LPR Service Enhancements – Phase 1

Vision LPR · https://qa.flashparking.com/docs/lpr-service-enhancements-phase-1/

The **License Plate Recognition (LPR) Service** is a critical component of the PARCS system that reads vehicle license plates and communicates with entry/exit kiosks to grant parking access.

Phase 1 focuses on foundational infrastructure and logging improvements to increase stability, streamline maintenance, and speed up troubleshooting.

Improvements

Area	Previous Pain Points	Phase 1 Enhancements
Communication	SignalR protocol was error-prone, causing intermittent drops and failures between LPR and kiosks.	Migrated to **MQTT**, an industry-standard messaging protocol that provides robust, reliable connections.
Logging	High log volume with significant noise made root-cause analysis difficult during outages.	Implemented **cleaner, high-value logging** focusing strictly on essential troubleshooting events.
Visibility	Absence of full lifecycle tracking after plate reads (confirming actual entry/exit).	Introduced a **Confirmation Event** for ingress (entry) and egress (exit) to establish end-to-end traceability.
Deployment	Upgrade procedures carried risk and operational overhead.	Streamlined deployment and rollback processes to minimize upgrade risk.

Requirements

- **Kiosk: 4.0.11.0 or later**

How It Works

1. Plate Read Captured:	The LPR system detects and reads the vehicle license plate at the kiosk.
2. MQTT Signal Transmitted:	The LPR Service communicates with the kiosk via the new, stable MQTT messaging protocol.
3. Ingress / Egress Confirmation Triggered:	The system generates an explicit confirmation event verifying whether the gate vended and access was granted.
4.Optimized Log Recording:	The system records actionable telemetry for visibility and end-to-end tracing without excessive system noise.

Implementation

FlashParcs + LPR Service

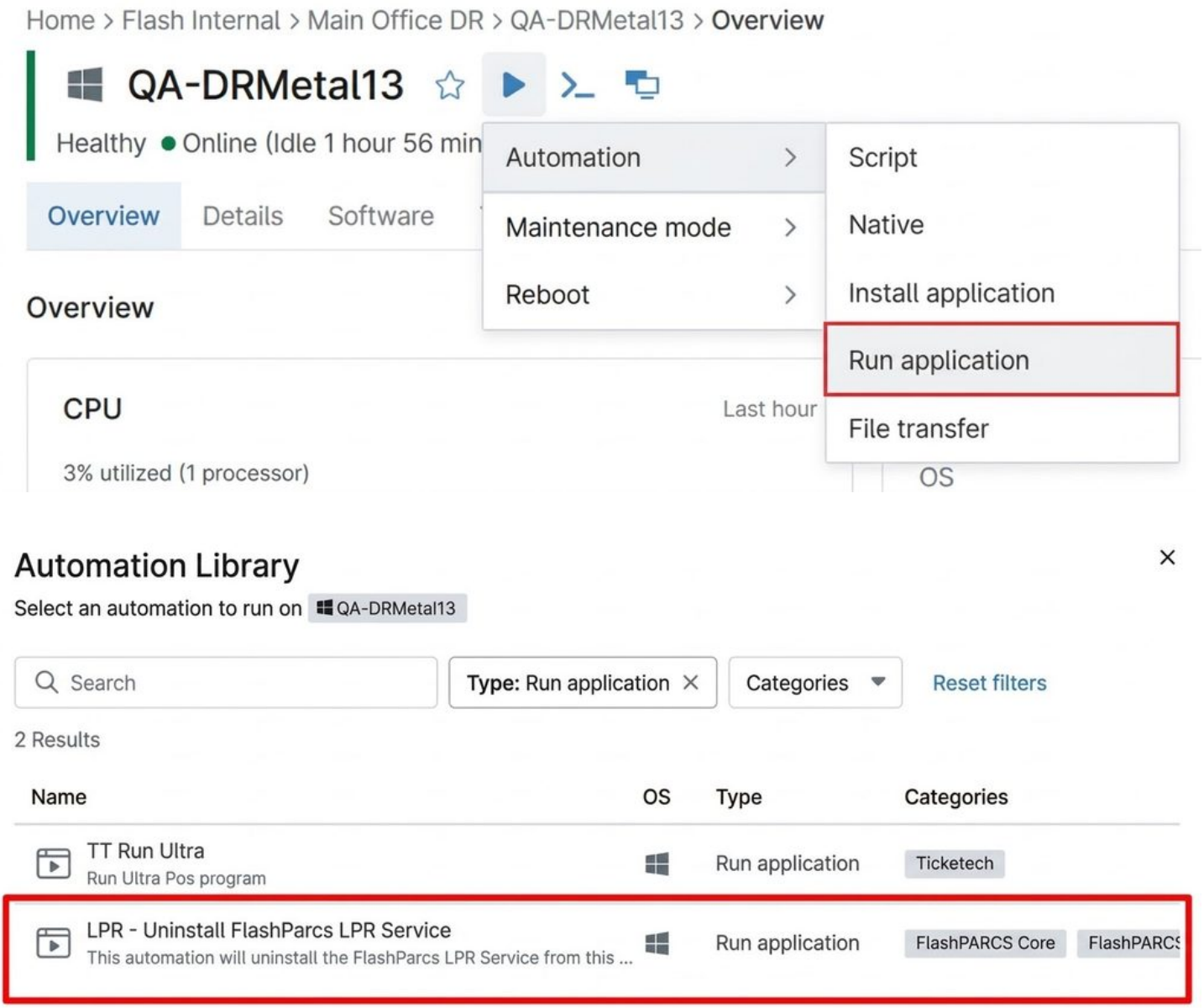
These can both be rolled back together with recent changes to the FlashUpdater, as described in further depth below.

