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FLEXIBLE EMBEDDED TOUCH PANEL SUPPORT VIA PANEL'S EDID

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Flexible Embedded Touch Panel support via Panel's EDID

Abstract:

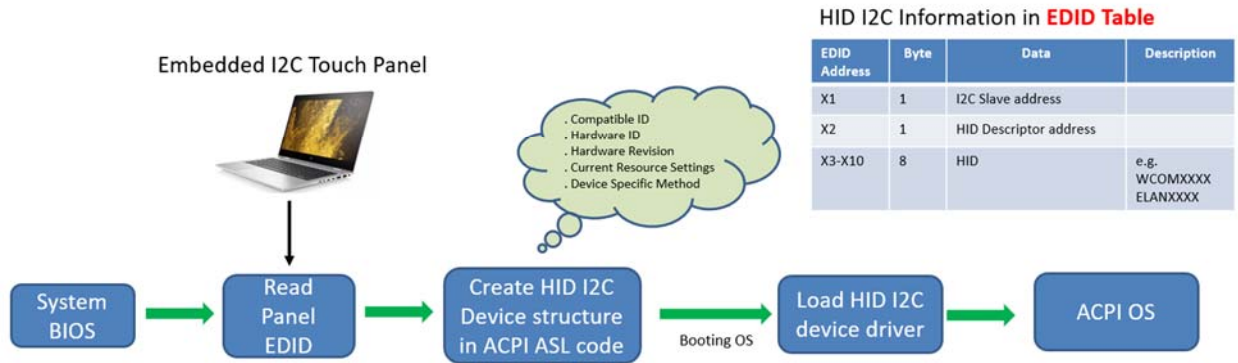
- In general case. I2C Touch support in BIOS required maintain a touch/panel matrix. This matrix included Panel ID, Touch I2C slave address, HID Descriptor address and HID. At BIOS post, BIOS will read Panel ID from Panel's EDID for checking matrix and fill in necessary data into ACPI HID fields for windows HID I2C class driver used.
- Thus, if we can store I2C slave address and HID Descriptor address in EDID unused fields, we can support more various Touch Panel without maintaining original matrix in BIOS.
- In the EDID data format, the standard timing information (bytes 38~53) and Detailed Timing Descriptor (bytes 54 ~ 125) fields are allowed to define as unused if unnecessary.
- Note. For On-Cell and In-Cell type touch panels. Touch sensor is physically build-in with LCD Panel. So, touch info in EDID data will unique and fixed.

Design Construction:

- HW: Standard Panel Cable which with I2C Touch Interface
- SW: No SW need
- BIOS: To read EDID panel after system boot and get touch necessary data included I2C Slave address and HID Descriptor address to enable touch function.

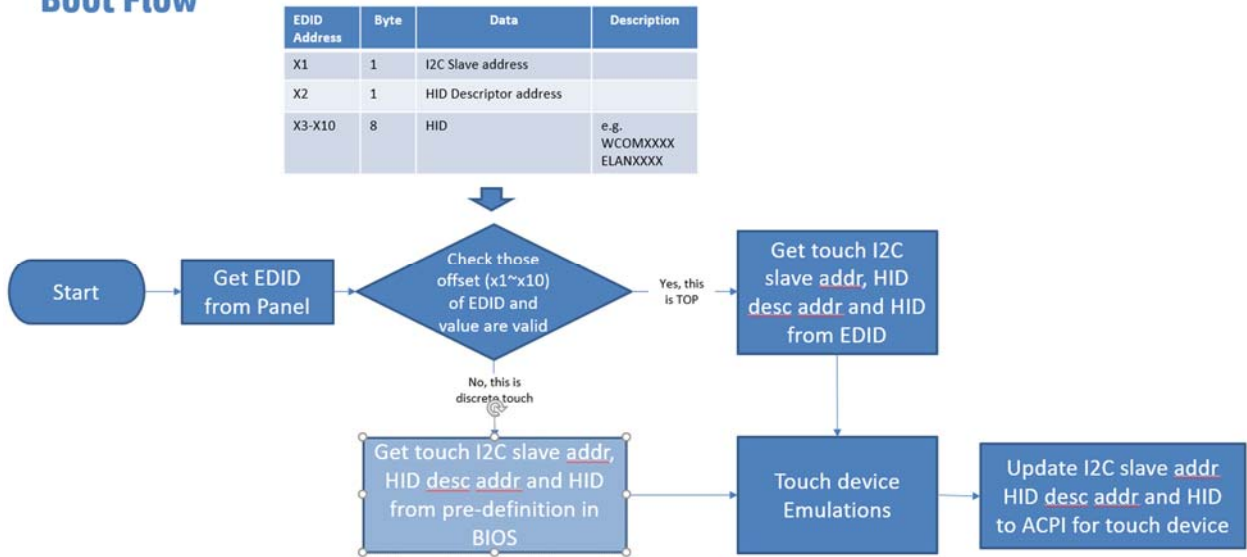
< Block Flow Diagram >

Feature Model



< Flow Chart >

Boot Flow



- **Business Strategy/Advantages**

1. Related Touch necessary data can be stored in EDID to enable touch without maintaining Matrix in BIOS.
2. Platform can support more and more touch solution without BIOS updated.

Disclosed by Chia-Cheng Lin, Eric Huang, Matt Lin and Nung-Kai Chen, HP Inc.