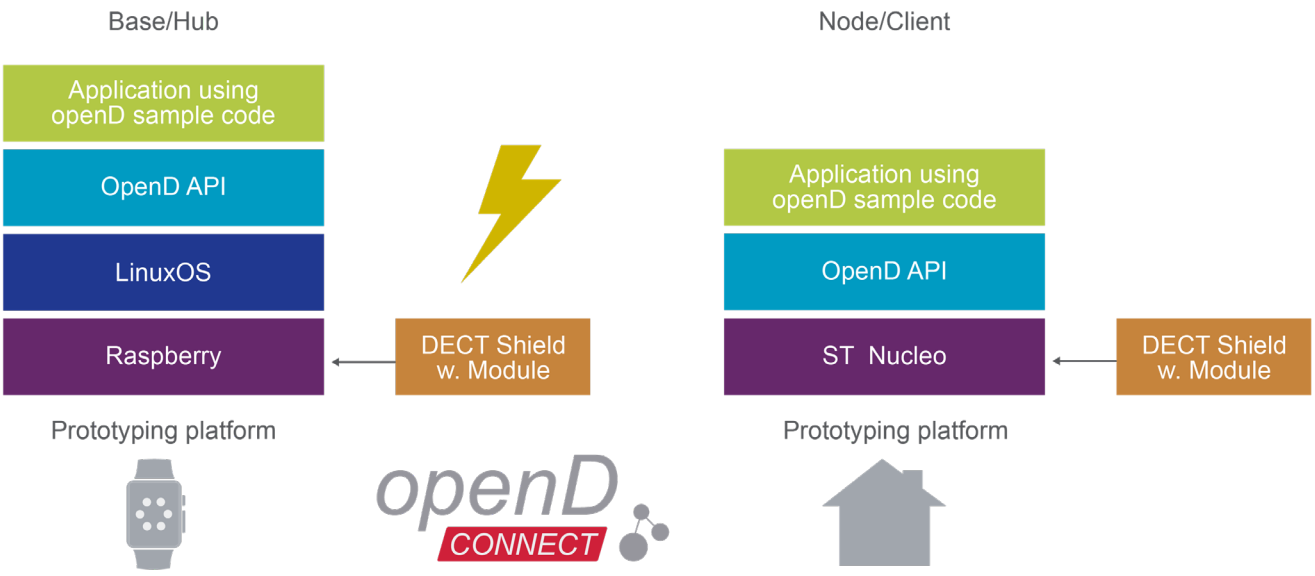




Dialog offers two OpenD development kits for either the fixed, hub part (FP) or the portable, client part (PP). The HW of the kit comes with a Cordless Voice Module (CVM), with a plugin option for a Raspberry Pi (RPI) or a Nucleo development board. For the kit software is available by means of a DECT stack together with application software. Simply download the OpenD software from the DECT Forum website, where you'll also find an online tutorial and code snippets.

Seamlessly connects to well-known prototyping platforms

On the fixed part, the OpenD API runs as a plug-in on the Raspberry PI Linux operating system. On the portable side, the OpenD API connects to the STM Nucleo platform. OpenD runs as C-Code on the Linux OS and provides sample codes for each of the key use cases.



The OpenD development boards include our CVMDECT module, the so-called DECT shield for which target software can be used to make it either a data application or a voice application. The module features an integrated radio transceiver and baseband with a complete protocol stack. On FP(RPI) side the stack is common for both voice and data for the PP (Nucleo) side, a separate stack exists for either voice or data. The host application running on respectively RPI and Nucleo can be used to create a wide range of interesting application as indicated in the following table.

Realize the capabilities of DECT with the OpenD development kit

Mechanisms	Possible Applications	Why it is compelling
2-way secure Audio Link	Streaming audio	Build Quality of Service into mission critical voice/data applications
Switch on/off activation	Voice activated sensors Voice command and control	DSPs tuned for voice activation to control sensor Transcoding via built in codecs for end to end real time voice performance
Intercom	Residential or building Intercom and Broadcast services (factories)	Scalability: 12 Duplex channels on 10 Radio carriers Multi-cell configuration
Broadcast	Point to Multipoint Communication devices	Star topology: Intelligent device location Secure Handover: Make before break
Voice detection	Smart sensors with voice control and monitoring	Diverse range of clients for voice, audio and data
Voice trigger/activation	Value added emergency services (cloud based)	DSP activation, range, link reliability, low latency, high bit rate
Automatic Device registration	Simple and scalable networks	Built in authentication for security
Remote sensor management	Emergency/Security services	Secure management with Encrypted link; scalable with repeater
Text to Speech	Services for Smart Home/ Building devices	Dedicated applications for workplace, special needs

A sharing community

You can find further support and all information about DECT ULE and the OpenD framework in the OpenD community. It is the place where developers come together to discuss DECT ULE and OpenD related topics, and to exchange information and know-how.

You will also find much more, including:

- News and events about OpenD and DECT ULE
- General information regarding the OpenD project
- Information about manufacturers and supported hardware
- Forums
- Blogs
- Live chat

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