

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.

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