

☐☐ Start Here — MeshCore Guide

MeshCore is a path-routing LoRa mesh platform optimized for community networks. MeshCore floods to discover a route, then switches to direct routing for unicast (one-to-one) traffic, reducing overhead for repeat messages; group and channel traffic still floods. It also supports room servers for persistent messaging.

☐☐ New to MeshCore? Start Here

1. [MeshCore Protocol Overview](#) - What makes MeshCore different
2. [MeshCore Firmware Types](#) - Companion, Repeater, Room Server, Sensor - which do you need?
3. [MeshCore Setup Guide](#) - Step-by-step first setup
4. [Getting Started with the MeshCore App](#)

☐☐ What's In This Book

Understanding MeshCore

- [Path Discovery and Route Learning](#) - How MeshCore floods the first message then routes directly afterward (flood-first, direct-route-after)
- [Why MeshCore Scales Better Than Flooding](#)
- [MeshCore Routing Architecture](#)
- [MeshCore Encryption Overview](#) - AES-128 in ECB mode with a 2-byte (truncated) cipher MAC for integrity; key agreement via Ed25519 keys transposed to X25519 (ECDH). SHA-256 is used for channel-key hashing.

Hardware for MeshCore

- [Supported Hardware for MeshCore](#)
- [Choosing Hardware for MeshCore vs Meshtastic](#)
- [RAK WisBlock System for MeshCore](#) - The preferred hardware platform

Firmware

- [MeshCore Firmware Variants Explained](#)
- [Flashing MeshCore Firmware](#)
- [Keeping MeshCore Firmware Updated](#)
- [Firmware Governance and Canonical Sources](#)

Using the App

- [MeshCore App: Messaging and Contacts](#)
- [MeshCore App: Radio Settings and Position](#)

CLI and Advanced Configuration

- [Connecting to Your Device \(CLI\)](#)
- [Full CLI Command Reference](#)
- [Key Repeater Settings](#)

Security and Encryption

- [Understanding ECDH Key Exchange in MeshCore](#)
- [Channel Security and Private Networks](#)

Developer and Protocol Reference

- [MeshCore Python API](#)
- [MeshCore Packet Format Reference](#)
- [MeshCore Companion Protocol \(BLE API\)](#)
- [MeshCore Path Discovery Deep Dive](#)

Troubleshooting

- [Common Issues and Fixes](#)
- [MeshCore Network Troubleshooting Reference](#)

➔ Related Books

- [MeshCore Repeaters](#) - Setting up MeshCore infrastructure nodes
- [Room Servers & Gateways](#) - MeshCore room server setup and administration
- [Hardware Guide](#) - Choosing and buying the right hardware

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