User Manual: Fresh Node Setup Script

Introduction

The Fresh Node Setup Script (fresh_node_notak.sh) is an automated installation and configuration tool for setting up a Linux-based mesh radio node. It installs essential packages, networking tools, Reticulum (RNS), MediaMTX, and related dependencies. The script is designed to simplify setup by automating updates, installations, and service configuration.

Prerequisites

Before running the script, ensure the following: - Operating System: Debian-based Linux distribution (e.g., Debian, Ubuntu, Raspberry Pi OS). - Privileges: Must be executed with root privileges (sudo su or sudo ./fresh_node_notak.sh). - Internet Connection: Required for downloading packages and source code.

Script Workflow

The script executes the following steps:

Root Verification

Verifies the script is run as root. If not, the script terminates with an error.

Logging Setup

Creates a log file at /var/log/mesh-install.log. All output is stored for later troubleshooting.

System Preparation

Cleans up old directories (e.g., $HOME/linux). Updates and upgrades the operating system.

Base Package Installation

Installs required packages including nano, python3, python3-pip, python3-cryptography, aircrack-ng, iperf3, ufw, net-tools, build-essential, git, gnupg and more. Falls back to per-package installation if bulk install fails.

Networking Tools

Installs B.A.T.M.A.N.-adv (routing protocol for mesh networks). Installs Batctl (user-space tool for B.A.T.M.A.N.-adv). Optionally builds from source. Installs Bridge-Utils if enabled (WANT_BRCTL=1).

Reticulum (RNS)

Installs Reticulum Network Stack (RNS) via pip3 install rns. Configures and enables a systemd service at /etc/systemd/system/rnsd.service.

MediaMTX

Downloads the latest release from GitHub. Extracts into /opt/mediamtx. Sets up a systemd service at /etc/systemd/system/mediamtx.service.

Log Rotation

Configures automatic rotation for /var/log/mesh-install.log with 7-day retention.

Cleanup

Runs apt-get autoremove and apt-get clean to free space.

Finalization

Provides a summary of system details (OS, kernel, batctl version). Prompts user whether to reboot now or exit.

Running the Script

1. Download or copy the script to your system. 2. Make it executable: chmod +x fresh_node_notak.sh 3. Run as root: sudo ./fresh_node_notak.sh

Post-Installation

After successful execution: - Reticulum (rnsd) runs as a background service. - MediaMTX is available and starts automatically at boot. - Logs are stored at /var/log/mesh-install.log. - Configuration for Reticulum can be found at ~/.config/reticulum

Troubleshooting

• Script fails at package installation: Check /var/log/mesh-install.log for details. • Service not running: Use systemctl status rnsd or systemctl status mediamtx. • Re-run script: Safe to re-run, may reinstall or update components.

Notes

Adjust BATCTL_VERSION in the script if a specific version is required. Disable Bridge-Utils installation by setting WANT_BRCTL=0. The script prompts for reboot—recommended for kernel module changes.