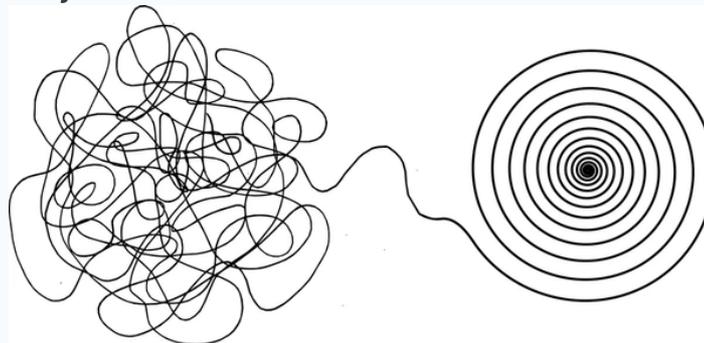# Driver 2.0 — New Modular Driver

Redesigning for speed, simplicity, and modularity

From Chaos to Clarity

**Transitioning to Modularity**

Convoluted

The legacy system was a **Convoluted** architecture, leading to dependencies that complicated updates and maintenance, causing **frequent integration issues** and operational delays.

Modular Design

The new architecture introduces a **modular, vendor-agnostic** design, enhancing flexibility and maintainability while allowing easier updates and better collaboration across different teams and technologies.

The Three-Layer Architecture
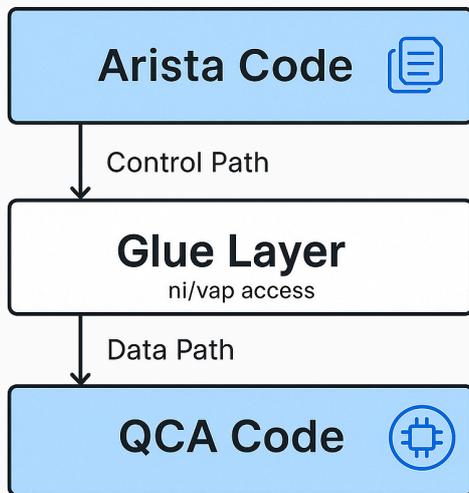
Arista Code Features

Arista Code contains the feature code which is completely separatable from the driver, here we applied proprietary enhancements and achieved full autonomy

Glue Layer Interface

Serving as the connection point, the Glue Layer allows for vendor-agnostic integration, ensuring flexibility across platforms.

QCA Code Vendor

The QCA Code encompasses vendor-specific implementations, enabling compatibility while maintaining overall system performance and stability.

Control Path Rebuild

Streamlining processes for improved modularity and centralized parsing logic

- Control Path code was spread out in various modules
- Repeated parsing of the same code was slowing things down
- Modularized control path using Object Oriented design
- IEEE 802.11 frame-design patent demonstrates innovation
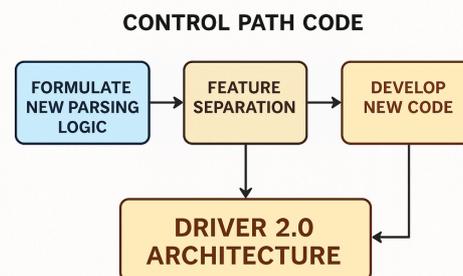
Results

Attribute	Before Driver 2.0	After Driver 2.0	Comment
Latency	High	↓ Lower	Cleaner flow
Portability	Vendor-bound	↑ Vendor-agnostic	Glue Layer
Kernel Panics	Frequent	↓ Rare	Stable isolation
Modularity	Low	↑ Excellent	3-layer architecture
Developer Happiness	Firefighting	😄 Much Higher	Fewer merges
OOD Principles	Minimal	↑ Applied	Encapsulation & Inheritance