□□ 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

Revision #9
Created 2026-05-03 11:01:15 UTC by Mesh America Admin
Updated 2026-06-09 14:17:55 UTC by Mesh America Admin