INTRODUCTION

Rafael Lin’s work experiences in synaptics

My Responsibility

- Develop application for touch controller, which is used by entire ecosystem. Key features include flash programming, configuration tuning, diagnostic, performance evaluation and production test (WinForm/C# and C++)

- Design and develop in-system firmware update and test application regarding LTS(Large Touch Screen) projects. (C++)

- Design and develop windows library to communicate with touch controller firmware through Socket, I2C, SPI, HID and USB interface (C++)

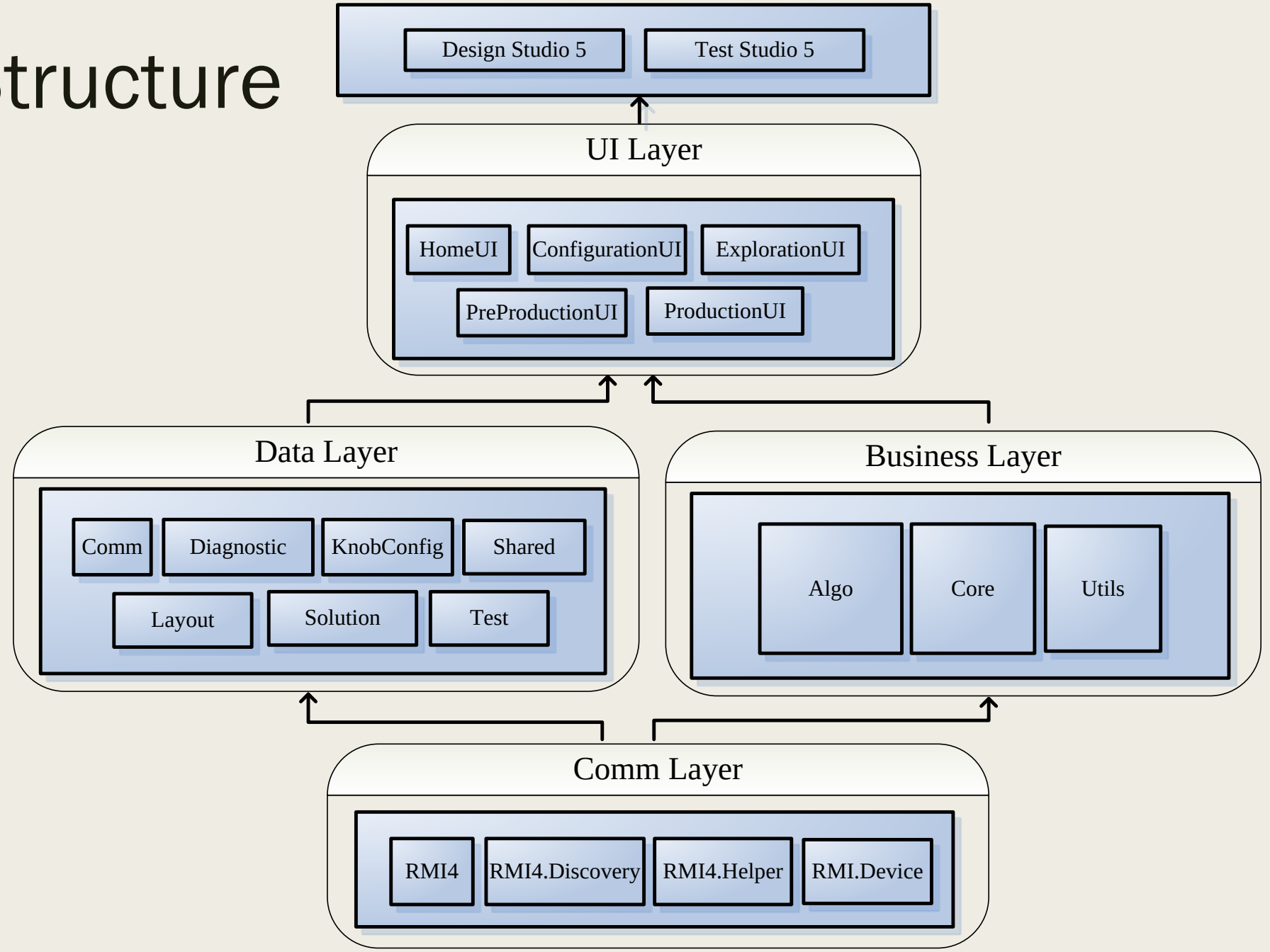
My Responsibility

Platform releases

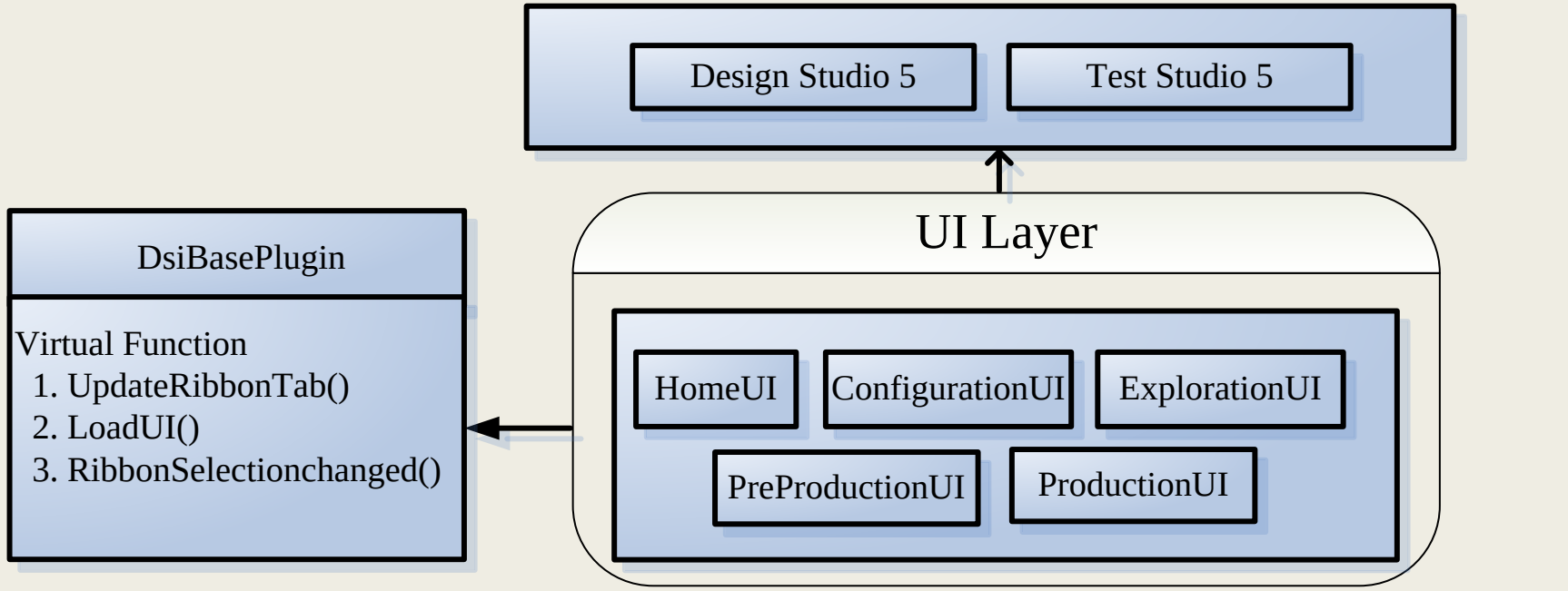
Customer support

DS4	DS5	DS6	TSLite	Customer issues
DS4 3.5.5 DS4 3.5.6 DS4 4.1.0	DS5 7.0.0 DS5 7.1.0 DS5 7.2.0 DS5 9.1.0 DS5 15.3.0 DS5 12.5.0 DS5 17.1.0 DS5 17.2.0	DS6 1.0.0	TSLite 3.1.0.0 TSLite 3.2.0.0 TSLite 3.3.0.0	DS4/5 X.X.X

