



SDCA and Devicetree

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The SDCA Firmware-Description Gap

ACPI platforms

DisCo properties → fwnode → generic SDCA class driver

Device Tree platforms

No DisCo data → **missing topology description**

The driver is firmware-agnostic, but the required SDCA data is not available on DT systems.

Progress Since the December 2025 LPC

- **SDCA class driver enabled on Device Tree platforms**
Uses codec-provided static topology in intermediate representation.
- **First deployment: Qualcomm WCD9378**
Validated across multiple laptop platforms, Thanks to Charles, Pierre and Mark.
- **ACPI-DT hybrid model proposed**
RFC posted; covered in Han's companion session
<https://lpc.events/event/20/contributions/2363/>

Are We Done? Not Quite.

Today: Static intermediate DisCo tables in each codec driver.

The scaling problem: Some properties describe the board, not the codec silicon and differ per board.

What we need: A clear separation between codec data and board data:

- **Codec data:** topology, controls, timings, interrupts and clusters
- **Board data:** schematic-specific configuration, mechanical design and tuning
- **Not yet described on DT:** microphone geometry and jack descriptions
- **Opaque Sets:** per-product tuning bytes inside DisCo have no DT representation
- **Grey area:** initialisation tables mix codec errata with board configuration
- **Clear documentation:** defining where each property belongs in DT Setup.

Discussion: Defining Data Ownership

Goal: a reusable model that scales across codecs and boards.

- What belongs in the **codec driver**?
- What belongs in **Device Tree**?
- What belongs in a **firmware-provided blob**?
- Should the hybrid approach evolve?
 - How non-ACPI platforms deal with this?
 - Is this just a developer experiment, or a model we commit to?