

# Technical Learnings: OurVend / TCN Ecosystem

## Cloud Infrastructure

- **Platform:** Yunshu Vending Machine Management System (OurVend).
- **Control Panel URL:** `https://dnymer.ourvend.com/` (Ant Design based UI).
- **Credentials:** Username `cc`, Password `ys123456`.
- **Institution:** `cc■■■■■` (Primary Institution).
- **Selectors (Playwright Context):** The UI uses Ant Design. Sidebars are `.ant-layout-sider`. Menu items (Machine, Products, Payment) often require a click to expand the sub-menu before the actual target item becomes clickable or visible in the DOM. Use `visible` filters or exact text matches for better reliability.

## Machine Hardware (TCN-CSC-8C V49)

- **OS:** Android-based controller.
- **VMC Interaction:** Likely communicates via Serial/MDB with a lower-level Vending Machine Controller (VMC).
- **Screen:** 49" vertical touchscreen.
- **Cooling:** Integrated compressor, adjustable down to 4°C via `Machine Status` or local technician menu.
- **Connectivity:** 4G module is present. Supports Wi-Fi and Ethernet as failover.

## Integration Logic (Third-Party Payments)

- **The "Justin Chat" Context:** Justin (TCN contact) confirmed that 3rd party payment integration is standard and used by most customers. This suggests the TCN launcher has a native "External Payment" configuration field.
- **Mechanism Theory:** The machine likely calls a configured URL to get a QR code/payment payload and then waits for a server-side "Release Item" command (Remote Vend) or a success callback.
- **Integration Points:**
  - `Payment > Payment`: Currently has a PayPal template.
  - `Remote Track Configuration`: A VIP feature that must be enabled to allow price/stock sync and
- **Keywords for Future Research:** `Remote Vend API`, `External Payment Protocol`, `Third-party QR`, `OurVend Callback`.

## Connectivity and Network

- **SIM Cards:** Local SIMs (AR) are necessary due to latency issues with factory roaming SIMs.
- **APN Setup:** Must be done locally on the machine. No remote APN configuration found in the cloud panel.
- **Telemetría:** Reports temperature, door status, drop sensor health, and 4G signal strength.

## Operation & Maintenance

- **Product Catalog:** Products are first added to a global catalog, then mapped to slots (tracks) per machine.
- **Track Management:** Allows cloning track mappings (Product + Price + Capacity) between machines of the same model.

- **\*\*Syncing:\*\*** Changes made in the cloud are NOT immediate. They require a `Sync` command or the machine to heartbeat back.
- **\*\*VIP Pricing:\*\*** Most remote management features are labeled as VIP. Justin claims "no need charge" unless it's deep customization, but the panel shows a credit-based system.