DS5 Structure



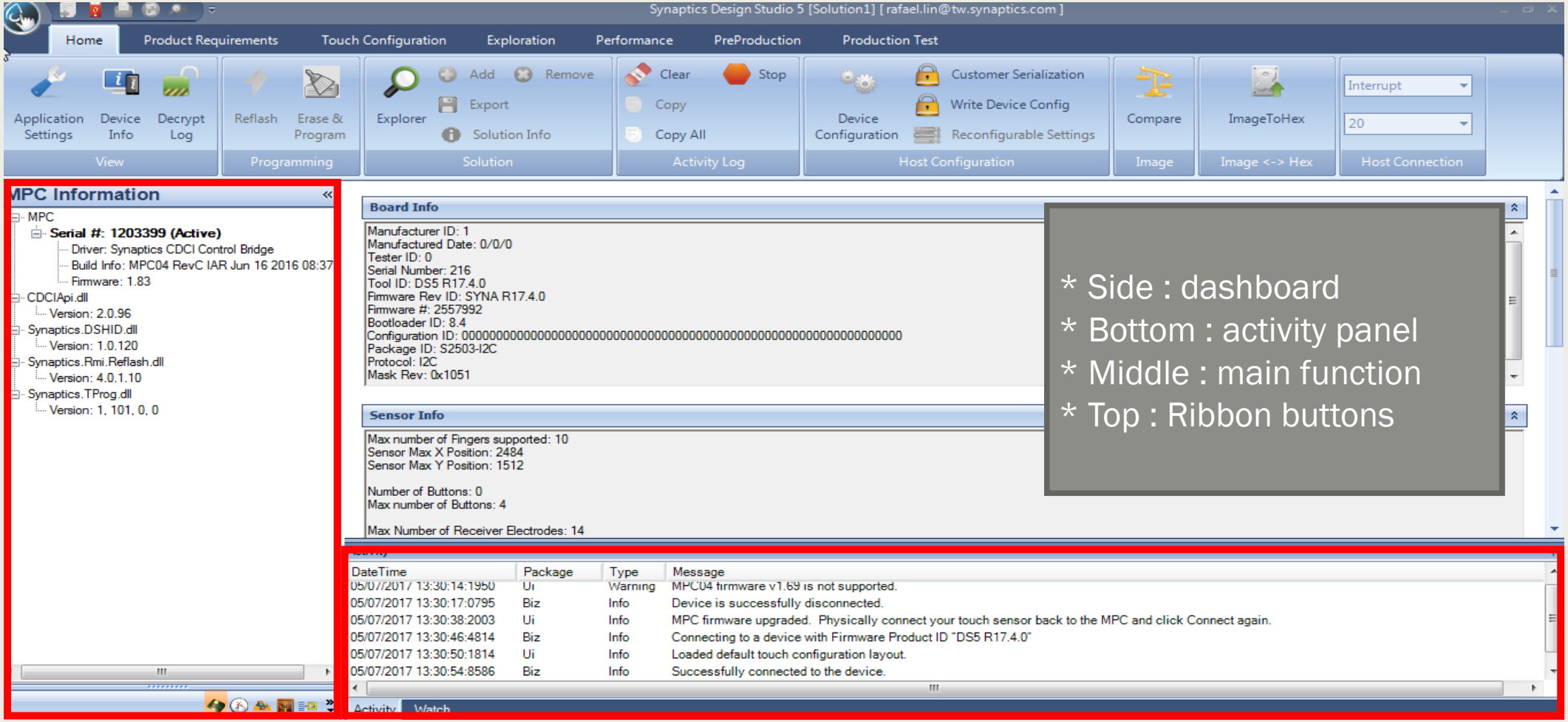
Loading UI Plugins



* In DesignStudio5
  1. Load each plugin by Assembly Load method
  2. Iterate specific files to load the plugins
  3. Decouple each plugin to provide flexibility

