Endpoint User Stories

User Story	Acceptance Criteria
As a system operator, I want to set the endpoint's unique ID, WLAN interface, cloud server URL, and auth via a config file or environment variables so that deployment is fast and repeatable.	**Given** a valid config file or environment variables **When** the scanner starts **Then** it loads all values and uses them for operation.
As a system operator, I want the scanner to start automatically on device power-on so that no manual intervention is required in the field.	**Given** the device is powered on **When** the OS boots **Then** the scanner service starts automatically.
As a system operator, I want minimal local dependencies (Python/bash + built-in tools like tcpdump) so that endpoints remain lightweight.	**Given** a fresh Raspberry Pi OS installation **When** dependencies are installed **Then** only a few lightweight libraries are required.
As a system operator, I want the endpoint to notify the server immediately when it comes online.	**Given** the scanner boots **When** the service initializes **Then** a "device online" message is sent.
As a system operator, I want all transmissions to use HTTPS (or another encrypted protocol).	**Given** an outbound transmission **When** data is sent **Then** it uses HTTPS/TLS.
As a system operator, I want each detected scan to include MAC address, RSSI, and timestamp.	**Given** a Wi-Fi device is detected **When** the scan data is sent **Then** MAC, RSSI, timestamp are included.

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As a system operator, I want the endpoint to write all transmitted scan records to a local log file.	**Given** scans are sent **When** I check the log file **Then** entries are present.
As a system operator, I want the endpoint to resend scan data if the server temporarily goes down	**Given** the server is offline **When** a scan occurs **Then** the scan data is stored locally and sent when it's reconnected to the server
As a system operator, I want the endpoint to send a health update every minute	**Given** the endpoint is running **When** 2 minutes pass **Then** a health update is sent
As a system operator, I want the endpoint to log any errors that occur to make troubleshooting easier	**Given** an error occurs **When** I check the log file **Then** a detailed error message will be displayed
As a system operator, I want the endpoint to authenticate with the server using an API key so that only authorized devices can send data	**Given** a valid API key is provided within the configuration file **When** the endpoint connects to the server **Then** the server will validate the key and accept the connection

User Story	**Acceptance Criteria**
As a system operator, I want the endpoint to detect errors and send the error status to the server (dongle removal, shutdown, low disk space)	**Given** An error occurs **When** the endpoint detects the error **Then** an error message is sent to the server
As a system operator, I want the endpoint to support software updates sent from the server so that I don't have to physically access the endpoints	**Given** A valid update is pushed **When** the endpoint receives the data **Then** the new settings take effect