NOTE FOR Kiosk 4.0.8.2-b + LPR 4.0 BETA RELEASE:

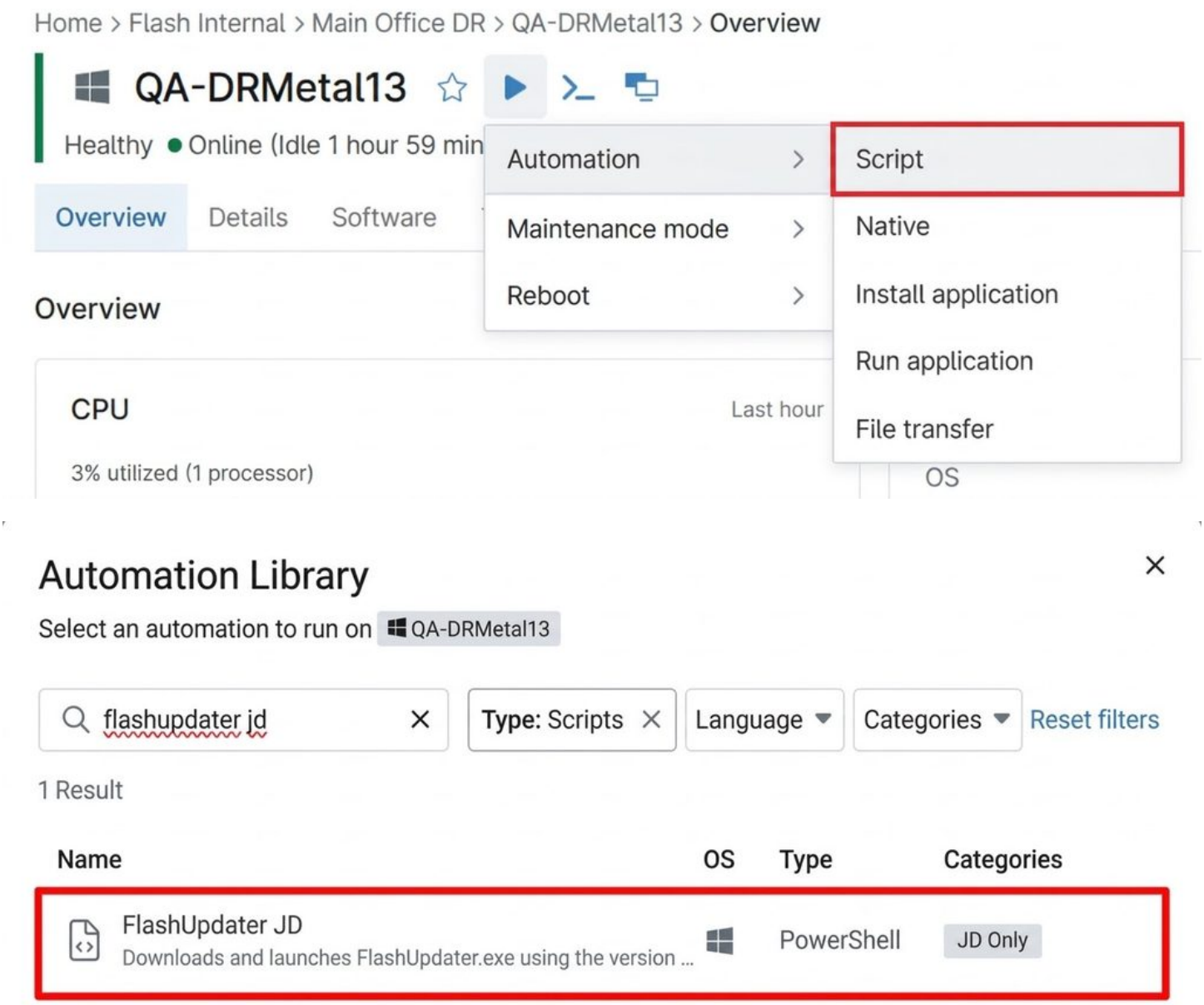
The process does not work precisely as described below to avoid issues in production with FlashParcs. To roll back using FlashUpdater, we will need to first run the LPR - Uninstall FlashParcs LPR Service automation in Ninja.