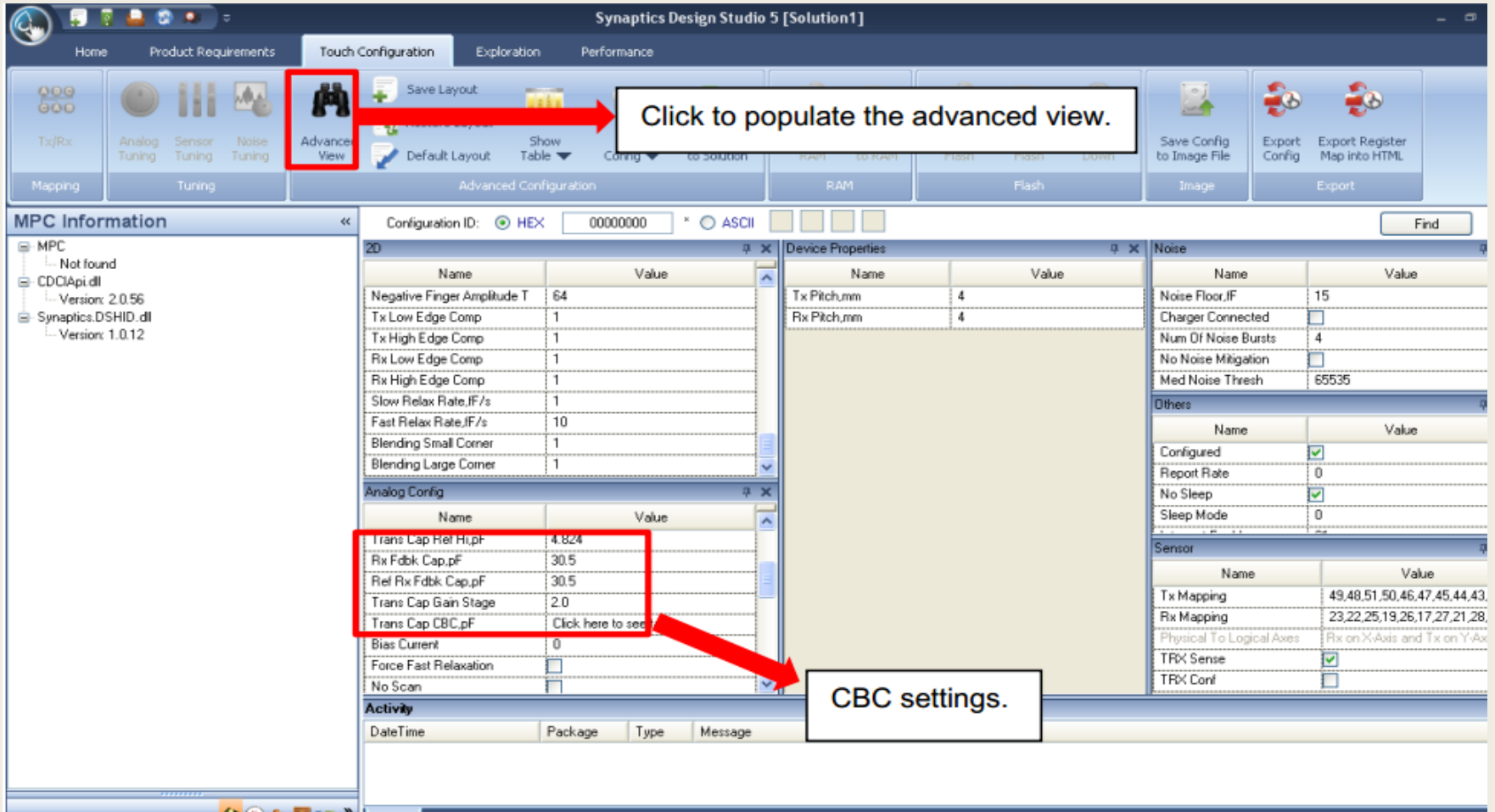
* Interaction between Plugins
  1. Subscribe Events from users and system
  2. Once notified, update it's own UI

