

Introduction

Overview

The MediaTek LinkIt™ Development Platform for RTOS integrates several widely adopted protocols using various open source libraries, to reduce development effort and enable device communication over IP. The open source libraries are actively supported by the open source community, with comprehensive online resources and support forums.

MediaTek has also ported Internet protocols and added extensions listed in this API reference. For information on the core platform APIs please refer to the MediaTek LinkIt™ Development Platform for RTOS API Reference.

Please note that the Internet Middleware API is Open Source Software implementation dependent and is not guaranteed to be updated for future changes in the underlying APIs.

Terms and acronyms

Acronyms	Definition
DHCP	The Dynamic Host Configuration Protocol (DHCP) is a standardized network protocol used on Internet Protocol networks for dynamically distributing network configuration parameters. For more information, please refer to introduction to DHCP in Wikipedia .
HTTP	The Hypertext Transfer Protocol (HTTP) is the foundation of data communication for the World Wide Web. For more information, please refer to introduction to HTTP in Wikipedia .
MQTT	MQTT (formerly MQ Telemetry Transport) is a publish-subscribe based "light weight" messaging protocol for use on top of the TCP/IP protocol. For more information, please refer to introduction to MQTT in Wikipedia .
TLS	Transport Layer Security (TLS) is a cryptographic protocol designed to provide communications security over a computer network. For more information, please refer to introduction to TLS in Wikipedia .
CGI	Common Gateway Interface (CGI) is a standard environment for web servers to interface with executable programs installed on a server that generate web pages dynamically. For more information, please refer to introduction to CGI in Wikipedia .

Overview of the modules

The SDK integrates several widely adopted protocol implementations to reduce the development effort and enable device communication over Internet Protocol.

The APIs are implemented by the active open source community with widely available online resources and forum support.

Detailed information of all modules is provided in the **Open Source User Guide**. MediaTek does not modify the original open source APIs. Instead, MediaTek defines or extends the open source API implementations. Only MediaTek defined and extended APIs are listed in this API reference, including the modules below:

- DHCPD. A DHCP server (daemon) running in software AP mode to provide network configurations to attached Wi-Fi station nodes.
- HTTP client. An implementation of HTTP/1.1 client protocol to GET or POST data to the remote HTTP server, optionally over TLS connections.
- HTTP server. HTTP server enables developers to host web services with MediaTek IoT solutions to provide information for clients or perform actions with CGI by invoking the associated programs.
Note that the HTTP server currently does not support connections over TLS.
- MQTT client. Enables running an MQTT client application on the MediaTek platform to subscribe and/or publish messages on the servers. It also supports communication with server over TLS connection with the underlying mbed TLS library.

Examples of Internet Middleware

Examples are provided to demonstrate the flow of calling the APIs in various applications. The examples are located at:

- DHCPD. This module runs in software AP mode. There is no standalone example to demonstrate its use. Developers can find the actual module execution invoking the DHCPD APIs at `<sdk_root>/project/mt7687_hdk/apps/iot_sdk_demo/src/lwip_network.c`.
- HTTP client. There are two reference examples demonstrating the use of high-level and low-level APIs under `<sdk_root>/project/mt7687_hdk/apps/http_client` folder. The high level API is used to send GET or POST requests to the server. For more advanced control of the HTTP messages, developers can use low-level API to customize the transmitted content.
- HTTP server. A reference example demonstrating how to initialize, start and stop the web service can be found under `<sdk_root>/project/mt7687_hdk/apps/httpd` folder.

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