1: Locate and Select the **Target Kiosk Device****

- Log in to the **NinjaOne** console.
- In the device inventory/search list, locate and select the target kiosk system (e.g., QA-DRMetal13 or the intended lane terminal).
- Access the Automation Library
- On the device overview screen, click the Play button / Run Automation menu.
- Select Script / Run application to open the Automation Library modal window.



2. Run **FlashUpdater** as expected, targeting a safe production version.


Home > Flash Internal > Main Office DR > QA-DRMetal13 > Overview
QA-DRMetal13
Healthy
Online (Idle 1 hour 59 min
Automation
Maintenance mode
Reboot
Script
Native
Install application
Run application
File transfer
Overview
Details
Software
Overview
CPU
Last hour
3% utilized (1 processor)
OS

Automation Library
Select an automation to run on
QA-DRMetal13
flashupdater jd
Type: Scripts
Language
Categories
Reset filters
1 Result
Name
OS
Type
Categories
FlashUpdater JD
Downloads and launches FlashUpdater.exe using the version ...
PowerShell
JD Only

FlashUpdater JD

Downloads and launches FlashUpdater.exe using the version specified in the parameter.

Run as

System

Preset parameter

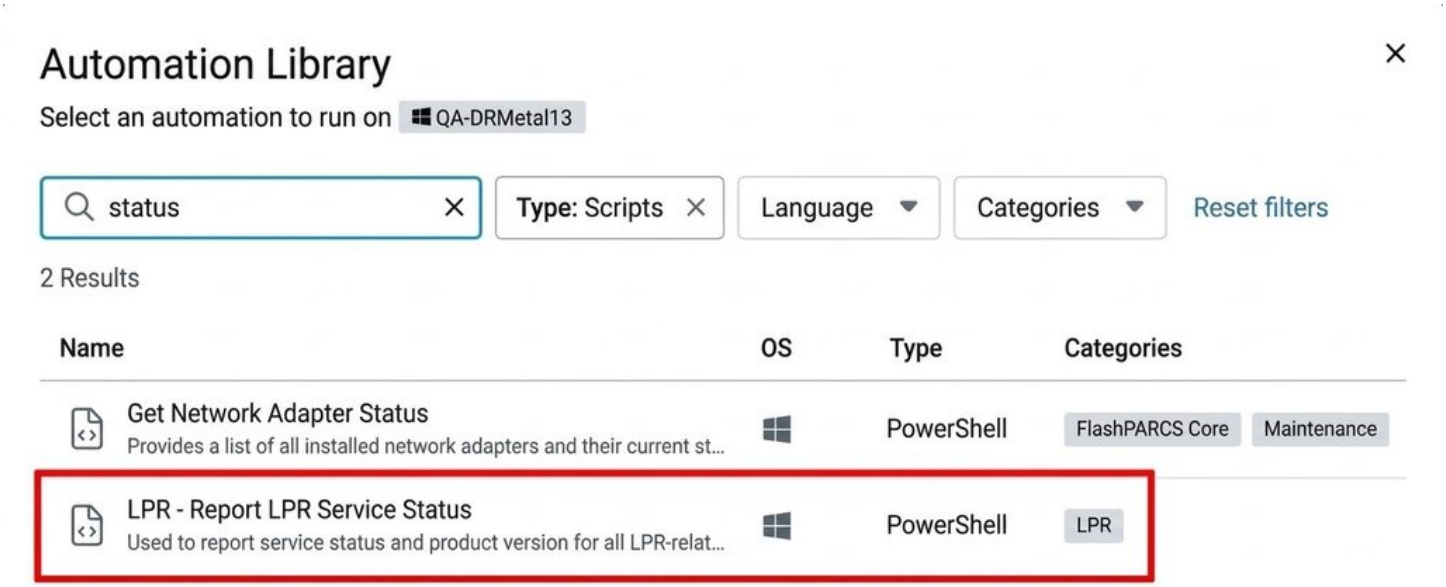
Choose preset or type in custom parameter