The look of DS5



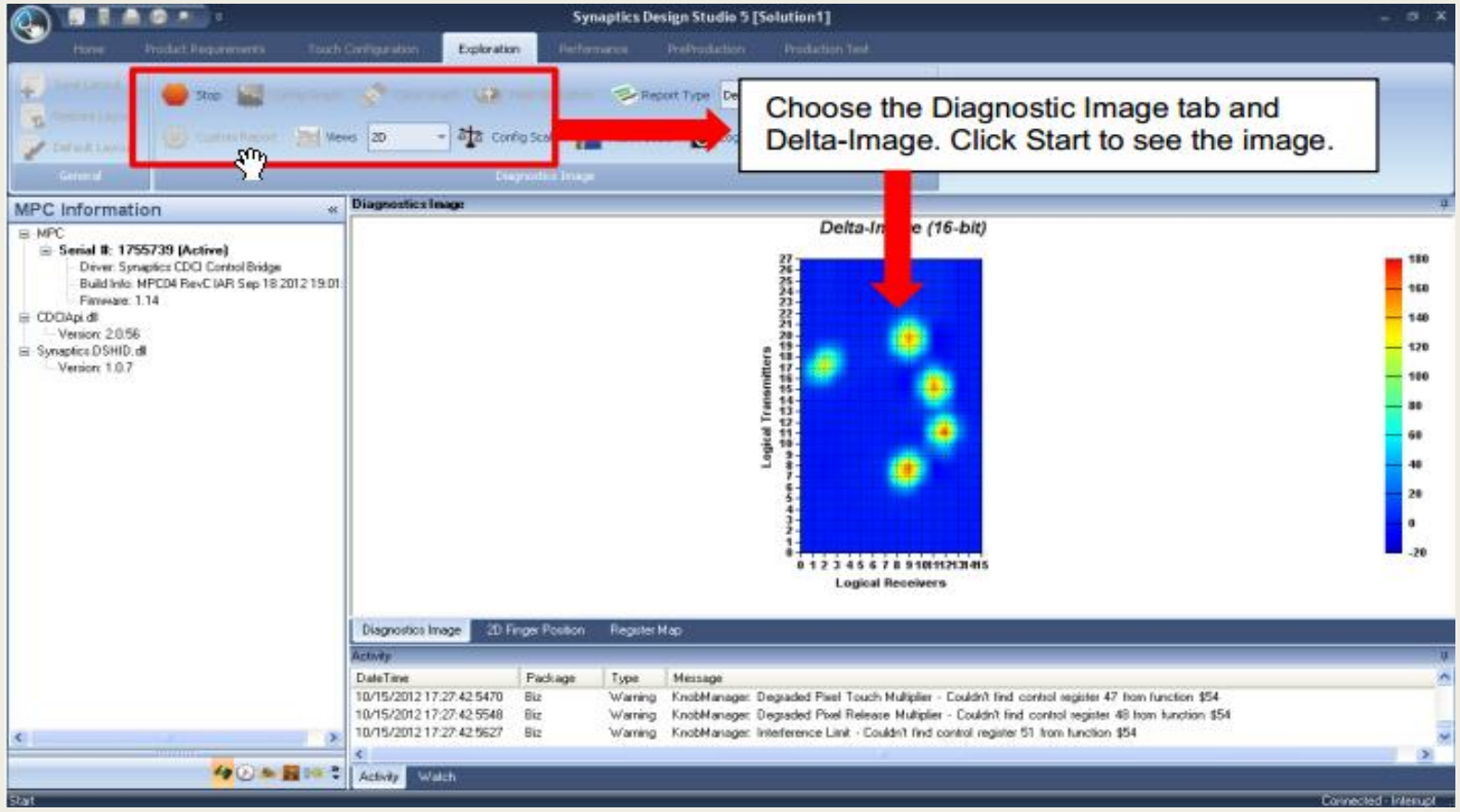
Touch Configuration – Advance View

- Tune specific knobs and save it by “WriteToRam” or “WriteToFlash”
  - *Use sqlite to determine the existence of each knob*



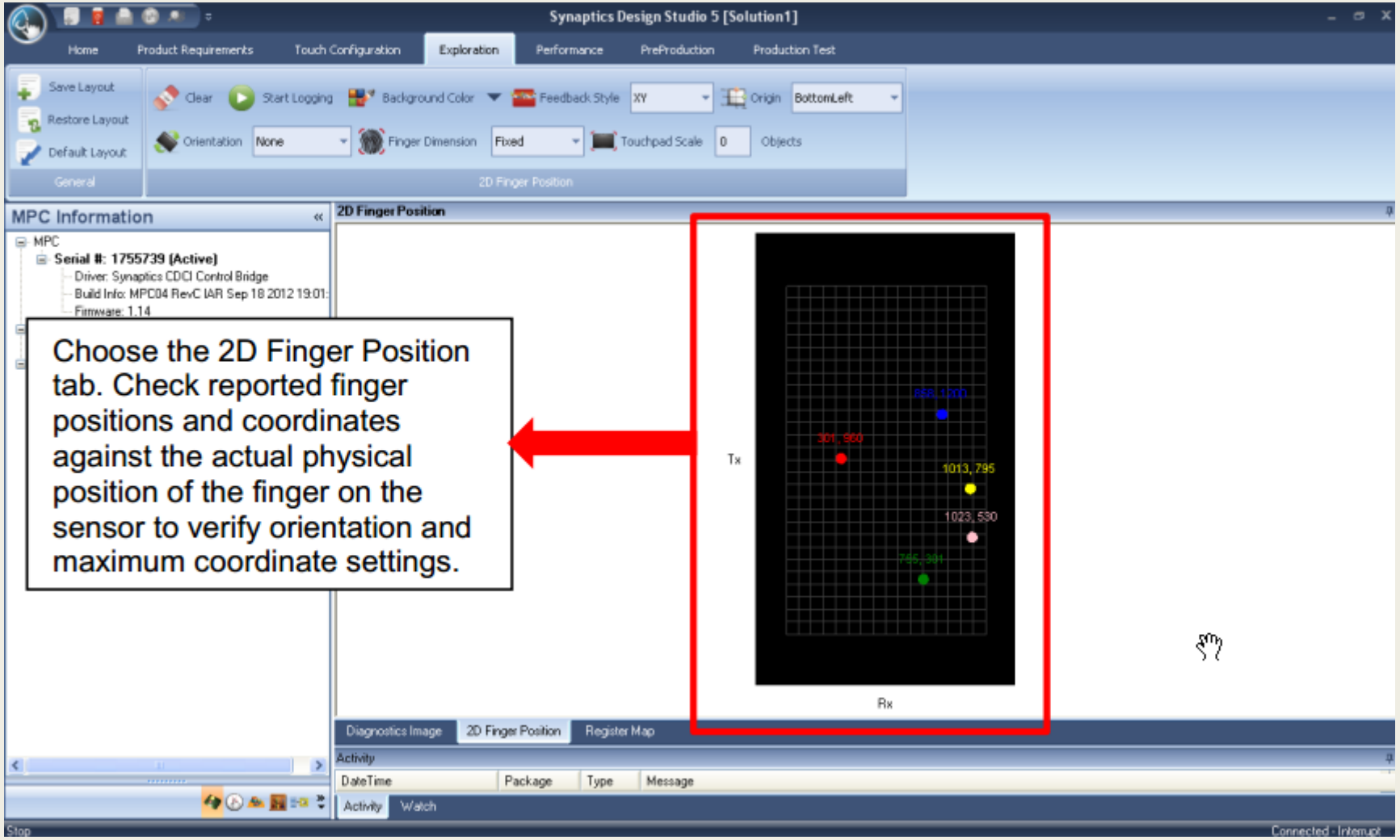
Raw Data Diagnostics

- Get report data from Function 54 through polling mode

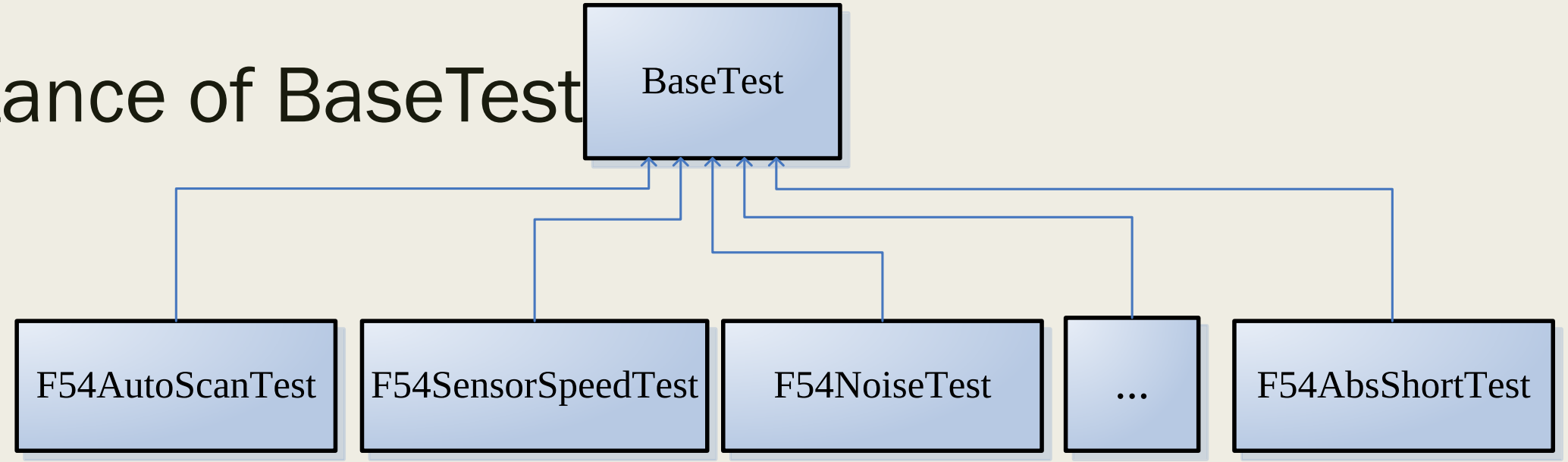


2D Finger position

- Get 2D finger touch position from Function12 through interrupt mode



inheritance of BaseTest

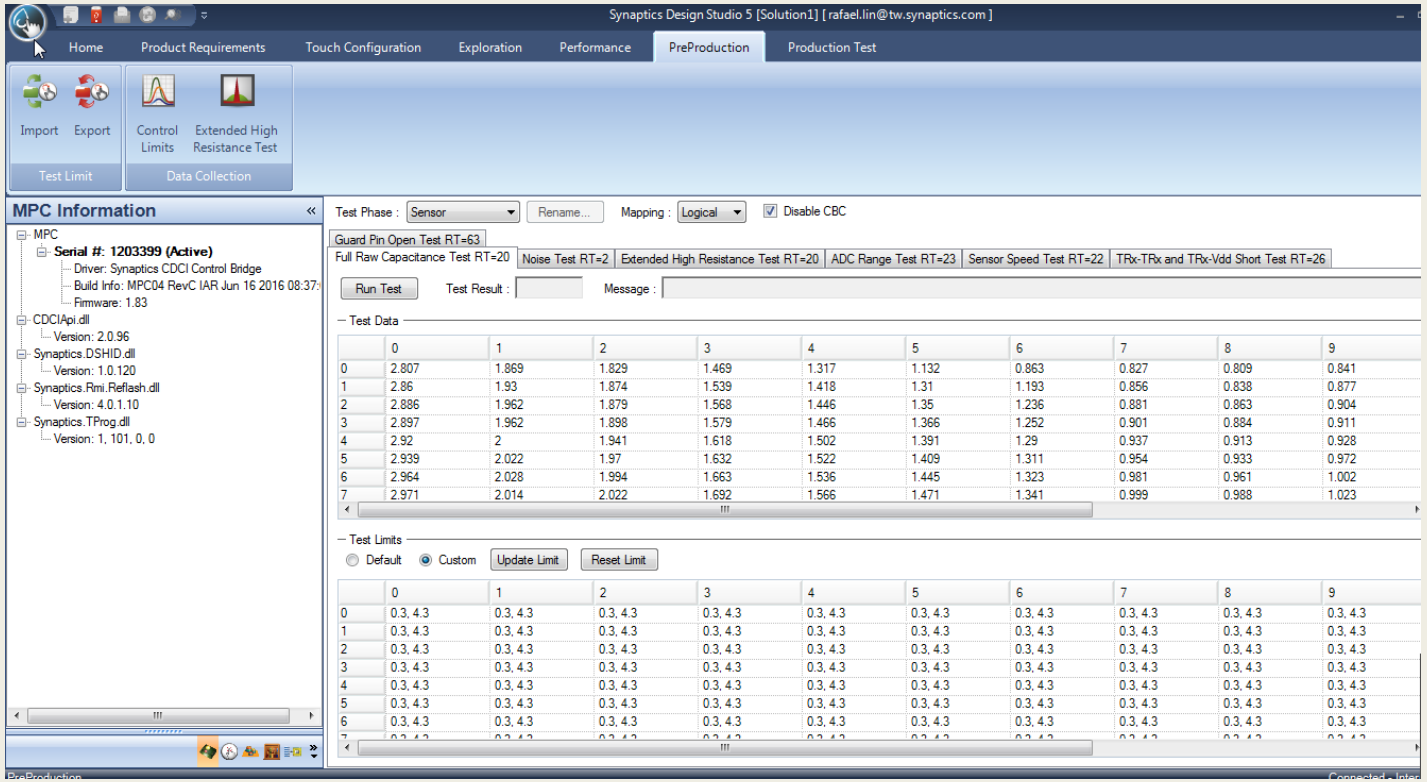


* Override/Virtual Function
  1. Run(TestPhase, TestLImit)
  2. Run(TestLimit)
  3. Run(TestPhase, TestLimit, Samplecount)

* Common used functions :
  1. BeginTesting()
  2. EndTesting()
* Private
  1. _original0dCbcFlag
  2. _originalNoSleep
  3. _OrigInterrupt
* Protected
  1. Bin_Num
  2. _TestState
  3. _TestErrorMessage

Preproduction

- Pre-run the test flow to see whether the defect block would be detected or not
  - *Load the test limit and could dynamically modify and save it at run time*



Software Release Life Cycle