flashversion

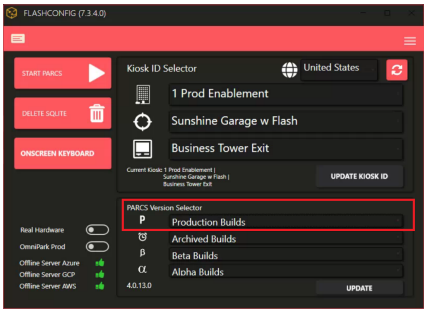
4.0.6.2

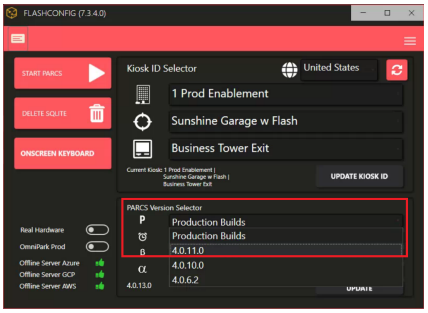
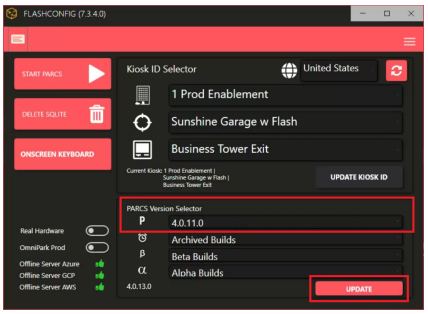
Close Run

3. Don’t forget to double-check your work! Once that report is finished, run the **LPR - Report LPR Service Status** automation and ensure it outputs the desired version numbers for both **FlashParcs and LPR Service**.



How to Update the Kiosk Using FlashConfig

1. Open the kiosk on the Windows Kiosk screen. Open FlashConfig.	
2. Go to PARCS Version Selector and click in the Production Builds box to open a drop-down menu.	

3. In the drop-down menu, click on the build version required for the update (Version 4.0.11.0 or later)	
4. Verify that the required version was selected and click on the Update button. Wait for the version to update.	

Use Cases

What problems does it solve?

- **Reduced Downtime:** Significantly fewer LPR-related outages and signal drops across deployment sites.
- **Faster Support Resolution:** Clearer, contextual log data helps engineering and support teams pinpoint failures faster.
- **End-to-End Auditability:** Full visibility into the parker journey from initial plate capture to final gate vend.

Additional Notes

- **Vision Systems:** No changes to HTS, FVR, or Uncanny components.
- **Testing Infrastructure:** Test tools remain unchanged.
- **FlashParcs Integration:** Changes are strictly confined to supporting the MQTT migration.

LPR Service Event Codes

Event Code	Group	Subgroup	Message	Description	Formerly	Level	Notes